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THE EUROPEAN GREEN TAXONOMY IN WATER-RELATED ACTIVITIES

Canal de Isabel II

FUNDACIÓN CANAL Canal de Isabel II

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Foreword

The aim of this study is to address in a concise and rigorous manner the water-related aspects of the EU Taxonomy for sustainable activities ("green taxonomy"). The green taxonomy was created as a tool to assess the environmental performance of the European economy and to guide companies, financial institutions, and society as a whole on the path to sustainability.

After the executive summary (chapter 0) and an introductory text (chapter 1), the study reviews how the taxonomy fits into the complex regulatory framework for sustainable finance (chapter 2), followed by a more detailed discussion of the taxonomy framework itself (chapter 3) and the first applications of taxonomic concepts, together with a reflection on possible future developments and challenges faced (chapter 4).

The next two sections (chapters 5 y 6) deal specifically with the implications of taxonomy for the urban water cycle and other water-related activities that, as such, condition the sustainability of water uses and the protection of freshwater and marine resources. These two chapters provide basic guidelines for compliance with the EU Taxonomy Technical Screening Criteria (TSC) that enable an activity to be classified as sustainable. These screening criteria are drawn from the Climate Delegated Act in the case of climate change mitigation and adaptation objectives, and from the most recent recommendation reports of the European Commission's Platform on Sustainable Finance (PSF) for the other EU Taxonomy environmental objectives.

It should be noted that these guidelines are further developed in 47 factsheets which are only available in Spanish, the original language of the study. The original version of this study, titled "*Los aspectos ligados al agua en la taxonomía verde europea*" can be downloaded from the following web page: https://www.fundacioncanal.com/tienda/

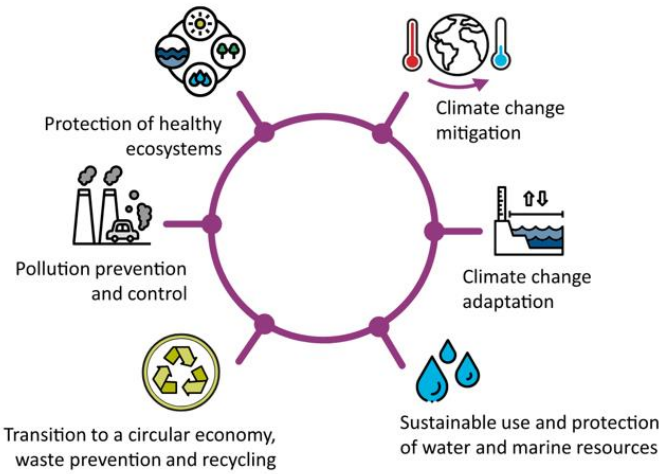
0 Executive summary

0.1 Introduction

Of the many recent legislative developments in corporate responsibility, the approval of the Taxonomy Regulation1 (TR) stands as a crucial milestone, with enormous potential to inform and guide the environmental performance of companies and society as a whole. The taxonomy meets two important needs: it provides a common language to talk about sustainability; and it uses objective and quantifiable criteria to assess companies and investment products.

The taxonomy is a classification system of economic activities created to help society and especially investors identify which investments can be considered environmentally sustainable in terms of their contribution to the six objectives governing European environmental policy (Figure 1).

Figure 1. Six environmental objectives of the EU Taxonomy.



Source: adapted from European Court of Auditors 2021[2]

To be aligned with the taxonomy, an activity must contribute to at least one of the six objectives, demonstrate no significant harm to any of the others – the well-known DNSH (*do no significant harm*) principle – and comply with minimum social safeguards. In the coming years, large companies will have to report on the percentage of their overall turnover, capital expenditure, and operating expenses in the tax year aligned with the taxonomy.

[1] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (Text with EEA relevance). https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32020R0852

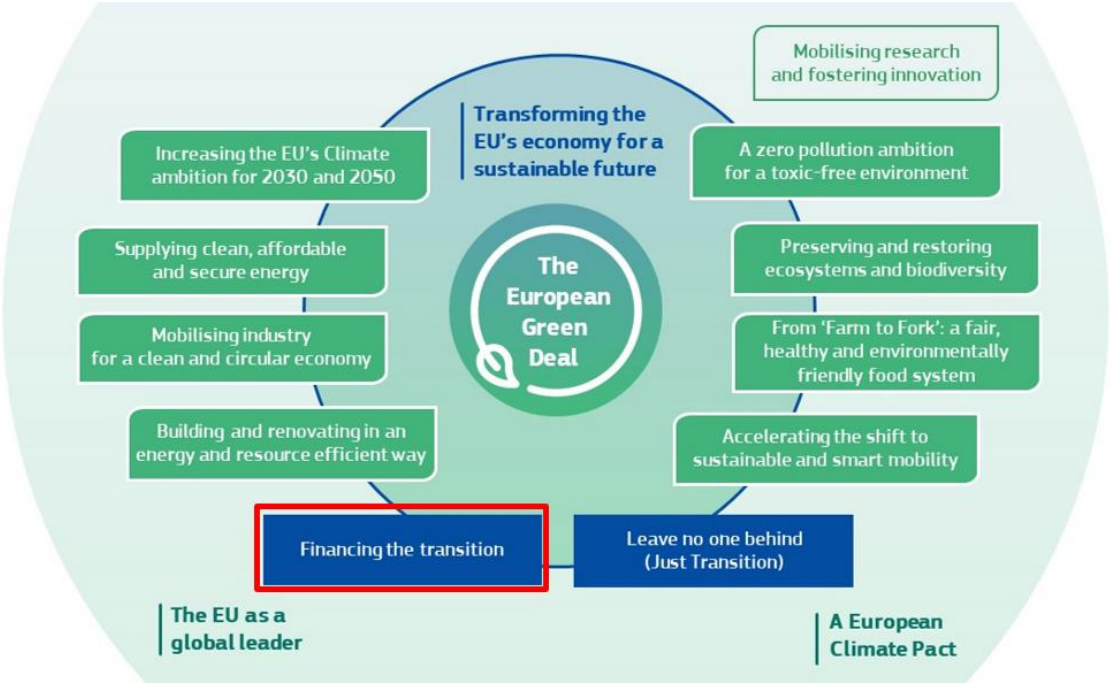
[2] European Court of Auditors 2021. Sustainable finance: More consistent EU action needed to redirect finance towards sustainable investment. https://www.eca.europa.eu/lists/ecadocuments/sr21_22/sr_sustainable-finance_en.pdf

0.2 The regulation of sustainable finance

The EU has undertaken an international leadership role on climate transition. The goals are very ambitious: to reduce greenhouse gas (GHG) emissions by 55% by 2030 compared to 1990 and to become a fully climate-neutral continent by 2050.

The European Green Deal (Figure 2), presented in 2019 by the European Commission, is the roadmap for bringing together economic and environmental policies and converging multiple horizontal and sectoral strategies. The EU aims to mobilise at least €1 trillion in investments over ten years, thanks to the combined effect of capital from the EU and national budgets, public and private investments and additional measures to boost green investment, and the provision of technical assistance to help investors choose sustainable projects.

Figure 2. The European Green Deal.



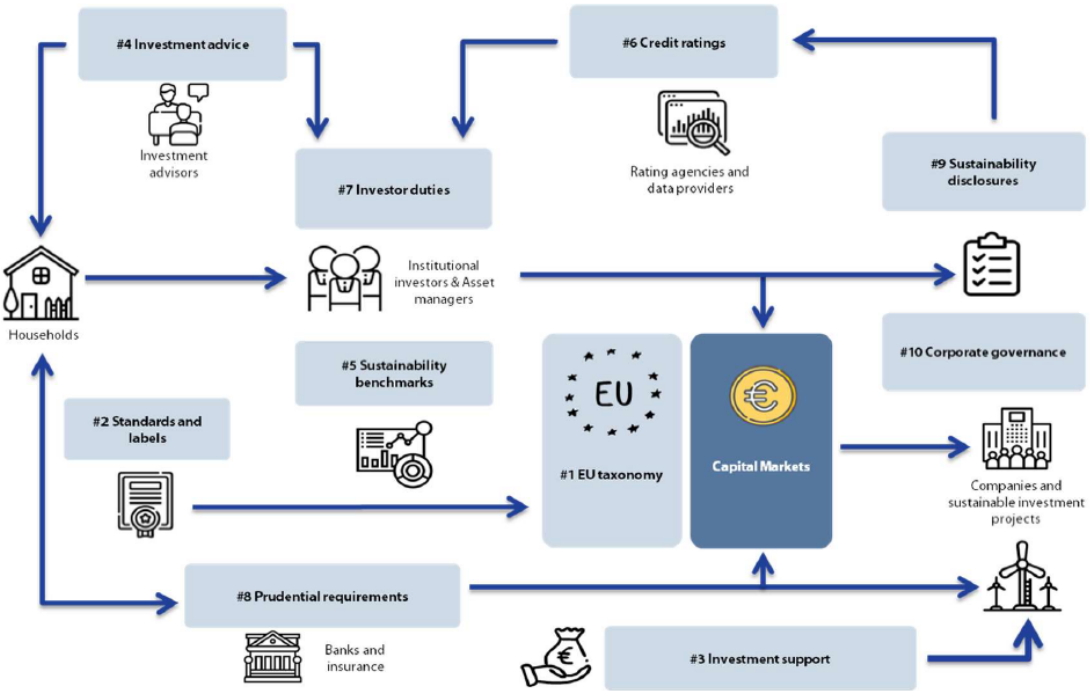
Source: European Commission[3]

To support of public action, a sustainable finance strategy is being developed to guide economic operators' decision-making towards more transparent investment and management strategies that take into account environmental risks and social and governance issues (Environmental - Social - Governance, ESG). The "Action Plan: Financing Sustainable Growth"[4], launched in 2018 by the European Commission, had a series of coordinated actions among which taxonomy plays a central role (Figure 3).

[3] Taken from the Communication from the Commission on The European Green Deal https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640&from=ET

[4] Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions Action Plan: Financing Sustainable Growth. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52018DC0097

Figure 3. Stakeholders and actions of the Action Plan: Financing Sustainable Growth.



Source: European Court of Auditors 2021

The taxonomy provides the basis for the labelling of any financial products or corporate bonds that are offered as environmentally sustainable, and the standardisation of sustainability disclosures for companies. In addition, EU and national policies can refer to the taxonomy to determine access to public funds.

Companies can use the taxonomy to design their transition programmes. Alignment may entail costs in the form of investments to adopt more efficient technologies and have a cross-cutting impact on business operations from executive decisions to production processes. These costs should be offset by clear advantages in access to public and private finance, improvements in resource efficiency and in managing climate and environmental risks. In addition, it provides a clear and objective framework for ESG positioning of companies towards key stakeholders, consumers, and society as a whole.

0.3 European green taxonomy

The deployment of the taxonomy has been supported by the successive formation of multidisciplinary working groups to ensure the scientific robustness of the technical documents produced and policy developments. The High-Level Expert Group on Sustainable Finance (HLEG) formed in December 2016, laid the foundations on which the Technical Expert Group on Sustainable Finance (TEG) would subsequently work between 2018 and 2020.

The Taxonomy Regulation (EU) 2020/852 is the centrepiece of the taxonomy regulation, formalising a unified and legally binding classification system for categorising economic activities as environmentally sustainable, calling on the Commission to adopt delegated acts defining the relevant technical screening criteria. In June 2021, the Commission adopted the legal act on climate change mitigation and adaptation criteria (Commission Delegated

Regulation (EU) 2021/2139, Climate Delegated Act)[5], which would be complemented in March 2022 (Commission Delegated Regulation (EU) 2022/1214)[6] to establish criteria for certain specific nuclear and gas activities.

For the other four environmental objectives, following the mandate of Article 20 of the Taxonomy Regulation, the Commission appointed a new expert group, the Platform on Sustainable Finance (PSF). At the time of submission of this study (November 2022), the PSF has published three versions of recommendations reports. The penultimate one, dated March 2022[7], is the one used as reference in this study, since the most recent one was published in October 2022, which have been forwarded to the Commission for decision-making.

In summary, the agents concerned by the taxonomy are:

- Financial market participants (asset managers, insurance companies, pension funds, etc.) and financial advisors.
- Large companies and listed companies.
- The European Union and Member States to the extent that they impose green or sustainable measures, standards, or public labels.
- Society as a whole, consumers, and recipients of products and services.

The companies initially obliged to report coincide with those that already report their Non-Financial Information Statements in compliance with Directive 2014/95/EU (NFRD)[8]. However, the new rules approved by the Corporate Sustainability Reporting Directive (CSRD)[9] substantially broaden the scope of affected companies:

- Large public-interest companies with more than 500 employees, already subject to the NFRD, will be required to report in 2025 for the year 2024. It should be noted that, under previous legislation, these companies are already required to report their taxonomic performance in 2023 (eligible activities) and 2024 (aligned activities).
- Large companies currently not subject to the NFRD - those with more than 250 employees and/or EUR 40 million in turnover and/or EUR 20 million in total assets – will be required to report in 2026 for the year 2025.
- Small and medium-sized listed companies will be required to report by 2027.

[5] Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives (Text with EEA relevance).

[6] Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities (Text with EEA relevance). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R1214

[7] Platform on Sustainable Finance's Recommendations Report on technical screening criteria for the four remaining environmental objectives of the EU taxonomy.

https://finance.ec.europa.eu/system/files/2022-04/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy_en.pdf

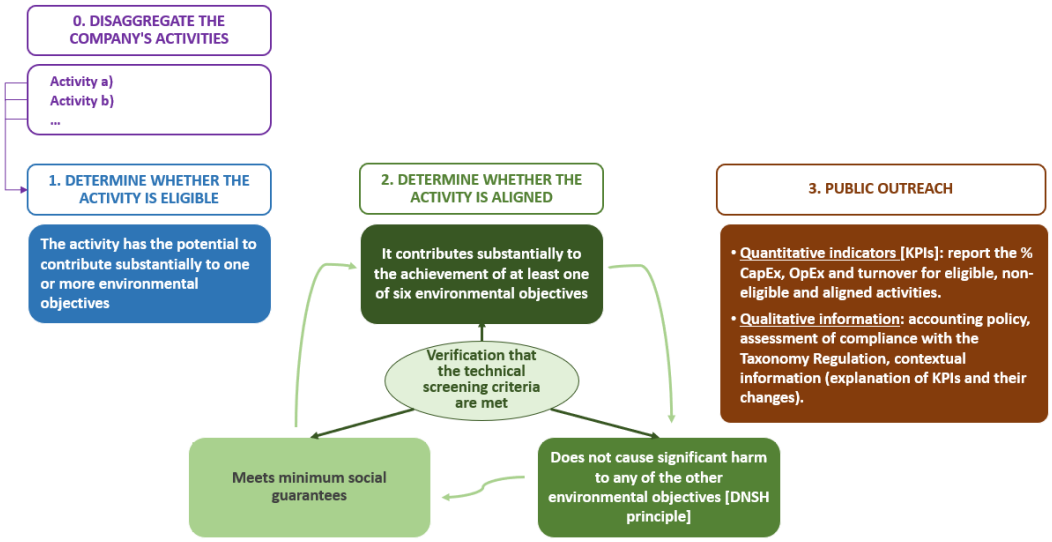
https://finance.ec.europa.eu/system/files/2022-03/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy-annex_en.pdf

[8] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups Text with EEA relevance. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095

[9] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (Text with EEA relevance). https://eur-lex.europa.eu/eli/dir/2022/2464/oj

To meet these obligations, companies must analyse their environmental performance through the lens of taxonomy and qualify their activity accordingly. The process is summarised in Figure 4.

Figure 4. Stages for the application of taxonomy in companies.



Source: own elaboration

Indeed, for each of the economic activities carried out by the company to be considered environmentally sustainable, several conditions must be met:

1. The activity has the potential to contribute substantially to one or more of the environmental objectives recognised in the delegated acts developing the taxonomy: list of activities in Annexes I and II of the Climate Delegated Act, Complementary Climate Delegated Act, and future delegated acts establishing criteria for non-climatic objectives.
2. The technical screening criteria that determine that the activity, as carried out by the company, is environmentally sustainable are met:
    - It makes a substantive contribution to at least one of the six environmental objectives.
    - It does not cause significant harm to any of the other environmental objectives.
    - Meets minimum social safeguards.

As well as for sustainable activities as such, criteria are also established for determining under which conditions other activities can qualify as:

enabling activities - they directly enable a substantial contribution to be made in other sustainable activities - such as the manufacture of renewable energy technologies or electricity storage and transmission activities;

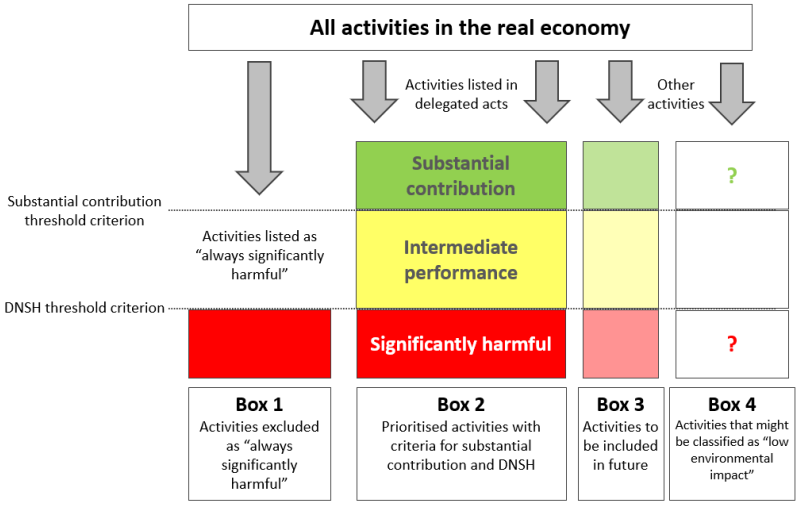
or transition activities – they lack economically feasible low-emission technological alternatives but support the transition to climate neutrality - such as aluminium cement production industries, rail transport, fossil gas-fired power generation, and some activities related to nuclear power generation.

Once the analysis has been completed, the results should be disseminated following the specifications in Annex I and the templates in Annex II of the Commission Delegated Regulation (EU) 2021/2178.

In addition to the mandatory regulatory uses, other policy instruments may make use of taxonomic concepts, without requiring the full application of the screening criteria of delegated acts. For example, the Recovery and Resilience Facility (RRF) requires that compliance with the DNSH principle be justified in each and every measure of the national plans in which it is articulated, albeit without requiring the use of the technical screening criteria. The aim of the RRF is to mitigate the economic and social impact of the coronavirus pandemic and to prepare European societies for the challenges and opportunities of the dual ecological and digital transition. Regulation (EU) 2021/1060[10], which regulates the use of EU regional, cohesion and social funds for the period 2021-2027, also incorporates DNSH as one of its crosscutting principles.

Finally, it should be noted that the Taxonomy Regulation recognises the need to periodically review the list of activities and their associated criteria to reflect regulatory changes and technological developments. The PSF has prepared a report on the future extent of the taxonomy that proposes an economy-wide classification system at three performance levels: significant environmental impact (red), intermediate (or amber) performance and substantial contribution (green) (Figure 5).

Figure 5. Conceptual model of extension categories for economic activities and their performance levels.



Source: PSF 2022[11]

The scheme would include, in addition to current and future eligible activities (Boxes 2 and 3, respectively):

> Box 1. Activities significantly harmful to one or more of the environmental objectives and not considered as transitional. In addition to power generation from solid fossil fuels already excluded by Article 19.3 of the Taxonomy Regulation, coal mining, peat extraction and construction of new dwellings in areas of high flood risk are suggested as possible examples.

[10] Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32021R1060

[11] https://finance.ec.europa.eu/system/files/2022-03/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy_en.pdf

Box 4. Activities with no significant impact on environmental sustainability. However, even these activities may need to adapt and become resilient to climate change, so the need to report certain minimum safeguards (represented by question marks) is not excluded.

0.4 The challenges of taxonomy implementation

A number of studies and discussion papers are beginning to systematically highlight the methodological difficulties faced by practitioners responsible for assessing and reporting the taxonomic performance of companies, and by those responsible for auditing and verifying what is reported. One of the central initiatives to address the implementation challenges is the work of the PSF Subgroup on Data and Usability which has resulted in the recent publication of an extensive recommendations report. The main output is a list of 64 items in the form of recommendations to the European Commission that touch on a wide range of areas of the taxonomy and its interrelation with other regulatory tools and instruments. Without striving to be exhaustive, some of the issues raised are:

- The proper use of templates, metrics, nomenclature conventions and interpretation of eligibility in reporting exercises.
- Better alignment between legislative instruments, including updated mapping tables between the Taxonomy Regulation and the CSRD.
- The reinforcement of technical guidelines on certain activities.
- Setting a deadline for the adaptation to the criteria of the remaining four environmental objectives.
- Harmonisation of annexes to ensure consistency in reporting.
- Clarifying the roles and responsibilities of the different parties with regard to the verification or assurance of the information used in the reports.
- The relevance of qualitative information for contextualising and explaining quantitative performance data

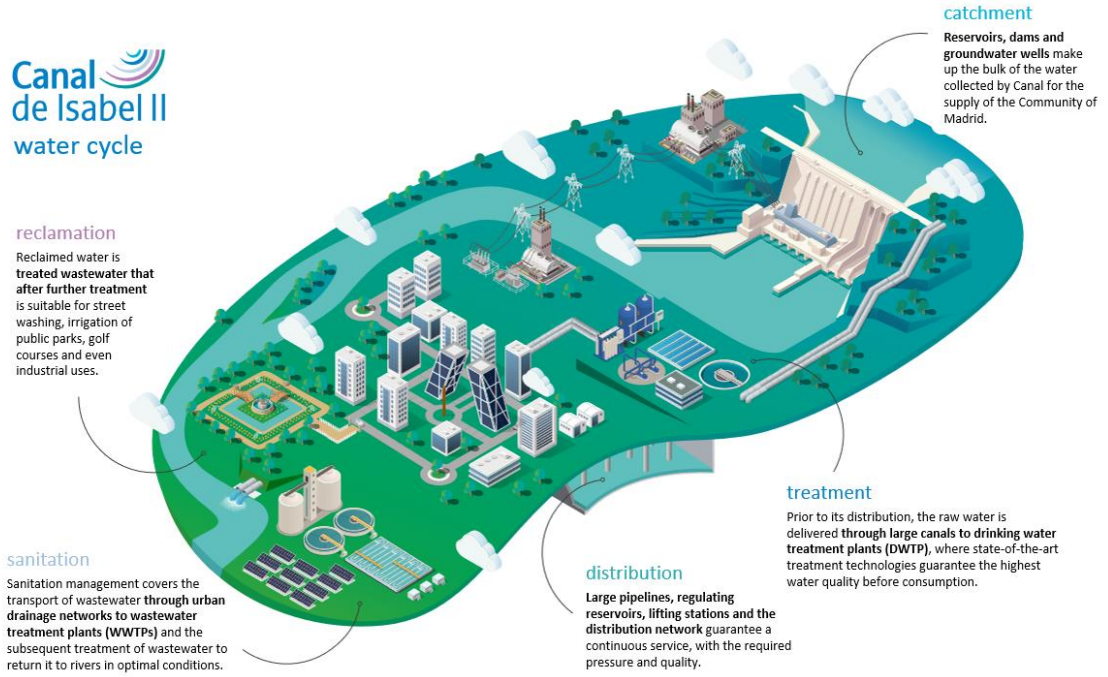
Companies in the water sector have identified some specific technical issues that may result in practical difficulties in applying screening criteria to water cycle activities. The use of standard criteria, in order to ensure simplicity of application, clashes with the diversity of local circumstances faced by water utilities.

For example, utilities operating systems under objectively more unfavourable conditions – altitude or geographical dispersion, higher energy costs due to supply characteristics, pollution of the influent - may be limited in their ability to access favourable financing due to issues beyond their operational control. Setting efficiency improvement levels in percentages may also penalise precisely those who have invested the most in renovation.

Also, in the case of "centralised waste water systems", the energy intensity values of the treatment can be highly variable depending on local conditions and factors such as the relative weight and conditions of industrial discharges to the sewerage network, discharge conditions that may force advanced nitrogen and phosphorus removal treatments, or the incorporation of regeneration modules.

Figure 6 illustrates the diversity of components involved in the urban water cycle services which, in their various combinations, can result in significant differences in unit cost and efficiency.

Figure 6. Diagram of the water cycle in the Community of Madrid.



Source: translated from Canal de Isabel II 2022[12]

0.5 Applying taxonomy to the water sector

This study aims to contribute to clarifying the application of the taxonomy to two main groups of economic activities: water cycle activities and water-related activities. For each activity, the technical screening criteria, practical examples that facilitate the interpretation of each criterion or illustrate its application, and a selection of technical and legal references to support the preparation of the supporting evidence of compliance are presented. The technical screening criteria presented is set out in the annexes of the Climate Delegated Act for Objectives 1 and 2 and proposed in the Recommendations Report for Objectives 3-6 and, in some cases, for Objective 2, of the Platform on Sustainable Finance of March 2022, version available during the development of this study. Before describing the work carried out, the conceptual framework used for the definition of the criteria is briefly presented.

0.5.1 Design of the technical screening criteria

The contribution of economic activities to the attainment of the objectives can be achieved in one of these ways:

- improving environmental conditions, e.g., by removing carbon from the atmosphere (afforestation or direct CO_2 capture, wetlands restoration)
- reducing the pressure on the environment compared to the baseline, e.g. low impact activities that can replace high impact activities (e.g. wind power generation vs. coal-fired power plants, transport by electric vehicles vs. combustion engines, wastewater

12 https://www.canaldeisabelsegunda.es/documents/20143/12426467/Informe+Sostenibilidad+2021.pdf/e9304186-42b2-76ee-c206-7a538fddf402?t=1653548935808

treatment); transitional activities with high impact but also high reduction potential (fuel switching, energy efficiency) would also be included here.

- enabling either of the above two types through enabling activities (manufacturing of low carbon technologies)
- ensuring that activities can operate in a changing climate (adaptive solutions)

Several methodological approaches for determining the specific substantial contribution screening criteria and DNSH emerged from the work of the TEG. The further development of this conceptual framework has led the *Joint Research Centre* of the European Commission (JRC) to identify seven generic approaches for the mitigation criteria[13] that are also considered valid for the rest of the objectives[14] (Table 1).

Table 1. Presentation of the generic approaches.

Approach	Type	The technical screening criteria define...	Examples
(1) Impact-based	Quantitative	minimum requirements for the impact of carrying out the economic activity (e.g. absolute GHG emission savings considering the emissions from the activity and those of the replaced activity)	manufacture of low-carbon technologies that result in substantial GHG emission reductions in other sectors on the basis of a recognised/standardised carbon footprint assessment, validated by a third party
(2) Performance in relation to the environmental target	Quantitative	minimum threshold for the environmental performance of the activity derived from the pressure of carrying out the economic activity (e.g., level of GHG emissions per unit of activity aligned with a climate neutral economy).	light commercial vehicles with tailpipe emission intensity of maximum 50 g CO_2 /km hydropower plants with life cycle GHG emissions below 100 g CO_2 e/kWh
(3) Best-in-class performance	Quantitative	minimum threshold for the environmental performance of the activity derived from the top market players performance (e.g. level of GHG emissions per unit of activity that only the top 10% of market players achieve).	nitric acid production if GHG emissions are below the EU ETS benchmarks[15]
(4) Relative improvement	Quantitative	minimum improvement threshold for the environmental performance of the activity (e.g. level of reduction of GHG emissions per unit of activity aligned with a climate neutral economy pathway)	reduction of the average net energy consumption of the supply system by at least 20 % compared to the reference efficiency. reduction by at least 20 % compared to the current level of leakages
(5) Practice-based criteria	Qualitative	a set of practices (derived from widely accepted best practices on the market) for the economic activity (e.g. compliance with a set of qualitative criteria, code of conduct, certification by an EU scheme).	Data Centre Energy Efficiency Code of Conduct
(6) Process-based	Qualitative	a set of process-based steps (e.g. a set of actions or points of focus that need to be addressed)	leakage monitoring plan for bio-waste anaerobic digestion plants water use and protection management plan for the waterbodies potentially affected by the activity

[13] JRC 2021. Canfora, P., Dri, M., Polidori, O., Solzbacher, C. and Arranz Padilla, M., Substantial contribution to climate change mitigation – a framework to define technical screening criteria for the EU taxonomy, EUR 30550 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-28364-5, doi:10.2760/80248, JRC123355. https://publications.jrc.ec.europa.eu/repository/handle/JRC123355

[14] JRC 2022. Canfora, P., Arranz Padilla, M., Polidori, O., Pickard Garcia, N., Ostojic, S. and Dri, M., Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental Objectives 3-6, EUR 30999 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-47898-0, doi:10.2760/256390, JRC126045. https://publications.jrc.ec.europa.eu/repository/handle/JRC126045

[15] Update of benchmark values for the years 2021 - 2025 of phase 4 of the EU ETS Benchmark curves and key parameters. Updated final version issued on 12 October 2021. https://climate.ec.europa.eu/system/files/2021-10/policy_ets_allowances_bm_curve_factsheets_en.pdf

Approach	Type	The technical screening criteria define...	Examples
(7) Nature of the activity criteria	Qualitative	the description of the activity automatically eligible (derived from proven substantial contribution of that activity) (e.g. an activity that would always respect the absolute performance threshold)	zero tailpipe emission vehicles (hydrogen, fuel cell and electric) Manufacture of secondary aluminium flow-type hydropower plants

Source: adapted from JRC 2022 (examples from the original source or selected by the writing team).

0.5.2 Application guidelines for the water cycle

A series of factsheets have been developed - per activity or group of related activities - containing methodological guidelines to verify and demonstrate compliance with the screening criteria for the water cycle activities considered, referred to as type A in this study (see Table 4 of this study). These factsheets have not been translated to English, but their content is summarized in the form of general compliance guidelines in chapters 5 and 6 of the document.

The guidelines have been developed on the basis of a thorough review of background documents and other reference sources, including materials generated by European working groups, online tools, papers, sectoral guides, international management standards, databases and, finally, legal provisions that are cited in the delegated acts themselves or other relevant documents. Specifically, the following have been produced:

Climate Delegated Act (Objectives 1 and 2)

- Eight factsheets to guide compliance with the criteria for substantial contribution to Objective 1 (climate change mitigation). Occasionally two activities are grouped together in a single factsheet when their criteria coincide. See section 5.4.1 of the study.
- An additional factsheet for Objective 2 (climate change adaptation). The factsheet is unique because the technical criteria for substantial contribution set out in the annexes of the Climate Delegated Act are identical for all economic activities. See section 5.4.2.1 of the study.
- Four factsheets with guidelines for the application of the DNSH principle for Objectives 2, 3, 5 and 6. No DNSH factsheet has been developed for Objectives 1 and 4 for the water cycle economic activities of the Climate Delegated Act because it is either not applicable according to the delegated act, or the compliance guidelines proposed for the substantial contribution to Objective 1 are valid (due to their similarity). See sections 5.4.3.2, 5.4.3.3, 5.4.3.5 and 5.4.3.6 of the study.

PSF Recommendations Report March 2022 version (Objectives 3-6)
• Four factsheets to guide compliance with the criteria for substantial contribution to Objective 2. Taking into account their contribution to Objective 2, despite stemming from the Recommendations Report, these four factsheets have been included together with the rest of factsheets on economic activities contributing to Objectives 1 and 2 in the Climate Delegated Act. See section 5.4.2.2.2 to 5.4.2.5 and following sections of the study. • Two factsheets with guidelines for the application of the DNSH principle for Objectives 1 and 4, for those activities that contribute to Objective 2, but which derive from this report. See sections 5.4.3.1 and 5.4.3.4 of the study. • Nine factsheets to guide compliance with the criteria for substantial contribution to Objectives 3-6. In some cases, the factsheets have been simplified. See section 5.4.4 of the study. • Five factsheets with guidelines for the application of the DNSH principle for Objectives 1, 3, 4, 5 and 6. A DNSH factsheet has not been developed for Objective 2 as the guidelines for compliance proposed in the DNSH2 factsheet for Objectives 1 and 2 apply. See 5.4.5 of the study.

On the technical screening criteria for Objective 1

For most of the economic activities identified in the first package (Climate Delegated Act, Objectives 1 and 2), the technical screening criteria for substantial contribution to **Objective 1** relate to the following indicators:

1. **Energy efficiency**. Activities 5.1 / 5.2 (water collection, treatment and supply systems) and 5.3 / 5.4 (waste water collection and treatment) have specific criteria relating to energy consumption, proposing a reduction of 20% below baseline. In the case of wastewater treatment, a maximum threshold of 0.5 kW-h/m^3 of treated water is set.
2. **GHG generation.** For activities 5.3 / 5.4, 4.19 (cogeneration) and 4.5 (hydropower), criteria are established for the assessment of GHG emissions in operation or in the life cycle. Additionally, in several activities – 4.19, 5.6 (anaerobic digestion of sewage sludge) and 5.7 (anaerobic digestion of bio-waste) – the implementation of a monitoring plan for methane leakage detection at the facility is introduced as a criterion.
3. **Energy use**. Criteria for the use of energy from waste treatment (biogas) are established for activities 5.6, 5.7 and 4.19.
4. **Waste recovery**. Criteria are established to ensure waste reuse or recycling to replace fossil raw materials in activities 5.5 (collection and transport of non-hazardous waste), 5.6, 5.7 and 5.8 (composting of bio-waste).

The **DNSH criteria,** in general, are based on compliance with current EU legislation, best practices, standards and methodologies officially adopted or, in their absence, developed by public or private entities of international standing. For Objective 1, only activities 4.5 and 4.19 have an associated DNSH1, based on ensuring a certain level of direct GHG emissions. For Objectives 2, 3, 5 and 6, they are formulated, with certain exceptions, in terms established homogeneously for all activities through appendices A, B, C and D of the Delegated Climate Act. In the case of Objective 4, separate waste collection is included as a requirement and for Objective 5, in addition to the provisions of appendix C, specific requirements are made for compliance with maximum emission values in accordance with best available techniques.

On the technical screening criteria for Objective 2

The technical screening criteria for **Objective 2** climate change adaptation are the same for all economic activities. The criteria are uniform and qualitative, based on the **development of a climate risk and vulnerability assessment**. The implementation (in the case of the criteria for substantial contribution) or at least the planning (in the case of the DNSH principle) of the necessary adaptation solutions to avoid or reduce the identified risks must be demonstrated. Appendix A of the Climate Delegated Act includes a (non-exhaustive) list of climate-related hazards that need to be addressed.

It should be noted that, in the Recommendations Report published in March 2022 by the PSF, criteria for substantial contribution to Objective 2 have also been defined for some economic activities (4.1 Civil engineering, 6.8. Flood risk prevention and protection infrastructures, 8.3. Restoration of ecosystems). These criteria are the same as those set out in the Climate Delegated Act.

On the technical screening criteria for Objectives 3-6

In the case of **Objectives 3-6 of the PSF Recommendations Report (March 2022)**, the criteria for substantial contribution depend on the type of economic activity, so no common conclusion can be drawn, except for water cycle activities, for which criteria similar to those set out in the Climate Delegated Act for equivalent economic activities have been identified.

For activities contributing to Objective 3 (9.1. Water supply, 10.1. Urban Wastewater Treatment), the criteria are based on compliance with water regulations and energy efficiency.

All activities considered in this package contribute to only one of the objectives, except activity 8.4. Remediation activities, which contributes to all four. Overall, the technical criteria for substantial contribution proposed for all four objectives address the same issues: the need to ensure that pollutant levels and water use/withdrawal levels after remediation are reduced to a level compatible with water protection standards and to employ best practice in the sector.

The criteria for contribution to Objective 4 for activities 11.1 Collection of waste, 11.4 Recovery of bio-waste and 10.2 Phosphorus recovery, are based on the use of materials, based on compliance with regulations or, in the case of the latter activity, on defining minimum percentages of phosphorus recovery.

With regard to activities 10.3. Production of alternative water resources and 10.4. Sustainable Urban Drainage Systems, to contribute to Objectives 4 and 3, respectively, the activities must be integrated within a planning instrument, such as a water management plan and/or a drought management plan at river basin scale in the first case and a Flood Management Plan or urban planning instruments in the second case.

With regard to the **DNSH criteria in the Recommendations Report,** they can be considered to be similar to those defined in the Climate Delegated Act, based on compliance with regulations for the protection of the receiving environment, waste management or the monitoring of best practices, although specific requirements are proposed that have not been addressed in the delegated act, taking into account the type of economic activities considered in this package.

For DNSH1 criteria, economic activities should not damage systems with high carbon stocks. For DNSH3 criteria, issues related to flood risk prevention and protection infrastructure, and water reuse are covered. Many of the DNSH5 criteria are based on control of substances and air, soil and water emissions that may contribute to quality and pollution problems in the receiving environment (such as noise, dust, and emissions in civil engineering activity; substances such as pesticides, active ingredients or restricted substances in decontamination activities). They also cover appropriate measures to prevent and mitigate stormwater

overflows from the combined sewerage collection system, which may include sustainable urban drainage systems (SUDs).

0.5.3 Implementation guidelines for other water-related activities

As water-related activities, we have selected those economic activities that are distinguished by the fact that they exert a significant pressure, whether extractive or pollutant, on water resources, or that require the application of specific water-related management conditions in accordance with the Climate Delegated Act and the Recommendations Report for Objectives 3-6, according to the typologies presented in Table 7 of this study:

- Type B. Water-related activities, which take place in the aquatic environment (such as maritime transport or inland navigation activities) and/or on aquatic ecosystems (such as wetland restoration activities).
- Type C. Water-related activities with high water consumption and/or significant discharges into the aquatic environment.
- Type D. Water-related activities with specific taxonomic requirements linked to water (set out in the Climate Delegated Act (Objectives 1 and 2) and in the PSF Recommendations Report for Objectives 3-6).

Type C and D activities

Type C and D activities are those that use water as a productive *input*, unlike type B activities that are developed on the aquatic environment and/or aquatic ecosystems or type A activities (water cycle) whose purpose is the management of water resources. Consequently, they include a good number of industrial activities of a very diverse nature, especially in the chemical sector, primary sector activities (agriculture, livestock, and fishing), residential development and environmental restoration.

For this reason, for water-related economic activities (types C and D) no factsheets similar to those developed for type A activities are included in this study, with one exception: activity 1.2 (crop production) qualified as eligible for Objective 6 has been specifically addressed by means of a factsheet because of its significance in terms of water use. In all other cases, technical criteria specifically related to water and/or water resources management have been identified and summarised.

Type B activities

For the water-related activities listed in Table 8 of this study with the assigned code B, the same methodological approach as for the water cycle activities has been followed, by producing a series of sheets (only available in the original Spanish version of this study):

Climate Delegated Act (Objectives 1 and 2)

- Ten factsheets to guide compliance with the criteria for substantial contribution to Objective 1 (climate change mitigation). See section 6.3.1 of the study.
- One factsheet to guide compliance with the criteria for substantial contribution to Objective 2 (climate change adaptation) for activity 6.16 (Annex II of the Climate Delegated Act). See section 6.3.2 of the study.
- Three factsheets with guidelines for the application of the DNSH principle for Objectives 4, 5 and 6. See sections 6.3.3 of the study.

No DNSH factsheets have been developed for Objective 1 because it is either not relevant under the delegated act, or the compliance guidelines proposed for the substantial contribution to Objective 1 are valid, due to their similarity (in which case it is indicated in the corresponding factsheet).

A DNSH factsheet has also not been developed for Objective 2 because the guidelines of the DNSH2 factsheet for the water cycle activities are considered to be valid. See sections 5.4.3.2 and 5.4.5.2 of the study.

PSF Recommendations Report (Objectives 3-6)

No relevant Type B water-related activities have been identified from the **PSF Recommendations Report (Objectives 3-6)**, so no content has been developed.

Type B water-related activities identified in the Climate Delegated Act (Objectives 1 and 2) in the maritime transport sector (6.10, 6.11, 6.12) and inland navigation (6.7, 6.8, 6.9), as well as the necessary infrastructure (6.16)[16] are analysed together.

The technical screening criteria for substantial contribution to Objective 1 for this type of activities have been set to be compatible with the package of measures that the European Commission has planned to implement in the maritime sector to reduce GHG emissions (inclusion in the EU Emissions Trading System, the promotion of sustainable alternative fuels under the *FuelEU Maritime* initiative and the revision of several existing directives on energy taxation, alternative fuels and renewable energy infrastructures), as well as with those already established by the International Maritime Organisation (IMO).

With these initiatives in mind, for an economic activity to contribute to Objective 1 the use of vessels with zero direct CO_2 emissions is required. However, given current technological developments, there are currently very few zero-emission vessels available on the market. For this reason, contribution criteria which allow for a transition period until 2025 have been defined to allow for a certain amount of direct emissions. In addition, to be able to contribute substantially to the climate change mitigation objective, the vessels must not be dedicated to the transport or storage of fossil fuels.

In the case of activity 4.4. Ocean energy technologies, this activity in itself already contributes substantially to the mitigation objective, and its alignment will depend solely on the compliance of the technical criteria for the DNSH principle for Objective 1.

With regard to activity 2.1 Restoration of wetlands, the criteria for contribution to Objective 1 are based on carrying out a climate benefit analysis demonstrating that the net balance of GHG emissions and removals generated is lower than a baseline value corresponding to a net balance considering the affected area in the absence of the restoration activity over a period of 30 years and 100 years (average balance). It is also required that the area where the activity is carried out is included in a restoration plan and that, according to national legislation, the

[16] Economic activity 6.16 in Annex I (contribution to Objective 1) is different from activity 6.16 in Annex II (contribution to Objective 2).

wetland status is maintained. Finally, verification of both the contribution criteria and DNSH by an independent third party is also required.

0.5.4 Summary of types of activities and criteria addressed

Table 2 below relates the sections of chapters 5 and 6 to the environmental objectives and types of criteria addressed. The factsheets available in the Spanish version are also displayed.

Table 2. Summary of activities and criteria.

Type of activity	Source	Objective	Technical criteria	Sections in this document	Factsheets (Spanish version)
Urban Water cycle (type A)	Climate Delegated Act	1 y 2	SC	5.4.1 5.4.2.1	8 factsheets 1 SC factsheet to target 2
	Recommendations Report PSF March 2022	2		5.4.2.2-5.4.2.5	4 factsheets
	Climate Delegated Act	1 y 2	DNSH	5.4.3.2, 5.4.3.3, 5.4.3.5 and 5.4.3.6	4 factsheets: DNSH 2,3,5,6
	Report Recommendations PSF March 2022	2		5.4.3.1 and 5.4.3.4	2 factsheets: DNSH 1 and 4
	Report Recommendations PSF March 2022	3-6	SC	5.4.4	9 factsheets
			DNSH	5.4.5.1, 5.4.5.3, 5.4.5.4, 5.4.5.5 and 5.4.5.6	5 factsheets: DNSH 1,3,4, 5,6
Other water-related activities (type B)	Climate Delegate Act	1 y 2	SC	6.3.1	11 factsheets
			DNSH	6.3.3.4, 6.3.3.5 and 6.3.3.6	3 factsheets: DNSH 4,5,6

Source: own elaboration

1 Introduction

1.1 Context

Awareness about the climate emergency has now fully reached citizens, policy makers, and businesses[17]. The transformation to a low-carbon economy requires global momentum and massive mobilisation of resources to finance the necessary investments. Moreover, the physical risks arising from climate change and those resulting from the transition process need to be integrated into the strategy and management of businesses, lending activity and policies. The application of responsibility and sustainability criteria, beyond being a reputational issue, is also a source of opportunities in view of the high volumes of public and private funds that want to ensure that their investment is *green*.

In 2015, landmark international agreements were concluded with the adoption of the 2030 Agenda and the UN Sustainable Development Goals, and the Paris climate agreement, which includes a commitment to align financial flows towards low-carbon and climate-resilient development. Since then, this has been pursued in different multilateral forums - G20, UN, European Commission - with the collaboration of central banks and the financial sector as a whole[18] .

The European Union has taken an international leadership role in climate transition. Indeed, the EU has set itself very ambitious targets, such as reducing greenhouse gas (GHG) emissions by 55% by 2030 compared to 1990 and becoming a fully climate neutral continent by 2050[19]. In December 2019, the Commission presented the European Green Deal[20] which is based on three pillars:

- The Sustainable Europe Investment Plan[21] which will mobilise at least EUR 1 trillion in sustainable investments over this decade from the EU budget.
- The creation of an appropriate regulatory environment to stimulate the necessary public and private investments, recognising that the scale of the investment challenge is beyond the capacity of the public sector alone.
- Tailor-made support to public administrations and project promoters for the identification, structuring and implementation of sustainable projects.

Regarding the second pillar, the Commission has been developing since 2018 a global policy agenda on sustainable finance articulated in an Action Plan and the development of a strategy that would be renewed and reinforced by the Green Deal.

[17] José Manuel González-Páramo (2021). Las finanzas sostenibles, entre dos emergencias. https://www.funcas.es/wp-content/uploads/2021/05/CIE_282_-G-Paramo.indd_.pdf

[18] Clara Isabel González Martínez (2021). Panorámica de iniciativas institucionales globales y europeas en finanzas sostenibles https://www.bde.es/f/webbde/SES/Secciones/Publicaciones/InformesBoletinesRevistas/ArticulosAnaliticos/21/T3/Fich/be2103-art30.pdf

[19] https://climate.ec.europa.eu/eu-action/climate-strategies-targets_en

[20] Communication from the Commission to the European Parliament, the European Council, the European Economic and Social Committee and the Committee of the Regions: The European Green Pact https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640

[21] Communication from the Commission to the European Parliament, the European Council, the European Economic and Social Committee and the Committee of the Regions: Investment Plan for a Sustainable Europe Investment Plan of the European Green Pact https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0021

The EU Taxonomy for sustainable activities, or European "green taxonomy" (hereafter referred to as the taxonomy) is a key strategic tool, which was launched in December 2016 and has been progressing through a number of stages ever since.

In this context, the Canal Foundation has commissioned this study with the aim of providing an analysis of all the taxonomy issues that particularly affect the water sector. It analyses the implications of this regulation in its current state (November 2022) to help professionals in the water, environment, and sustainability sectors, public administrations, financial organisations, and others affected in some way by this recent system to comply with it. A system that is still under development but which entails compliance with various reporting obligations, such as those of activity, financing, investment and other related reporting obligations.

1.2 Previous studies carried out

Within the framework of this study, two previous studies have been carried out which have contextualised and provided useful ideas and analysis for the development of this study.

The first of the studies carried out, entitled "Contact with sectoral associations and organisations linked to the water cycle", includes all the work resulting from the process of interviews held with professionals in the water sector, public administration, financial organisations, etc.

The second, entitled "Assessment of the situation in the Madrid region", calibrates the potential for the application of the taxonomy in the Autonomous Community of Madrid, incorporating, among other contents, an in-depth analysis of which eligible activities can be considered water-related in terms of their volume of water consumption and the potential impact of their discharges.

The main contents of the two studies are summarised below.

1.2.1 Contact with associations and organisations linked to the water cycle

This first phase, prior to the development of the present study, was carried out to achieve the following objectives:

- Identify the elements of the European Taxonomy that generated the most uncertainty in relation to water, asking about specific concerns that may exist in the sector.
- To compile existing public references to provide technical examples related to water for each of the requirements defined in the taxonomy. To this end, the actors interviewed were asked about the development of any work or initiatives on taxonomy or sustainable finance that could be useful for this study.
- Collect the contacts of those people with greater knowledge of the subject to keep them informed of the study, of the main results obtained, and of the dissemination events that the Canal Foundation plans to hold in the spring of next year, with the intention of actively disseminating the study, including at international level.
- To open a channel of communication with the interviewees for the agile exchange of information during the development of this study.

To this end, 20 interviews were conducted with entities linked to the water sector and/or the application of the taxonomy, carried out in two rounds, in which the same procedure was followed.

The study includes the results of the interviews held, both in terms of the degree of participation and the agents interviewed, as well as the impressions and points of view of the different agents, enriching the perspective of this study.

After analysing the responses to the questions posed, it is worth highlighting the knowledge that some entities in the sector, and entities outside the sector, such as certification entities or entities related to sustainable finance, have of the new regulatory framework. In addition, the participation of members of the Sustainable Finance Platform (SFP) has allowed clarifying, on the one hand, questions related to the procedure followed up until the publication of the delegated acts of the taxonomy, and on the other hand, the premises considered when establishing a classification of economic activities and their substantial contribution to certain objectives of the taxonomy.

One of the main considerations of the sectors contacted is the incipient nature of this new regulatory framework. Also, despite there being a positive perception towards this new framework, it is notable for its great complexity, which is why the development of a study that attempts to clarify its scope and the implications deriving from its application is highly valued, as the studies currently available or known are considered to be too generic.

In relation to the concerns or doubts raised by the different entities consulted, they vary according to their nature or corporate purpose.

From the public administration there is a very specific query, which is to clarify the role that the administration is going to have in relation to green taxonomy, a question shared by some associations.

The most common concerns among the water sector relate to the complexity and level of stringency of some of the criteria used in the taxonomy. In general, the most relevant concerns raised by the water sector, which are developed in more detail in section 4.2, are the same as those presented by the European Federation of National Associations of Water Services (EurEau) in its position paper on the Climate Delegated Act criteria, which is available on its website, and which summarises the main concerns of water operators in complying with the Taxonomy Regulation.

Another concern shared by several entities relates to the European Commission's exclusion of certain economic activities as potentially taxonomic, such as desalination, which had not been contemplated in the PSF draft for Objectives 3-6 available at the time of the consultation, or the stance taken on agriculture and reuse.

Another aspect pointed out by the sector is related to the objectives to which the different activities contribute substantially according to delegated acts 1-2 and the draft of Taxo 4. The fact that activities such as, for example, agriculture, being one of the largest water consumers, only contributes to Objective 6 and not to Objective 3, is lacking. These concerns are partially resolved by the need of the PSF to prioritise the package of eligible economic activities according to their contribution to a certain environmental objective. This prioritisation has been established following two premises: 1) to prioritise activities that are significantly harmful to that objective, and 2) that also have a significant margin for improvement. This intends to maximise the impact of the application of the taxonomy in a first stage, albeit without preventing the future addition of new activities or objectives to which a substantial contribution can be made.

As for the entities from the certification sector, they highlight the importance of verification and validation in this new regulatory framework, taking into account that from 2023 entities will have to report the percentage of their activity that is potentially taxonomic. However, they confirm that, although there is already an accreditation scheme for the validation of the DNSH principle and only at project level, the same is not true for the validation of the criteria for substantial contribution to environmental objectives, for which nothing has been developed. AENOR also reports that a taxonomy verification regulation is expected, which has not yet been developed, as well as a document for the verification of non-financial information that is being drafted by the European Commission's financial advisory body.

Related to the above, one of the interviewees, a member of the PSF *Technical Working Group* (SG1), considers that compliance with these criteria will lead to practical difficulties in demonstrating compliance to an auditor, which will require cross-training of existing teams.

Finally, from the financial sphere, another of the interviewees places wastewater treatment as the activity that will acquire the greatest strength among those operating in the sustainable finance markets, on a par with the renewable energy, energy efficiency or electric mobility sectors. It is considered that, due to the application of the DNSH principle to environmental Objective 3 (Sustainable use and protection of water and marine resources), virtually all potentially taxonomic activities present in the delegated acts will be affected.

1.2.2 Assessment of the situation in Madrid

The aim of this study was to assess the potential of applying the taxonomy to water cycle activities and related sectors in the Autonomous Community of Madrid. To this end, the various available data sources, both public and private, were investigated to compile and organise information on regional economic activity and companies in Madrid. The process was approached in two stages:

1. Identifying which water-related economic activities and subsectors are eligible. In total, 112 subsectors were identified as being significantly involved in water-related taxonomic activities, of which eleven would apply specifically to the water cycle.

2. Analysis of the situation of these subsectors in the Region of Madrid, focusing on their economic dimension, number of companies affected by the taxonomic reporting obligation and other significant indicators. The economic production derived from this set of subsectors was estimated at slightly more than 35,000 million euros per year (5.9% of the regional economy).

   On the other hand, it was possible to estimate that a total of 268 water-related companies presented economic magnitudes compatible with the obligation to report their taxonomic performance, as they met at least one of the three conditions that establish the obligation to report (number of employees greater than 250, accounting assets greater than 20 million euros and, if necessary, a turnover greater than 40 million euros).

   Finally, it could be confirmed that water-related sectors contribute most of the water pollution (total organic carbon, COD and nutrients), as well as being responsible for about 40% of point source greenhouse gas emissions.

Moreover, section 1.2.3 provides a description of the analysis procedure carried out to identify eligible activities, with particular emphasis on some of the technical difficulties of the process. These issues are relevant to this study for two reasons: firstly, because it serves as a basis for the selection of the activities to be analysed in detail in chapters 5 and 6; secondly, because it raises some practical difficulties in the application of the taxonomy by companies, in particular in determining the eligibility of the activities they carry out.

1.2.3 Identification of eligible activities

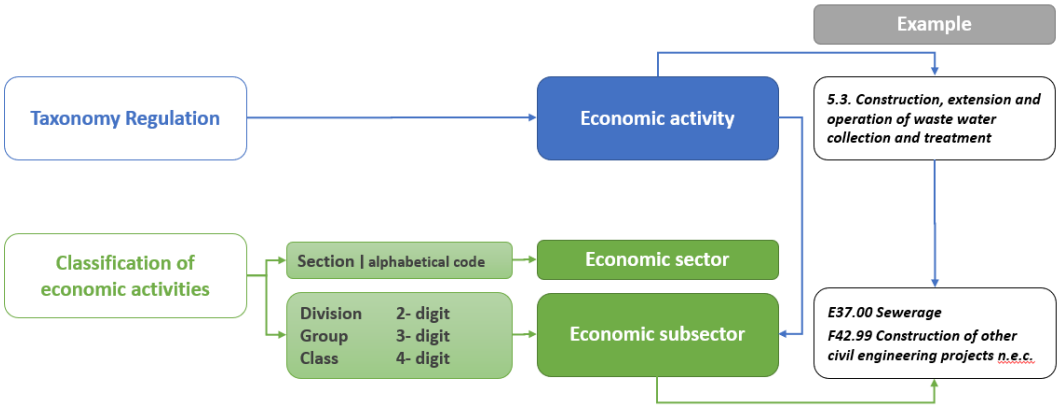
1.2.3.1 Preliminary aspects

The definitions set out in the TR do not clarify the scope of the term "economic activity", which could lead, in first instance, to identify them with the activities and codes of the pre-existing European classification (NACE). However, with the adoption of the Climate Delegated Act, it has become clear that the taxonomy introduced a classification of its own and that the relationship with NACE is not unambiguous.

To avoid the confusion that may arise from this lack of coincidence, in this study the meaning "economic activity" is reserved for those listed and described in the annexes of the taxonomic regulations. For the activity grouping levels classified in CNAE / NACE, the corresponding denominations have been used: sections (1-digit alphabetical code); divisions (2-digit

numerical code); groups (3-digit numerical code); classes (4-digit numerical code). The terms "economic sector" - roughly corresponding to the statistical level of section - or "subsector" associated with division, group, or statistical class according to context are also used in an unregulated manner (see Figure 7).

Figure 7. Links between economic activities (taxonomy) and statistical classes.



Source: own elaboration

1.2.3.2 Typification of economic activities and general methodology for identifying eligible water-related activities

The list of eligible economic activities as well as the screening criteria for Objectives 1 and 2 have been consolidated by the Climate Delegated Act, while for Objectives 3-6 the recommendations of the PSF are available for the time being.

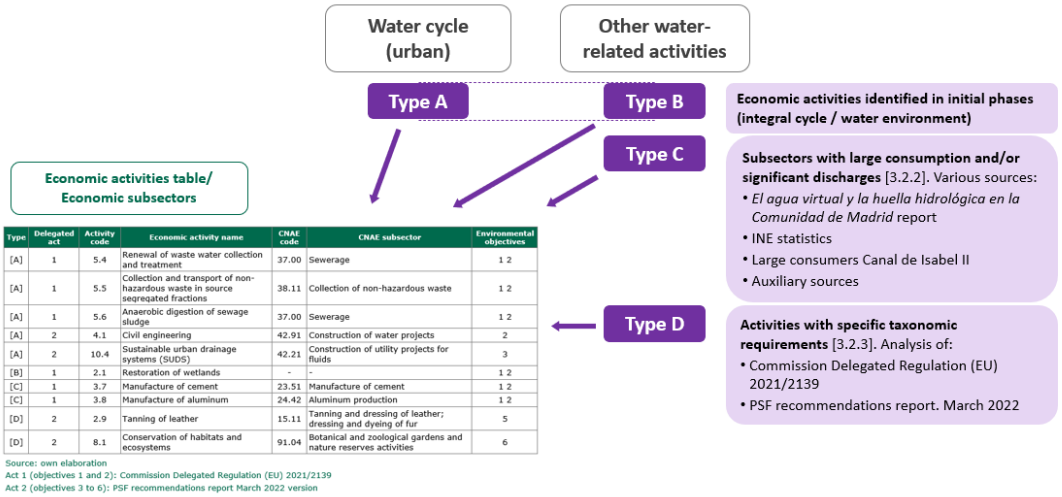
In the initial phases of the study, it was possible to identify a group of activities in the water cycle and another group of activities that are clearly water-related, as they are carried out directly in the water environment. On the other hand, it was not so clear which activities could be considered "water-related", although it seems clear that they can be identified with those that are highly dependent on water (large consumers and/or generators of significant discharges into the water environment). Considering the taxonomic analysis framework, those activities for which the regulations incorporate specific screening criteria related to the use and protection of water resources could also be included.

Applying this conceptual framework, four main groups of economic activities were considered for the regional assessment, a grouping that has been maintained in this study (chapters 5 and 6):

- **Type A**. Economic activities of the water cycle.
- **Type B**. Water-related activities, which take place in the water environment and/or on aquatic ecosystems.
- **Type C**. Activities that are water-related due to high water consumption and/or significant discharges into the water environment.
- **Type D**. Water-related activities with specific taxonomic requirements linked to water.

Figure 8 presents an outline of the methodological procedure applied, with an indication of the sources used to determine whether the linkage to water is significant.

Figure 8. Methodological layout Classification of potentially taxonomic water-related activities.



Type	Delegated act	Activity code	Economic activity name	CNAE code	CNAE subsector	Environmental objectives
[A]	1	5.4	Renewal of waste water collection and treatment	37.00	Sewerage	1 2
[A]	1	5.5	Collection and transport of non-hazardous waste in source segregated fractions	38.11	Collection of non-hazardous waste	1 2
[A]	1	5.6	Anaerobic digestion of sewage sludge	37.00	Sewerage	1 2
[A]	2	4.1	Civil engineering	42.91	Construction of water projects	2
[A]	2	10.4	Sustainable urban drainage systems (SUDS)	42.21	Construction of utility projects for fluids	3
[B]	1	2.1	Restoration of wetlands	-	-	1 2
[C]	1	3.7	Manufacture of cement	23.51	Manufacture of cement	1 2
[C]	1	3.8	Manufacture of aluminum	24.42	Aluminum production	1 2
[D]	2	2.9	Tanning of leather	15.11	Tanning and dressing of leather; dressing and dyeing of fur	5
[D]	2	8.1	Conservation of habitats and ecosystems	91.04	Botanical and zoological gardens and nature reserves activities	6

Source: own elaboration
Act 1 (objectives 1 and 2): Commission Delegated Regulation (EU) 2021/2139
Act 2 (objectives 3 to 6): PSF recommendations report March 2022 version

Source: own elaboration

Applying this methodology, a total of 112 statistical classes have been identified as being significantly involved in water-related taxonomic activities, of which five would apply specifically to the urban water cycle, 101 are related to other related activities and 6 would be shared by both activity groups.

1.2.3.3 Difficulties in associating economic activities and statistical classes

As indicated above, the taxonomy introduces a new codification of economic activities. Although the delegated acts propose a preliminary association of taxonomic activities with one or more NACE categories, there are a number of considerations to be made in this respect which correlate with a number of practical difficulties. These difficulties and how they have been addressed for the identification of eligible and water-related activities are summarised in the following points.

1. For the purposes of this study, it has been deemed convenient that the identification of classified activities be taken to the class level to ensure greater precision (see Figure 7). However, while in most cases they are used with the alphanumeric NACE class code (a letter corresponding to the statistical section plus the 4 digits corresponding to the statistical class), sometimes only division or group is specified. In such cases, it has been necessary to identify all the classes included so as to determine which ones are actually water-related. It should also be recalled that these associations are indicative and not definite, so other NACE codes could justifiably be associated.

2. The European NACE classification system does not align directly with the national CNAE classification system. In a few cases (11), a single NACE code is disaggregated into two or more CNAE codes. These differences must be taken into account when handling the various statistical data and in particular in the association with activities in the taxonomy. The relationship of NACE and CNAE codes has been established in accordance with Royal Decree 475/2007[22] .

3. Sometimes, delegated acts include similar - or identical - economic activities under different codifications and names. The cases identified in the context of water-related activities are summarised in the table below.

[22] Real Decreto 475/2007, de 13 de abril, por el que se aprueba la Clasificación Nacional de Actividades Económicas 2009 (CNAE-2009).

Climate Delegated Act (Objectives 1 and 2)	PSF Technical Working Group Recommendations Report (Objectives 3-6)
4.5. Electricity generation from hydropower	3.1. Environmental refurbishment of facilities that produce electricity from hydropower
5.1. Construction, extension and operation of water collection, treatment and supply systems 5.2. Renovation of water collection, treatment and distribution systems	9.1. Water supply
5.3. Construction, extension and operation of waste water collection and treatment 5.4. Renewal of waste water collection and treatment	10.1. Urban Wastewater Treatment 10.2. Phosphorus recovery from waste water
5.6. Anaerobic digestion of sewage sludge 5.7. Anaerobic digestion of bio-waste 5.8. Composting of bio-waste	11.4. Recovery of bio-waste by anaerobic digestion and/or composting

In any case, a remarkable coincidence in the NACE classes that are associated in the taxonomy with similar sectors has been observed.

4. The association with CNAE classes may be questionable in some cases. Due to its relevance to the core activities of the water cycle, it should be noted that both delegated acts associate the economic activities of water supply and treatment with class F42.99 - occasionally F42.91 - when, in fact, the class that seems to fit best this type of activity is F42.21. To justify the above statement, the three statistical classes are defined below[23] :

42.21 Design and construction of fluid handling facilities
This class includes the construction of distribution lines for transportation of fluids and related buildings and structures that are integral part of these systems. This class includes: - the construction of civil engineering works for: • long-distance and urban pipelines • water main and line construction • irrigation systems (canals) • reservoirs - construction of: • sewerage systems, including repair • sewage disposal plants • pumping stations This class also includes: - drilling of water wells This class excludes: - project management activities relating to civil engineering works (see 71.12)
42.91 Construction of waterworks
This class includes: - the construction of: • inland waterways, harbour and river works, recreational harbours (marinas), locks, etc. • dams and dikes • dredging of waterways This class excludes: - project management activities related to civil engineering works (see 71.12)

[23] Source: "NACE REv.2 Statistical classification of economic activities in the European Community" (Eurostat 2008). https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

42.99 Construction of other civil engineering projects n.e.c.[24]
This class includes: - construction of industrial facilities, except buildings, such as: • refineries • chemical plants - construction works, except for buildings, such as • outdoor sports facilities This class also includes - subdivision of land with land improvement (e.g. addition of roads, utilities infrastructure, etc.) This class excludes: - installation of industrial machinery and equipment (see 33.20) - land subdivision without land improvement (see 68.10) - project management activities related to civil engineering works (see 71.12)

5. Economic activities may be associated with a single statistical class but, as has been mentioned, it is usual for them to be associated with several. On occasions, the list of classes is very extensive, reaching subsectors whose relationship with the economic activity and the screening criteria that determine their taxonomic potential is indirect or even marginal. For this reason, it has been considered convenient to characterise the relevance of the taxonomic activity/statistical class association according to the categories shown in the table below.

According to the relevance of the class in the economic activity	
Main. The usual transactions and/or investments of the statistical class are clearly identified with the economic activity. In general, the technical screening criteria are directly applicable to such operations/investments.	**Secondary**. The statistical class participates in a derived or indirect way through ancillary or complementary operations (engineering and architecture, rental, maintenance, repair...) and/or through the provision of services that can also be developed by the main class. In general, there are no specific technical criteria and operations will be taxonomic or non-taxonomic depending on the nature of the associated main activity.
According to the importance of potentially taxonomic operations / investments in the class as a whole	
Complete. Practically all the usual operations/investments of the class correspond to the potentially taxonomic economic activity.	**Partial**. Only a fraction of the usual operations/investments of the class corresponds to the potentially taxonomical economic activity.

This classification was carried out through expert judgement - as such, subject to controversy - and is purely indicative. Its aim is to facilitate the identification of the key statistical classes for the analyses developed in the regional study.

1.3 Structure of the study

The study comprises six chapters, including this introduction as chapter 1.

Chapter 2 will focus in more detail on the implication of taxonomy in the complex regulatory framework of sustainable finance, while chapter 3 will deal with a more detailed account of the taxonomic framework itself. For the time being, the Taxonomy Regulation[25], approved in 2020, is a system for classifying economic activities as environmentally sustainable if they meet the following conditions:

[24] The meaning of the acronym n.e.c. is *not elsewhere classified*.

[25] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (Text with EEA relevance) https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32020R0852

- contributes substantially to one or more of the six environmental objectives:
  1) climate change mitigation;
  2) climate change adaptation;
  3) sustainable use and protection of water and marine resources;
  4) transition to a circular economy;
  5) pollution prevention and control;
  6) protection and restoration of biodiversity and ecosystems
- does not significantly harm any (DNSH) of the six environmental objectives.
- is carried out in compliance with minimum social and governance safeguards.

To ensure compliance with the first two conditions, the European Commission should adopt by means of delegated acts specific technical screening criteria for each activity and environmental objective. Chapter 4 advances an analysis of the main challenges of the implementation of the taxonomy, with a special focus on some specific difficulties faced by urban water cycle companies.

Chapter 5 includes the description and analysis of the taxonomic criteria that apply to the urban water cycle activities, as well as brief technical guidelines to verify compliance with the criteria, while chapter 6 provides similar contents for other water-related activities[26].

Finally, a chapter is included containing the most relevant references used for the development of this study, as well as a final chapter that compiles the most important definitions in a glossary to make it easier for the reader to follow and understand the concepts of this study.

1.4 Objectives of the study

The aim of this work is to carry out a concise and rigorous study, of an informative nature, on the water-related aspects contemplated in the taxonomy. To this end, the relevant regulations are reviewed in depth, with special attention to all those aspects linked to the sustainable use and protection of water and marine resources (Objective 3) from the dual taxonomic perspective of substantial contribution and respect for the DNSH principle.

The target audience of the study includes technicians and ESG (*Environmental, Social and Governance*) managers of water utilities, but also public officials in charge of overseeing compliance with the European Taxonomy, professionals from financial institutions, non-governmental organisations, economic actors or anyone interested in acquiring a better understanding of the implications of the taxonomy for the water sector and related activities.

In addition, mention should be made of a number of background papers with which this study shares the objective of facilitating the practical application of taxonomy concepts in a variety of contexts[27]. This base of knowledge and interpretation is constantly growing, as befits the magnitude and relevance of the challenge the application of the taxonomy poses. Without striving to be exhaustive, an initial list of general guidance documents is presented here.

It is important to clarify that this study does not intend to reproduce the requirements established in the regulations, but rather to analyse them and provide indications that help the

[26] The Spanish version includes factsheets with more detailed compliance guidelines.

[27] In addition to the general documents outlined here, further reference documents, guidelines and supporting manuals for the assessment of specific criteria are introduced in subsequent chapters, particularly in chapters 5 and 6.

reader understand them and facilitate compliance with them, so that they can benefit from such compliance.

General guidance documents
IHOBE-BEC (2022). Basque Ecodesign Center: *Guía Metodológica para la aplicación del Reglamento de la taxonomía (TR) por parte de las entidades no financieras*[28]
OECD (2020). Developing Sustainable Finance Definitions and Taxonomies[29]
Caja de Ingenieros (2022). *Guía de aplicación de la taxonomía verde. Taxonomía de inversiones sostenibles*[30]
NATIXIS (2020). EU taxonomy for sustainable activities - skydiving kit[31]
SEOPAN (2022). *Taxonomía europea aplicada a proyectos de carreteras*[32]
DNSH Implementation Guides
European Commission (2021). Commission Notice Technical guidance on the application of 'do no significant harm' under the Recovery and Resilience Facility Regulation 2021/C 58/01.[33]
MITECO (2021). *Guía para el diseño y desarrollo de actuaciones acordes con el principio de no causar un perjuicio significativo al medio ambiente*[34]
MITECO (2019). *Documento guía. Determinación de la significatividad del daño medioambiental en el contexto de la ley 26/2007, de 23 de octubre, de responsabilidad medioambiental*[35]
Anexo. Determinación de la significatividad del daño medioambiental a las aguas[36]
COTEC (2022). *Guía de apoyo para elaborar memorias DNSH*[37]
European Environmental Bureau (2022). Do No Significant Harm' to Circular Economy in the Climate Taxonomy[38]
Finnish Environment Institute (2022). Implementation of the DNSH principle for measures set out in Finland's recovery and resilience plan.[39]

[28] http://www.basqueecodesigncenter.net/PublicacionesV2/Ficha.aspx?IdMenu=eab5beb3-997d-433d-a976-7131ac06088e&Cod=3a50d9c7-5c50-4688-bca3-33a6afd106f2&Idioma=es-ES&Tipo=

[29] https://www.oecd-ilibrary.org/finance-and-investment/developing-sustainable-finance-definitions-and-taxonomies_134a2dbe-en

[30] https://www.caixaenginyers.com/documents/20143/663361151/Guia_Taxonomia_es.pdf/68692187-7f89-569c-abd7-c0cf5cf93337?t=1651663118588

[31] https://gsh.cib.natixis.com/api-website-feature/files/download/11673/EU_Taxonomy_for_sustainable_activitie_skydiving_kit_Natixis_GSH_Sept_2020.pdf

[32] https://seopan.es/wp-content/uploads/2022/07/Taxonomia-europea-aplicada-a-proyectos-de-carreteras_SEOPAN-Sener_Alta.pdf

[33] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021XC0218%2801%29

[34] https://www.miteco.gob.es/es/ministerio/recuperacion-transformacion-resiliencia/transicion-verde/guiadnshmitecov20_tcm30-528436.pdf

[35] https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/responsabilidad-mediambiental/determinacionsignificatividaddano_noviembre2019_tcm30-497992.pdf

[36] https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/responsabilidad-mediambiental/anejosignificatividaddanoagua_noviembre2019_tcm30-497993.pdf

[37] https://cotec.es/proyecto/guia-de-apoyo-para-elaborar-memorias-dnsh/86c3529c-25fd-3313-0e45-4cef82c941ff

[38] https://eeb.org/wp-content/uploads/2022/04/Do-No-Significant-Harm-to-Circular-Economy-in-the-Climate-Taxonomy-EEB-report-April-2022.pdf

[39] https://helda.helsinki.fi/bitstream/handle/10138/343044/SYKEre_3en-2022_DNSH.pdf?sequence=1&isAllowed=y

2 The regulation of sustainable finance

2.1 The EU Sustainable Finance Strategy

The European Union is actively working on renewing its financial policy framework to steer it towards a new model of climate-neutral development with minimal environmental impact. In support of public action, sustainable finance aims to guide economic operators' decision-making towards investment and management strategies that are more transparent and attentive to environmental risks and ESG issues. Sustainable finance is central to the transition to a low-carbon and resilient economy, and to a sustainable recovery from the impacts of the COVID-19 pandemic[40].

The EU has set itself very ambitious climate policy targets: to reduce GHG emissions by 55% by 2030 and to become a fully climate neutral continent by 2050. These targets are combined and need to be coordinated with those set in the framework of other, no less ambitious environmental strategies and action plans (Figure 9).

Figure 9. EU Environmental Strategies.

Source: European Commission https://environment.ec.europa.eu/strategy_en

The European Green Deal[41] is the roadmap for bringing economic and environmental policies together, making sustainability an integral part of financial policy:

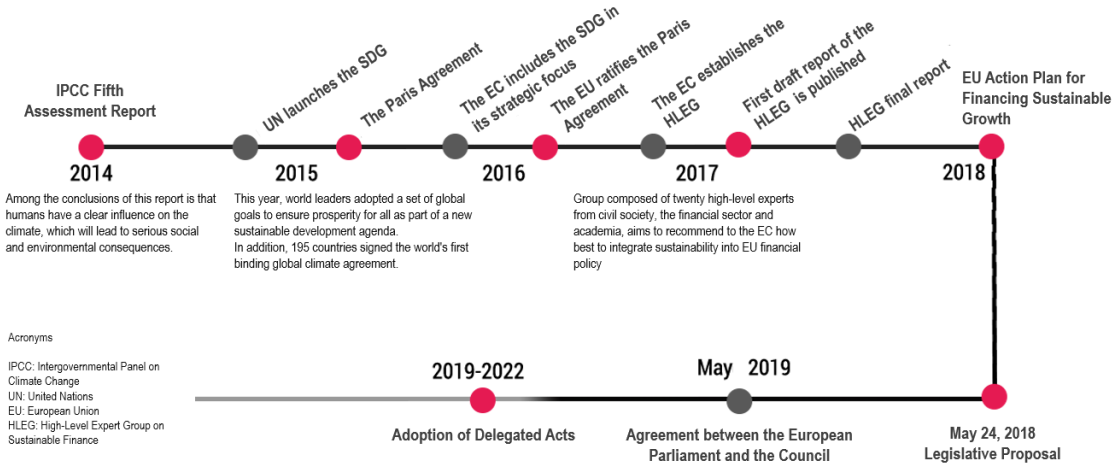
[40] https://finance.ec.europa.eu/sustainable-finance/overview-sustainable-finance_en

[41] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019DC0640&from=EN

a new growth strategy aimed at transforming the EU into an equitable and prosperous society, with a modern, resource-efficient, and competitive economy, in which there will be no net greenhouse gas emissions by 2050 and economic growth will be decoupled from resource use.

In this context, the Commission published on 6 July 2021 its Strategy for financing the transition to a sustainable economy[42] . It builds on previous initiatives, notably the Action Plan: Financing Sustainable Development[43] and the reports of the Sustainable Finance expert groups (section 2.3). It also draws on responses to a consultation of individuals, authorities, and private organisations, both inside and outside the EU[44]. Figure 10 summarises the main milestones of the process to date.

Figure 10. Development of the Sustainable Finance Action Plan.



Source: translated from SPAINSIF[45]

The renewed sustainable finance strategy (Strategy for Financing the Transition to a Sustainable Economy[46]) proposes to act across the entire value chain, supporting the conversion to a financial system that is more resilient to the risks posed by climate change and environmental degradation.

2.2 Fitting taxonomy into the sustainable finance framework

Although this study will focus on how the application of green taxonomy affects non-financial economic operators - with a special focus on the water cycle – a broader framework of analysis is necessary to achieve a proper understanding of its implications.

[42] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. A strategy for financing the transition to a sustainable economy. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0390&from=ES

[43] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. Action Plan: Financing Sustainable Development. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=ES

[44] Summary Report of the Stakeholder Consultation on the Renewed Sustainable Finance Strategy 8 April 2020 - 15 July 2020. https://finance.ec.europa.eu/system/files/2021-02/2020-sustainable-finance-strategy-summary-of-responses_en.pdf

[45] https://www.spainsif.es/pa-finanzas-sostenibles/

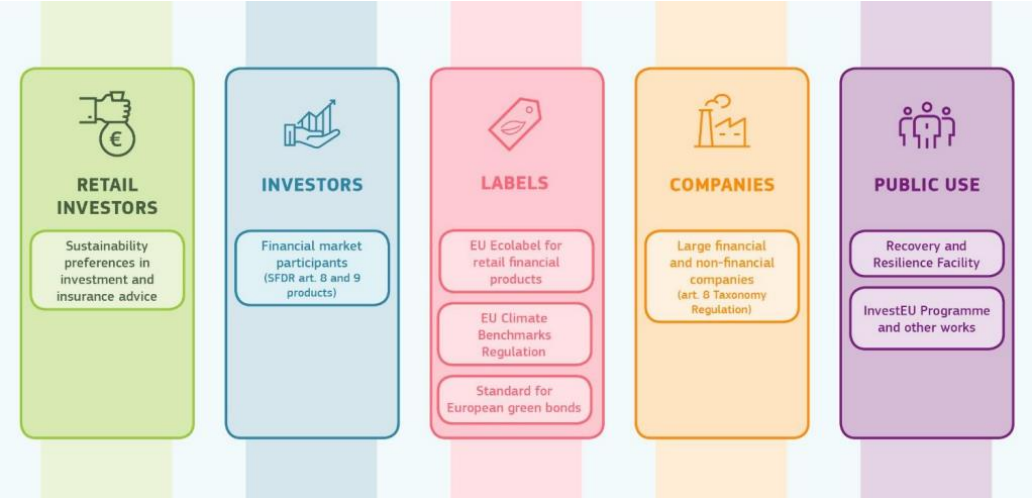
[46] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. Strategy for financing the transition to a sustainable economy. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0390

Until now, the various sustainable finance regulations and tools (such as eco-labels or green bonds) have each had their own terminology. One of the objectives of the taxonomy is to unify definitions, metrics, and objectives. It reduces the scope for open interpretation of concepts by adopting a more rigorous approach that examines business activities in great detail, using a science-backed approach.

In this way, by objectifying the criteria of what is or is not sustainable, it provides clear indications for decision-making by all economic agents, also preventing companies from resorting to marketing strategies that convey to the public an appearance of environmental responsibility with little real basis (*greenwashing*). To this end, the taxonomy connects the various actors with sustainable financing policies (Figure 11) to form a complete and coherent toolkit that can be summarised in the following points[47] :

- Clients' sustainability preferences should be incorporated into the suitability test for investment and insurance advice. For example, by offering instruments that invest in taxonomy-compliant activities.
- Creators of financial products that promote environmental or social features or pursue sustainable investments should describe how and to what extent the investments underlying the product are activities aligned with the taxonomy.
- The EU Ecolabel for retail financial products will incorporate taxonomy alignment criteria.

Figure 11. The EU Taxonomy throughout the financial value chain.



Source: European Commission 2021

- The use of climate benchmarks[48] should also ensure that the selection of underlying assets is consistent with the sustainable investments in the taxonomy.
- The legislative proposal for a European green bond standard will require issuers to fully align funded investments with the taxonomy[49] .
- The use of the taxonomy as the basis for any regulation of financial products or corporate bonds that are offered as environmentally sustainable.

[47] Commission staff working document. Accompanying the Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. Strategy for Financing the Transition to a Sustainable Economy https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0180

[48] See the website of the Spanish Securities and Exchange Commission (CNMV) http://cnmv.es/portal/Benchmark/Indice-Climatico.aspx

[49] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/european-green-bond-standard_en

- Large financial and non-financial firms will have to report on how and to what extent the activities they perform meet the taxonomy criteria, in accordance with the content specifications and presentation requirements set out by Delegated Act[50] .
- In addition to mandatory uses, other EU or national policies may make reference to taxonomy (see section 3.7) to condition access to public funds.

Ultimately, the taxonomy is intended to be used as a tool that operates throughout the entire value chain. By putting all economic actors on an equal footing, it will help companies in the design of ESG action plans, and financial institutions, insurers, and investors to clearly understand whether companies and investment products are genuinely aligned with sustainability objectives.

2.3 The development of the technical work for the definition of the taxonomy to date

The account of how the taxonomic regulation has been developed is associated with the successive formation of multidisciplinary working groups that have ensured the scientific robustness of the technical documents on which it has been based.

These groups have been the following, from 2016 to date:

High-Level Expert Group on Sustainable Finance (2016-2018)

Previously announced in the Communication "Capital Markets Union: Accelerating Reform"[51], the European Commission established in December 2016 a *High-Level Expert Group* on Sustainable Finance (HLEG). It consisted of 20 high-level experts from civil society, the financial sector, academia, and observers from European and international institutions.

Its role was to advise the Commission on how to: direct the flow of public and private capital towards sustainable investments; identify measures to be taken by financial institutions and supervisors to protect the stability of the financial system from environment-related risks; deploy these policies on a pan-European scale. The HLEG published two reports in response to its mandate, interim and final.

07/2017	Financing a sustainable European economy. Interim report.	https://finance.ec.europa.eu/system/files/2017-07/170713-sustainable-finance-report_en.pdf
01/2018	Financing a sustainable European economy. Final report.	https://finance.ec.europa.eu/system/files/2018-01/180131-sustainable-finance-final-report_en.pdf

Technical Expert Group on Sustainable Finance (2018-2020)

This *Technical Expert Group* (TEG) started its work in July 2018 and its mandate ran until 30 September 2020. The role of the group was to assist the Commission, notably in the development of a unified classification system for sustainable economic activities, a green bond

[50] Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation (Text with EEA relevance). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R2178

[51] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016DC0601

standard for the EU[52] , methodologies for low carbon benchmarks[53], and metrics for climate-related disclosure[54]. The group had 35 members from civil society, academia, business, and the financial sector, as well as other members and observers from EU and international public bodies.

The TEG has been working on the development of the taxonomy on climate change mitigation and adaptation. In December 2018, the TEG published a report containing a first set of climate change mitigation activities and their technical screening criteria, along with a call for feedback on the proposed criteria that concluded in January 2019. In the first half of 2019, it engaged with more than 200 additional experts to develop technical screening criteria for a second round of activities.

As far as its work on taxonomy is concerned, the main published papers are the following:

	MS Excel tool to facilitate identification of economic activities and applicable screening criteria	https://finance.ec.europa.eu/document/download/57d4c43c-11d1-42cc-920f-0a3314f7d817_en?filename=sustainable-finance-teg-taxonomy-tools_en.xlsx
03/2022	EU taxonomy NACE alternate classification mapping	https://ec.europa.eu/info/files/sustainable-finance-taxonomy-nace-alternate-classification-mapping_en
03/2020	Final Report on EU Taxonomy	TEG final report on the EU taxonomy
03/2020	Technical Annex to the final report on EU Taxonomy	Technical annex to the TEG final report on the EU taxonomy

Platform on Sustainable Finance (2020 onwards)

Article 20 of the Taxonomy Regulation calls on the European Commission to establish a "Platform on Sustainable Finance" (PSF) and sets out its functions and composition, establishing it as an advisory body composed of experts from the private and public sector. This expert group advises the European Commission on the technical screening criteria for the EU Taxonomy, the further development of the taxonomy and sustainable finance in general.

In addition, the PSF should monitor and report on capital flows to sustainable investments.

Four subgroups currently operate to prepare the technical work according to the variety of tasks and subtasks, the time frames indicated by the mandate, and the different types of skills and knowledge required (Figure 12). They are shown in the graph below, however, the first of these subgroups - known as the *Technical Working Group* (TWG) – deserves particular mention.

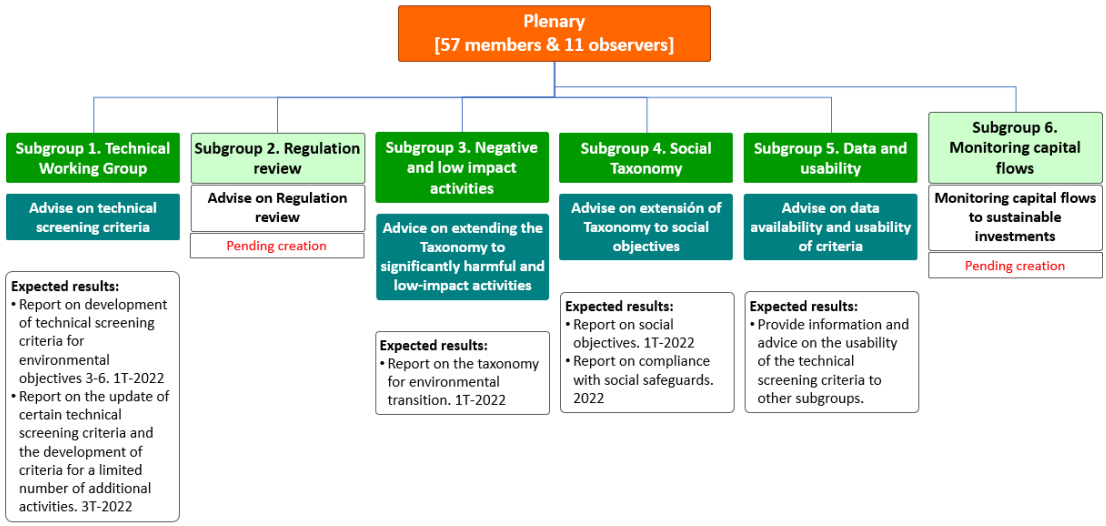
The TWG is responsible for issuing recommendations on the technical criteria for the selection of environmental objectives. It also advises the European Commission on the desirability of updating these criteria and analysing their impact in terms of costs and benefits and will assist the Commission in the future by responding to requests from interested parties to develop or revise the technical screening criteria for a given economic activity.

[52] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/european-green-bond-standard_en

[53] https://finance.ec.europa.eu/sustainable-finance/disclosures/eu-labels-benchmarks-climate-esg-and-benchmarks-esg-disclosures_en

[54] https://finance.ec.europa.eu/sustainable-finance/disclosures/corporate-disclosure-climate-related-information_en

Figure 12. Organisation of the Platform on Sustainable Finance.



Source: PSF[55]

It should be noted that the reports prepared by the PSF are not binding for the European Commission and that, to be converted into regulations or delegated acts, they must be discussed in the European Parliament. The main documents published to date are[56] :

10/2022	Supplementary: Methodology and Technical Screening Criteria	Platform on Sustainable Finance's report with supplementary advice on methodology and technical screening criteria for the climate and environmental objectives of the EU Taxonomy
10/2022	Platform Usability Report: Platform recommendations on Data and Usability as part of Taxonomy reporting	Platform on Sustainable Finance's recommendations on data and usability of the EU taxonomy
07/2022	Draft Report on Minimum Safeguards	Platform on Sustainable Finance's draft report on minimum safeguards
03/2022	Platform on Sustainable Finance's report on environmental transition taxonomy	Platform on Sustainable Finance's report on environmental transition taxonomy
03/2022	Part A: Methodological report	Platform on Sustainable Finance's report with recommendations on technical screening criteria for the four remaining environmental objectives of the EU taxonomy
	Part B – Annex: Technical Screening Criteria	Annex to the Platform on Sustainable Finance's report with recommendations on technical screening criteria for the four remaining environmental objectives of the EU taxonomy
03/2022	The Extended Environmental Taxonomy: Final Report on Taxonomy extension options supporting a sustainable transition	Platform on Sustainable Finance's report on environmental transition taxonomy
02/2022	Final Report on Social Taxonomy	Platform on Sustainable Finance's report on social taxonomy

[55] https://finance.ec.europa.eu/sustainable-finance/overview-sustainable-finance/platform-sustainable-finance_en

[56] The first report published by the PSF dates from December 2020, and corresponds to a preliminary consultation phase. During 2021, a number of smaller reports are published compared to 2022. These reports deal with issues such as transitional finance, drafts on social taxonomy, taxonomy extension, and other draft reports on PSF or TWG considerations.

02/2022	Response to the Complementary Delegated Act	Platform on Sustainable Finance's response to the consultations on the taxonomy draft complementary Delegated Act

Member States Expert Group on Sustainable Finance (2018 onwards)

The *Member States Expert Group* on Sustainable Finance (MSEG) was established in April 2018, as part of the European Commission's "Action Plan: Financing Sustainable Development"[57] . The MSEG brings together financial market and environmental experts from Member States to facilitate the coordination of European and national level initiatives, and to assist the Commission in the implementation of sustainable finance legislation and policies.

Article 24 of the Taxonomy Regulation assigns it the role of advising the Commission on the adequacy of the technical screening criteria. It also provides that, through the meetings of the MSEG, it will report on the results of the PSF, facilitating the exchange of views between the Member States and the Commission, in particular on the main results of the PSF, such as new or updated technical screening criteria or draft reports. To date, 20 meetings of the MSEG have been held[58] .

On another front, mention should be made of the work carried out by other national and international platforms and working groups. In general, they respond to the mission of fostering institutional collaboration at various levels, facilitating forums for cooperation, exchange of good practices, dissemination and promotion of corporate responsibility and sustainable finance policies.

2.4 Benefits of taxonomy alignment for companies

The taxonomy regulation sets out environmental disclosure obligations for companies and financial products but does not mandate certain levels of environmental performance. It is expected that, through transparency, it will become a driver of change by encouraging the adoption of programmes and facilitating their design, for business transition to sustainability.

Alignment, which consists of compliance with a set of criteria developed through delegated acts, which will be detailed in section 3.3 and which have already been advanced in the executive summary of this study, may entail investment costs for the adoption of more efficient technologies that affect the production processes and the operation of companies.

Moreover, the requirement for disclosure of taxonomic performance will undoubtedly have a cross-cutting impact on companies in the framework of corporate responsibility strategies.

The IHOBE-BEC 2021 Guide presents a good analysis of the impacts of alignment across the various company departments:

- At the executive level, a strategy for incorporating compliance criteria into the company as a whole must be formulated.
- The finance area should integrate ESG criteria into the company's investment and financing strategy. In liaising with investment entities, it should promote the company's positioning as a benchmark in sustainability to favour access to financing.

[57] https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52018DC0097

[58] https://ec.europa.eu/transparency/expert-groups-register/screen/expert-groups/consult?do=groupDetail.groupDetail&groupID=3603

- Data and technology related areas face the challenge of developing digital solutions to analyse and collect the necessary information to verify alignment. For example, destination of manufactured parts, emissions, waste management...
- The accounting area will have to make the appropriate adjustments to identify the costs and revenues associated with eligible and aligned activities.
- The risk and purchasing area should develop new frameworks, policies and procedures that integrate ESG risks and taxonomy criteria into the supply chain, identifying aligned supplier entities.

Although alignment with the taxonomy criteria is not mandatory, it encourages companies to strive for a level of environmental performance recognised as green by financial markets and society. This recognition is supported by a regulatory framework that gives the taxonomy a central role in the ecological transition (section 2.2) and which shapes several benefits resulting from this alignment:

- **Access to public funding**. There are several examples of public funds that are applying taxonomic concepts as prerequisites for access (see section 3.7). While to date, requirements are limited to compliance with the DNSH principle and under less stringent criteria than taxonomic ones, it is likely that standards will evolve towards full alignment.
- **Access to private funding**. Companies with taxonomy-aligned activities will benefit from retail investors and banks interested in green investments, as they will seek to finance aligned economic activities. Ongoing policy initiatives ensure visibility and recognition of aligned companies in investment decisions. One example is the possibility to access green bonds, whose funds are exclusively earmarked to finance or refinance eligible green projects. These bonds must be aligned with the *Green Bond Principles*[59] which, in the future, will have to coexist with the *European Green Bond Standard*[60] being prepared by the European Commission. One of the key requirements of the European standard is alignment with the taxonomy. In addition, the operational integration of sustainability strengthens the negotiating position vis-à-vis credit institutions and insurers.
- **Green positioning**. The taxonomy proposes a standard to objectify the environmental performance of companies, facilitating their comparison and avoiding *greenwashing* (a marketing strategy used by some companies to gain a competitive advantage by marketing a product as environmentally friendly when in fact it is not). It also incorporates minimum social and governance safeguards. As it consolidates as a sustainability metric, it offers clear opportunities to improve the ESG positioning of companies in the eyes of key stakeholders, consumers and society as a whole.
- **Risk management**. The requirements of the taxonomy call for a thorough reflection on the sustainability of the business model and the risks that need to be addressed in preference. For example, addressing the climate change adaptation objective requires assessment of climate vulnerability and the definition and implementation of consequent adaptation solutions that mitigate risks to the company's physical assets. In relation to the other objectives, the alignment reinforces the company's position in terms of control and reduction of regulatory and reputational risks.
- **Business model**. Alignment is also presented as an opportunity to transform the company, digitalise processes and improve efficiency in the use of resources. In addition, it helps to detect needs for the development of new products and services that respond to new global consumer trends.

[59] https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/

[60] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/european-green-bond-standard_en

3 European green taxonomy

This chapter will address the following issues:

- Analysis of the most relevant taxonomy legislation (section 3.1).
- Scope of application of the taxonomy, both in terms of the type of entities concerned and the type of activities they carry out (section 3.2).
- Environmentally sustainable activities according to the taxonomy, setting out the criteria to be met and the environmental objectives to which the activity could contribute substantially (section 3.3).
- Procedure for the application of the taxonomy to non-financial institutions, detailing each of the stages (section 3.4).
- Timeline for the implementation of the taxonomy, both for eligibility and for the alignment of activities (section 3.5).
- Extended taxonomy (section 3.6).
- Framework for the practical application of the DNSH principle in some of the policy instruments that may make use of taxonomic concepts, without requiring the full application of the compliance criteria of delegated acts (section 3.7).

3.1 Regulatory implementation of the taxonomy

As mentioned, the taxonomy is a system for classifying economic activities from an environmental, social and governance point of view on which much of the European sustainable finance strategy is based. The general framework, objectives and specific criteria were initially established by the Taxonomy Regulation. For its development, the regulation itself provides for the adoption of a series of delegated acts[61], some of which have already been published.

The most relevant provisions adopted to date are listed and summarised below.

Jun-2020	**Taxonomy Regulation (TR)**
Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishing of a framework to facilitate sustainable investments, and amending Regulation (EU) 2019/2088 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN	
A central regulatory building block of the EU green taxonomy and a key element of the Financing Sustainable Development Action Plan, it establishes a unified and legally binding classification system for classifying economic activities as environmentally sustainable or aligned with the taxonomy. The Taxonomy Regulation requires the Commission to adopt delegated acts containing technical screening criteria to determine the conditions under which a specific economic activity can be considered to contribute substantially to the six environmental objectives, and to establish technical screening criteria to ensure that it does not cause significant harm to one or more of those objectives.	

[61] Delegated acts are non-legislative acts adopted by the Commission to supplement or amend certain non-essential elements of a legislative act, which must define the objectives, content, scope, and duration of the delegation of powers. Delegated acts are prepared and adopted by the Commission after consultation with expert groups, which may meet regularly or occasionally, and after a four-week public consultation period during which citizens and other interested parties can submit comments on the draft text. For their part, Parliament and the Council may revoke the delegation or object to the delegated act within two months. If they fail to do so, the delegated act enters into force. https://commission.europa.eu/law/law-making-process/adopting-eu-law/implementing-and-delegated-acts_en

Jun-2021	**Impact Assessment of the Climate Delegated Act**
COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT REPORT Accompanying the document Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0152&from=EN This document is not strictly speaking a legal provision, but supplements the TR. The objective of the report is to assess the approaches taken to establish technical screening criteria for climate change mitigation and adaptation and for "no significant harm" to all environmental objectives in relation to the requirements of the TR. The report assesses the technical screening criteria that had been published in the draft delegated act for stakeholder feedback of November 2020, including outlining the deviations from the recommendations of the TEG.	
Jul-2021	**Delegated Disclosure Act**
Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities and specifying the methodology to comply with that disclosure obligation. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2178&from=ES Delegated Act supplementing Art.8 of TR. Commission Delegated Regulation supplementing Regulation (EU) 2020/852 by specifying the content and presentation of the information to be disclosed by companies subject to Article 19a or 29a of Directive 2013/34/EU on environmentally sustainable economic activities, and by specifying the methodology and presentation of the information to be disclosed by financial and non-financial companies regarding the proportion of environmentally sustainable economic activities in their business, investment, or lending activities.	
Dec-2021	**Climate Delegate Act**
Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2139&from=ES Delegated Act published in the Official Journal of the European Union in December 2021, which establishes through Annexes I and II the technical screening criteria to determine under which conditions an economic activity makes a substantial contribution to climate change mitigation or adaptation and to determine whether such economic activity causes significant harm to any of the other environmental objectives set out in the TR. This delegated act entered into force on 1 January 2022 and will have to be taken into account for the disclosure of the information required by Article 8 of the TR from 2021.	
Mar-2022	**Supplementary Climate Delegated Act**
Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1214&from=ES Delegated act including, under strict conditions, specific nuclear and gas activities in the list of economic activities covered by the EU Taxonomy, to be applied starting January 2023. The criteria for specific nuclear and gas activities are aligned with the EU's climate and environmental objectives and will help accelerate the shift away from solid or liquid fossil fuels, including coal, towards a climate-neutral future. The supplementary delegated act builds on the Communication of the Commission[62] which accompanied the first delegated act, and on the assessment of nuclear energy carried out by an expert group.	

It should be noted that the TR stipulated that draft regulatory technical standards for non-climate environmental objectives - referred to in Article 9(c) to (f) – should be submitted by 1 June 2022. However, at the time of writing (November 2022), the European Commission has

[62] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A188%3AFIN

not yet published the corresponding Delegated Act, known as "Taxo4". Two versions of recommendations reports have been published – the latest dating from October 2022, supplementing the one published in March 2022 – drafted by the PSF and forwarded to the European Commission for decision-making. These are discussed in the following section.

In addition, the Joint Research Centre (JRC) of the European Commission published, also in March, a supporting report to define the conceptual framework for the criteria for substantial contribution of Taxo4.

Finally, the PSF also works on other critical issues such as options for taxonomy extension and usability, which are discussed in more detail in sections 3.6 and 4.1 respectively.

Mar-2022	**Recommendations on the technical screening criteria for the remaining four environmental objectives**

Platform on Sustainable Finance: Technical Working Group. Part A: Methodological report March 2022. https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy_en.pdf

Platform on Sustainable Finance: Technical Working Group. Part B - Annex: Technical Screening Criteria March 2022. https://finance.ec.europa.eu/system/files/2022-03/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy-annex_en.pdf

The methodological report published on 30 March 2022 by the PSF Technical Expert Group contains recommendations related to the non-climate technical screening criteria, i.e. for TR objectives c) to f): transition to a circular economy; pollution prevention and control; sustainable use of water and marine resources; protection and restoration of biodiversity and ecosystems.

The document includes recommendations for improving the overall design of the taxonomy. The advisory group has drafted criteria for a set of 51 economic activities grouped into 12 sectors, the prioritisation of which has been based on an analysis of the magnitude of their impact and potential for improvement, for each of the objectives. Several additional impacting activities, such as mining and quarrying, have been left for future consideration. In contrast, animal or agricultural production and fisheries for the protection and restoration of biodiversity are included, unlike in the Climate Delegated Act.

The PSF also used this Report to develop criteria for 14 new economic activities on climate mitigation and adaptation objectives. It is worth noting the inclusion of the aviation sector assessed in relation to climate change mitigation.

Following the publication of this Recommendations Report, the delegated act, which was scheduled to be implemented by 31 December 2022, should be published**.**

Mar-2022	**Conceptual framework for defining substantial contribution to environmental Objectives 3-6**

Canfora, P., Arranz Padilla, M., Polidori, O., Pickard Garcia, N., Ostojic, S. and Dri, M., Development of the EU Sustainable Finance Taxonomy - A framework for defining substantial contribution for environmental Objectives 3-6, EUR 30999 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-47898-0, doi:10.2760/256390, JRC126045. https://publications.jrc.ec.europa.eu/repository/handle/JRC126045

This JRC report serves as an input to the development of technical screening criteria for activities that substantially contribute to the remaining four environmental objectives defined in the Taxonomy Regulation. It proposes a methodological framework and a step-by-step process for drafting criteria for economic activities that substantially contribute to an objective: from identifying the type of substantial contribution that the economic activity can make, the selection of the most appropriate approach for drafting the technical screening criteria and the level of ambition that is expected to be achieved in order to consider that substantial contribution. The report then explores how the conceptual framework can be applied for each of the four environmental objectives considered.

Mar-2022	Final report on taxonomy extension

Platform on Sustainable Finance: The Extended Environmental Taxonomy: Final Report on Taxonomy extension options supporting a sustainable transition March 2022. https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy_en.pdf

This first report on the Economics of Environmental Transition proposes a new "traffic light system" going beyond classifying an economic activity as aligned (green) or not aligned (red) with the taxonomy. It thus introduces two new labels for additional economic activities: significant negative impact (or red) on the environment, intermediate impact (or amber), with actions falling between the thresholds of substantial contribution (SC) and no significant harm (DNSH).

The aim is to leverage finance for the green transition and help companies unlock the necessary funds. This recognises the dynamic nature of taxonomy and the importance of engaging with all companies, regardless of their initial performance.

In addition, the report recognises the existence of a new category of activities, those with low or no impact on the environment (*Low Environmental Impact*), which represent around 30% of all economic activities in the markets.

Oct-2022	Recommendations on usability and data

Platform Usability Report Platform recommendations on Data and Usability as part of Taxonomy reporting, October 2022. https://finance.ec.europa.eu/system/files/2022-10/221011-sustainable-finance-platform-finance-report-usability_en_1.pdf

The report aims to support the usability of the taxonomy, to understand the main challenges faced by users in its practical application. The PSF has approached this work in the following key areas: 1. to identify a comprehensive list of taxonomy users and uses; 2. to identify the main challenges for these users in applying the taxonomy; and 3. to identify possible solutions to these usability challenges (some findings are set out in section 4.1).

Oct-2022	Supplementary recommendations on methodology and technical screening criteria for climate and environmental objectives

Platform on Sustainable Finance: Technical Working Group. Supplementary: Methodology and Technical Screening Criteria. October 2022. https://finance.ec.europa.eu/system/files/2022-11/221128-sustainable-finance-platform-technical-working-group_en.pdf

This report supplements the recommendations issued by the Platform in March 2022 and should be interpreted in that context. The recommendations and criteria set out here include: Part A - an update on the work done since March 2022, a framework methodology for describing "enabling activities", and recommendations for the European Commission in its future work on EU Taxonomy; Part B - additional technical screening criteria that have been developed over the last seven months. In regards to water supply, the reintroduction of desalination as an enabling activity is noteworthy.

3.2 Scope of application of the taxonomy

Companies and entities need to have a clear understanding of whether or not their organisation falls within the scope of application of the non-financial reporting regulations in force under Article 8(1) of the TR, as well as which types of economic activities have been considered in this new regulatory framework.

Thus, section 3.2.1 explains the type of entities that are subject to non-financial and therefore also taxonomical reporting requirements. However, the study focuses on the implications of the taxonomy for **non-financial entities**, a matter developed in section 3.2.2.

Finally, section 3.2.3 presents a summary of the economic activities that have been considered in the taxonomy and how they have been defined.

3.2.1 Entities concerned

As explained above (section 2.2), the taxonomy is a cross-cutting tool to help investors, companies, and project developers to focus their products towards a low-carbon and resource-

efficient economy. The taxonomy applies to both financial and non-financial institutions and is relevant to public sector action programmes.

As far as other financial actors are concerned, the implications are briefly summarised:

Entities offering financial products. Commission Delegated Regulation (EU) 2021/2178 establishes that asset managers, credit institutions, investment services firms and insurance and reinsurance undertakings are also subject to the obligation of disclosing the alignment of their activity with taxonomy. In this way, financial institutions are encouraged to establish favourable credit lines for taxonomy investments or activities. On the other hand, investors are provided with a tool for issuing financial products with a positive environmental impact label.

European Union and member states. The taxonomy is encouraged to be used as the basis for any sustainability or green labels, or for the issuance of differentiated public debt products or bonds. Taxonomic concepts can also be used on a discretionary basis to condition action programmes, subsidy lines or investment plans.

3.2.2 Application to non-financial entities

Article 8(1) of the TR establishes that companies already obliged to publish non-financial information in accordance with the provisions of Directive 2013/34/EU[63], as amended by Directive 2014/95/EU[64] (*Non-Financial Reporting Directive*, NFRD), must include in their Non-Financial Statement (NFS) how and to what extent the company's activity is associated with environmentally sustainable economic activities. In this sense, taxonomic performance reporting expands on the previous obligations set out in the NFRD.

The scope of application of the mandatory sustainability reporting requirements for public limited companies and corporate groups is set out in Articles 19a and 29a of the NFRD, based on their nature and economic size as defined in Articles 2 and 3 of the NFRD, respectively.

Specifically, Articles 19a and 29a of Directive 2013/34/EU apply to large undertakings that are public-interest entities with an average number of employees above 500, and to public-interest entities that are parent companies of a large group with an average number of employees above 500 on a consolidated basis, respectively. In other words, the three conditions are cumulative:

- **large undertakings** (Article 3.4 of the NFRD Directive) or **large groups**, consisting of a parent company and its subsidiaries to be included in a consolidation (Article 3.7 of the NFRD Directive). A large undertaking is defined as an undertaking which, on its balance sheet dates **exceeds at least two of the three following criteria:**

  (a) balance sheet total: EUR 20 million;

  (b) net turnover: EUR 40 million;

  (c) average number of employees during the financial year: 250.

- that they are **public interest entities**, in that they fall under one of the categories set out in Article 2.1 of the NFRD Directive:

[63] Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32013L0034&from=EN

[64] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014L0095&from=EN

(a) are governed by the law of a Member State and whose securities are admitted to trading on a regulated market;

(b) are credit institutions;

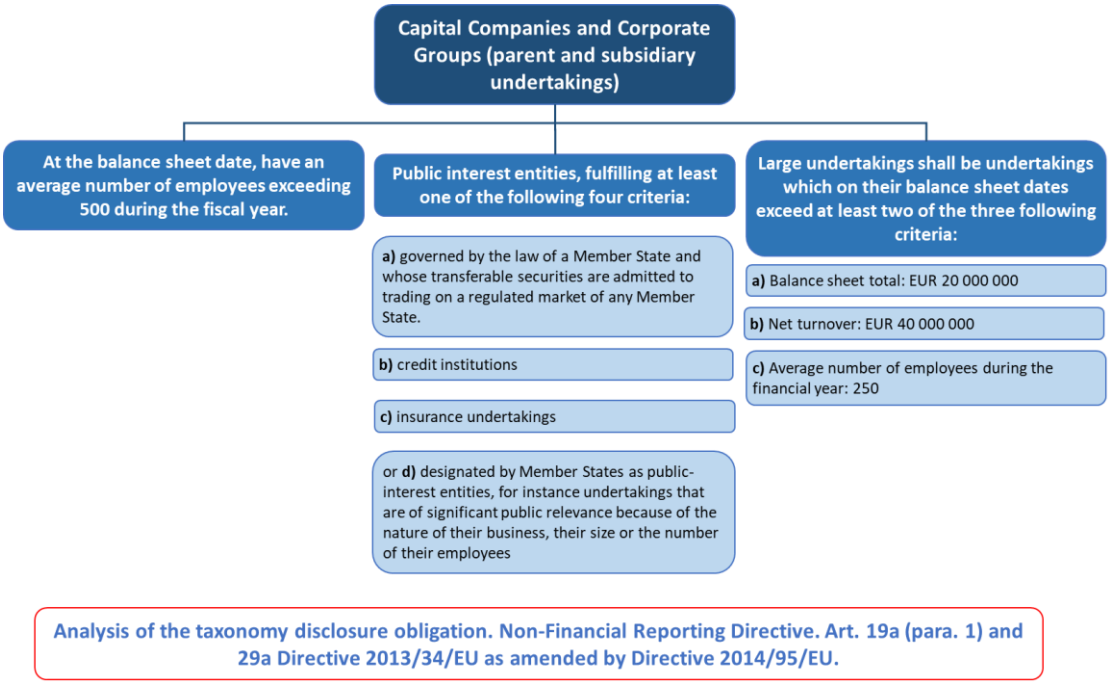
(c) are insurance undertakings;

(d) have been designated by Member States as public-interest entities.

- that they have **more than 500 employees** on average during the financial year.

The above conditions are presented in schematic form in Figure 13.

Figure 13. Criteria determining the obligation to report the non-financial statement under Directive 2013/34/EU.



Source: own elaboration

The recent ***Corporate Sustainability Reporting Directive***[65], published in December 2022[66], **which amends the previous NFRD**, extends[67] the scope of application to:

- all companies listed on regulated markets (including listed SMEs, but not listed micro-enterprises) of public interest,
- all large undertakings (according to Directive 2013/34/EU) of public interest which are not listed on regulated markets.

[65] Recital 8 of the Directive: " *Many stakeholders consider the term 'non-financial' to be inaccurate, in particular because it implies that the information in question has no financial relevance. Increasingly, however, such information does have financial relevance. Many organisations, initiatives and practitioners in the field of sustainability reporting refer to 'sustainability information'. It is therefore preferable to use the term 'sustainability information' in place of 'non-financial information'. Directive 2013/34/EU should therefore be amended to take account of that change in terminology*."

[66] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022L2464&from=EN

[67] https://www.accountancyeurope.eu/publications/faqs-on-corporate-sustainability-reporting-directive/#what-companies-have-to-apply-the-new-rules-?

It will also apply to non-EU companies with a net turnover of more than EUR 150 million that have a subsidiary in the EU that meets the criteria applicable to EU companies (i.e. listed on the European market, except for micro-enterprises or those that qualify as large companies) or a branch in the EU with a net turnover of more than EUR 40 million.

Article 5 of the Directive sets out the implementation schedule for the different categories of undertakings to which the legal requirements laid down in the Directive apply.

In addition, the CSRD itself states that companies falling within its scope must comply with the provisions of Article 8 of the TR.

3.2.3 Types of economic activity

Although the taxonomy has a wide potential to grow towards a broad coverage of the whole economy, priority has been given in the first instance to the economic activities that can make the most relevant contribution to the achievement of the six environmental objectives set out in the taxonomy.

The Climate Delegated Act covers the 72 economic activities with the greatest potential to contribute to the reduction of total GHG emissions and to improve climate resilience. This includes sectors with significant CO_2 emissions (energy, manufacturing, transport, construction, etc.) as well as activities that can be transformed to achieve the EU's climate targets.

According to the Taxonomy Regulation the following types of economic activities can be established:

- **Eligible economic activity according to the taxonomy**. Activity described in the delegated acts adopted to date, having the potential to make a substantial contribution to the achievement of one of the environmental objectives.

  Eligible activities are candidates to be qualified as **environmentally sustainable activities** or more formally "economic activity that complies with the taxonomy" as defined in Royal Decree 2021/2178. To do so, they must demonstrate that they meet the technical screening criteria detailed in chapter 5 and in chapter 6.

- **Non-eligible economic activity according to the taxonomy**. Activity not described in the delegated acts adopted to date. Non-eligibility does not imply that the activity is not sustainable or may become sustainable in the future development of the taxonomy.

In addition, two specific types of activities are explicitly recognised:

- **Transitional economic activity** (Article 10.2 of the TR). These are activities for which there is no technologically or economically feasible low-emission alternative, but which have the capacity to contribute to the ecological transition, for the objective of climate change mitigation. This is the case of nuclear energy and gas, whose inclusion is limited in time and has to meet specific transparency criteria[68] .
- **Enabling economic activity** (Article 16 of the TR). These are activities that enable other eligible activities to make a substantial contribution to one or more of the objectives, provided that they do not lead to a lock-in of assets that undermine the long-term environmental goals and have a substantial positive environmental impact, on the basis of life-cycle considerations. For example, this could include the manufacture of renewable

[68] Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1214&from=ES

energy technologies, the installation of energy-efficient equipment in buildings, materials research, or the use of cover crops that reduce flood risk.

An initial difficulty in applying the taxonomy is the identification of the economic activities carried out by each entity.

First of all, the activities included in the lists provided by the Climate Delegated Act do not correspond to those commonly used in the framework of the *Statistical classification of economic activities in the European Community*, NACE[69], which could lead to doubts as to their application.

While the specific descriptions of eligible activities also include references to the associated NACE codes, the delegated act clarifies that these references should be taken as indicative and should not override the specific definition of the activity in its description.

3.3 Environmentally sustainable activities

The taxonomy is a green classification system that translates EU climate and environmental objectives into specific criteria for specific economic activities. Environmentally sustainable or taxonomy-compliant activities must meet certain conditions in relation to six strategic objectives of European environmental policy set out in Article 9 of the TR:

1) climate change mitigation;

2) climate change adaptation;

3) sustainable use and protection of water and marine resources;

4) transition to a circular economy;

5) pollution prevention and control;

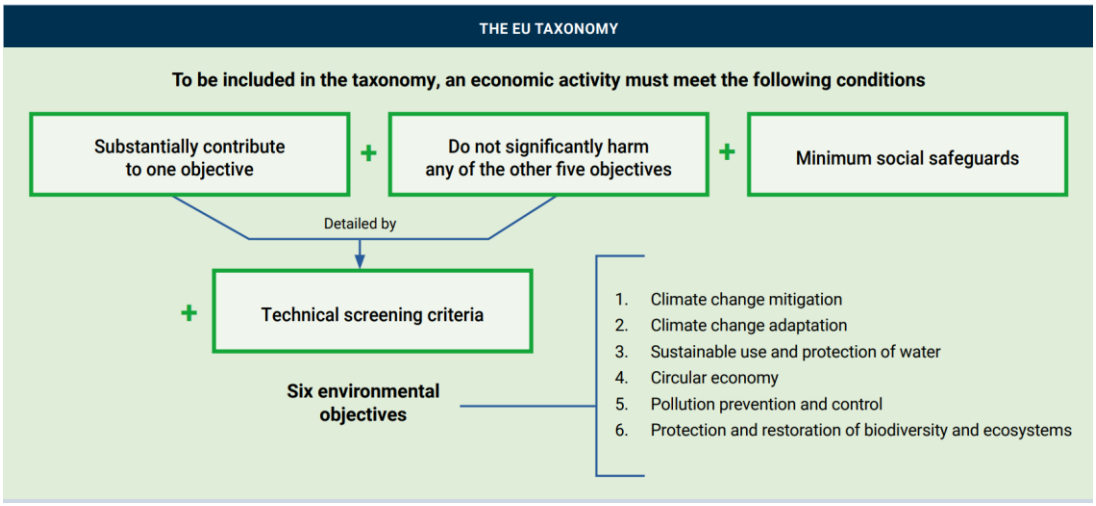
6) protection and restoration of biodiversity and ecosystems.

Although the TR sorts the objectives by letters [a) - f)], it is more commonly associated with numbers [1 -6], which is the default used in this document.

In addition, minimum social safeguards must be met. In short, in order for an economic activity to comply with the taxonomy, the conditions shown in Figure 14 must be met.

[69] https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015

Figure 14. Requirements for an economic activity to be considered taxonomic.



Source: adapted from UNPRI 2022[70]

1. The activity **contributes substantially** to one or more of the environmental objectives. According to Articles 10 to 15 of the TR, this is the case when: 1) this activity has a low impact on the environment and has the potential to replace high impact activities (e.g. renewable energy); 2) it reduces the impact of other activities (e.g. wastewater treatment); and 3) it makes a positive contribution to the environment (e.g. wetland restoration).

2. The activity **does not cause significant harm** to any of the other environmental objectives. This is to ensure that progress on some objectives is not made at the expense of others. In other words, economic activities, even if they make a substantial contribution to one objective, will not be eligible if they cannot be carried out in a way that avoids significant harm to other environmental objectives.

3. The activity complies with the **technical screening criteria** established for each environmental objective. To verify compliance with the above conditions, it must be proven that certain technical screening criteria are met, which, in the case of substantial contribution and DNSH, are specific to each activity and objective.

   These criteria are developed through delegated acts (section 3.1). To date, only the Climate Delegated Act has been published (Objectives 1 and 2), later extended to accommodate gas and nuclear energy as transitional activities.

4. It should be noted that the TR established that the draft regulatory technical standards for the rest of the objectives should be submitted by 1 June 2022. However, at the date of submission of this study (November 2022), such drafts are not yet available. An advanced recommendations report published by the TEG in March 2022 is available and will serve as a basis for a first approach to the implications of the application of these taxonomic objectives to the water sector (section 5.4.4).

   The activity is carried out in accordance with the **minimum social safeguards** which, according to the TR, are defined in accordance with widely recognised international

[70] https://www.unpri.org/download?ac=16315

guidelines[71] . The PSF - in particular its subgroup 4 - is working on the development of its own criteria (see section 2.3).

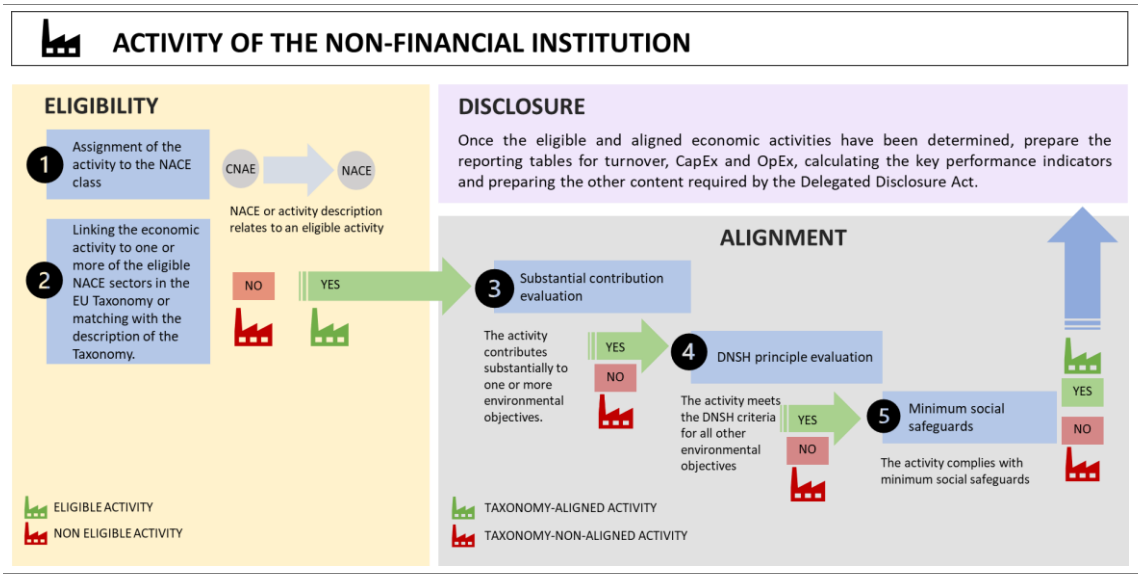
3.4 Procedure for the application of the taxonomy to non-financial institutions

To approach the process of characterising the entity's alignment, a sequential procedure is proposed that starts with the identification of the company's activities (stage 0) and proceeds in successive stages to determine their eligibility, degree of alignment and organisation of information for disclosure.

3.4.1 Summary of the procedure

Figure 15 shows the three stages described above and each of the steps to be followed to determine whether the activity of a given non-financial institution is aligned with the taxonomy.

Figure 15. Summary of the procedure for applying green taxonomy to the activities of non-financial institutions.



Source: own elaboration

3.4.2 Step 0. Unbundling of the entity's activities

The formal disclosure requirements determine the workflow which, in any case, must start from an individualisation of the entity's activities, as a prior step to investigating their correspondence with the taxonomic lists and discriminating which are eligible and which are not eligible and which conform to the taxonomy.

This breakdown into activities should take into account that a fraction of turnover, capital expenditure (CapEx), and operating expenses (OpEx) should be allocated at a later stage. The level of unbundling should therefore be appropriate and should, as far as possible, be in line with the usual practice of invoicing and allocating expenses between the various business

[71] OECD Guidelines for multinational enterprises (https://www.oecd.org/daf/inv/mne/48004323.pdf) and the UN Guiding Principles on Business and Human Rights (https://www.ohchr.org/sites/default/files/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf , including the principles and rights set out in the eight core conventions referred to in the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work (https://www.ilo.org/declaration/lang--es/index.htm) and the International Bill of Human Rights (https://www.ohchr.org/es/what-are-human-rights/international-bill-human-rights).

activities. However, it is likely that the need will arise to allocate *ex novo* certain components to the various activities.

When, resulting from the application of the taxonomy, it is deemed convenient to compartmentalise the company's accounting in a different way, the individualisation of activities can become an iterative process.

3.4.3 Step 1. Assessment of the eligibility of each economic activity

Step 1. Mapping of industrial classification systems to the NACE classification system used in the EU green taxonomy

As indicated above, the taxonomy is an activity classification system of its own, but it provides non-exhaustive indications of correspondence with the European NACE system. The NACE system corresponds, in turn, with other national or European systems of economic, industrial or product classification. To facilitate this identification, the PSF has generated a tool in MS Excel format: *EU Taxonomy NACE alternate classification mapping* which provides an indicative mapping of the activities of the Climate Delegated Act with a number of classification systems[72] .

On the other hand, the National Classification of Economic Activities (CNAE)[73], has a quasi-direct correspondence with the NACE system.

For example, a Spanish entity whose activity is classified under CNAE code 37.00 (Water Collection, treatment and supply) is uniquely aligned with NACE code E36.00.

Only in a few cases (11), a single NACE code is subdivided into two or more NACE codes. These differences should be taken into account in the handling of the various statistical information and in particular in the association with activities in the taxonomy.

Step 2. Linking the economic activity to one or more of the eligible NACE sectors in the EU Taxonomy

As a first check, it should be verified whether the NACE code of the activity is included in the lists of the delegated acts and, subsequently, whether the activity carried out by the company coincides with the description of the taxonomic activity. In some cases, the correspondence may be established unambiguously and immediately, but this will not always be the case and the same code may be related to multiple activities.

An example of the former is the NACE activity E36.00 which clearly relates to taxonomic activities 5.1 (Construction, extension and operation of water collection, treatment and supply systems) and 5.2 (Renewal of water collection, treatment and supply systems).

In contrast, NACE activity F42.99 (Construction of other civil engineering projects n.e.c. (not elsewhere classified)) relates to eight taxonomic activities, in addition to many others which are not, so that closer scrutiny may be necessary.

[72] It can be downloaded at https://ec.europa.eu/info/files/sustainable-finance-taxonomy-nace-alternate-classification-mapping_en . The systems covered are: FTSE Russell Green Revenues Classification System; The Refinitiv® Business Classification (TRBC); Bloomberg Industry Classification Standard; Revere Business Industry Classification System (RBICS); S&P Global; MSCI Sustainable Impact Metrics.

[73] The list of NACE and CNAE codes has been established in accordance with Royal Decree 475/2007 of 13 April 2007, approving the National Classification of Economic Activities 2009. https://www.boe.es/buscar/pdf/2007/BOE-A-2007-8824-consolidado.pdf.

To facilitate this step, the European Commission provides a tool, the *EU Taxonomy Compass*[74], available both online and for download in MS Excel or JSON format, which organises the content of the taxonomy delegated acts, including the linkage between activities and NACE codes.

Both tools contain, for the time being, information on climate objectives (mitigation and adaptation) but are planned to be continuously updated to include new objectives and activities.

Also useful for this stage is Eurostat's methodological document "*Statistical classification of economic activities in the European* Community"[75] which provides a remarkably detailed description of which activities fall under which NACE.

Due to its relevance to the core activities of the water cycle, it should be noted that both the Climate Delegated Act and the PSF Recommendations Report for Objectives 3-6 associate the economic activities of supply and treatment with class F42.99 (occasionally F42.91 (Construction of water projects) when, in fact, the class that seems to fit better with this type of work is F42.21 (Construction of utility projects for fluids).

According to Eurostat's description, NACE 42.21 includes the construction of distribution lines for the transport of fluids and the related buildings and structures forming part of these systems. This class includes:

- construction of civil engineering works for: long-distance and urban pipelines; construction of water pipelines; irrigation systems (canals); reservoirs.
- construction of sewerage systems, including repair; sewage treatment plants; pumping stations.

This class also includes:

- drilling of water wells

This class excludes:

- project management activities related to civil engineering works.

In any case, it is important to note that recital 6 of the Climate Delegated Act states that references to NACE codes should be taken as indicative guidance. Therefore, the use of these tools does not exempt from checking whether the activities carried out by the entity may correspond to those described in the listings of the delegated acts.

In addition to eligible activities, enabling and transitional activities must also be identified. The online version of the Taxonomy Compass includes next to the name of the activity, the indication of whether it is an enabling activity (letter E for *Enabling*) or a transitional activity (letter T for *Transitional*).

As a result of this phase, the entity's activities will have been classified according to their eligibility, as well as the corresponding business volumes, CapEx and OpEx.

3.4.4 Stage 2. Analysis of alignment of eligible economic activities

Once it has been determined that the activity is eligible, it must be characterised as taxonomically aligned or non-aligned. Alignment is defined as compliance with the three families of criteria detailed in section 3.3. The assessment of which is related to the three steps in which this stage is divided.

[74] https://ec.europa.eu/sustainable-finance-taxonomy/home

[75] https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF.pdf/dd5443f5-b886-40e4-920d-9df03590ff91?t=1414781457000

Step 3. Verification of substantial contribution to a green taxonomy objective

This involves determining whether the activity complies with the technical screening criteria established for each of the eligible economic activities and environmental objectives set out in the delegated acts adopted at any given time. This is probably the most complex step, both in the case of activities that must comply with certain technical thresholds and when the screening criteria are expressed in a more ambiguous way.

To facilitate implementation, the Taxonomy Compass can be used to quickly identify the applicable criteria. Other guides cited in section 1.4 provide valuable indications for assessing compliance. However, the TEG itself acknowledges difficulties and important gaps in implementation.

In this context, this study contributes to clarifying the verification processes of compliance with the substantial contribution criteria for water cycle activities, both for the objectives addressed in the Climate Delegated Act (sections 5.4.1, 5.4.2 and 5.4.3), as well as for the rest of the objectives (sections 5.4.4 and 5.4.5), in this case based on the recommendations published by the TEG.

It should also be noted that, although Objectives 1 and 2 generally include the same activities as eligible, the criteria for the two objectives are substantially different, so alignment needs to be checked in both cases.

Step 4. Assessment of the principle of 'do no significant harm' (DNSH)

If the eligibility criteria for substantial contribution to any of the environmental objectives are not met, the assessment of the DNSH criteria for the remaining objectives can be omitted. Otherwise, an assessment of the activity's compliance with the DNSH criteria is carried out using a similar process as described above, applied to all objectives for which it is relevant.

> For example, if the NACE activity E36.00 has met the criteria for substantial contribution to Objective 1 (climate change mitigation), DNSH criteria for Objectives 4 (transition to a circular economy) and 5 (pollution prevention and control) do not apply.
>
> For Objectives 2 (climate change adaptation), 3 (sustainable use and protection of water and marine resources) and 6 (protection and restoration of biodiversity and ecosystems) the general criteria set out in Appendices A, B and D of Annex I of the Climate Delegated Act apply.
>
> In other cases, more specific considerations are included with well-defined metrics - often considering the entire life cycle - which are determined according to the risks associated with each activity.

The application of the DNSH principle has gained considerable momentum in recent years in the context of the implementation of certain public policies and investment programmes. However, in this context its application is often different and less demanding, detached from the strict compliance with the taxonomic screening criteria (see section 3.7).

Similar to the process followed for step 3, this study addresses the elaboration of compliance guidelines for the DNSH principle in water cycle activities (section 5.4.3 for Objectives 1 and 2; and section 5.4.5 for Objectives 3-6).

Step 5. Compliance with minimum social safeguards

The third family of criteria to be validated is compliance with minimum human rights, labour, and governance standards. Until specific criteria are developed, compliance must be verified through the adherence to widely known and generally applied international agreements and

treaties (see footnote 71). In July 2021, a report on social taxonomy was presented[76] . According to the Commission, the report argues that a social taxonomy would help investors identify opportunities to finance solutions for securing decent jobs, creating inclusive and sustainable communities, and affordable healthcare and housing.

3.4.5 Stage 3. Dissemination

Once the process of analysis of the activities carried out by the entity has been completed, the results must be disclosed in accordance with the specifications in Annex I and the templates in Annex II of the Delegated Disclosure Act (see Figure 16).

Figure 16. Extract from the template for key performance indicators of non-financial undertakings (turnover - environmentally sustainable activities).

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic activities (1)	**Code(s) (2)**	**Absolute turnover (3)**	**Proportion of turnover (4)**	**Climate change mitigation (5)**	**Climate change adaptation (6)**	**Water and marine resources (7)**	**Circular economy (8)**	**Pollution (9)**	**Biodiversity and ecosystems (10)**	**Climate change mitigation (11)**	**Climate change adaptation (12)**	**Water and marine resources (13)**	**Circular economy (14)**	**Pollution (15)**	**Biodiversity and ecosystems (16)**	**Minimum safeguards (17)**	**Taxonomy-aligned proportion of turnover, year N (18)**	**Taxonomy-aligned proportion of turnover, year N-1 (19)**	**Category (enabling activity or) (20)**	**Category '(transitional activity)' (21)**
		Currency	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Percent	Percent	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES			%																	
A.1. Environmentally sustainable activities (Taxonomy-aligned)																				
Activity 1 (1)				%	%	%	%	%	%		Y	Y	Y	Y	Y	Y	%		E	
Activity 2			%	%	%	%	%	%	%	Y	Y		Y	Y	Y	Y	%			

Source: Commission Delegated Regulation 2021/2178 (Annex II)

Three tables must be submitted: Turnover, CapEx and OpEx. The template for the reporting tables determines that each eligible activity carried out must be reported individually and activities must be grouped into three packages:

- A1. Those in line with the taxonomy (environmentally sustainable) including a subset of enabling and transitional economic activities, where appropriate.
- A2. Those eligible but not aligned as they do not meet any of the criteria, indicating as well the enabling and transitional activities, if existent.
- B. Non-eligible activities, estimated as the remainder of the company's activity.

Annex I of the Delegated Disclosure Act provides more detail on the content of the *Key Performance Indicators* (KPIs) to be disclosed by non-financial companies, as well as the specifications accompanying the reporting of KPIs, in particular:

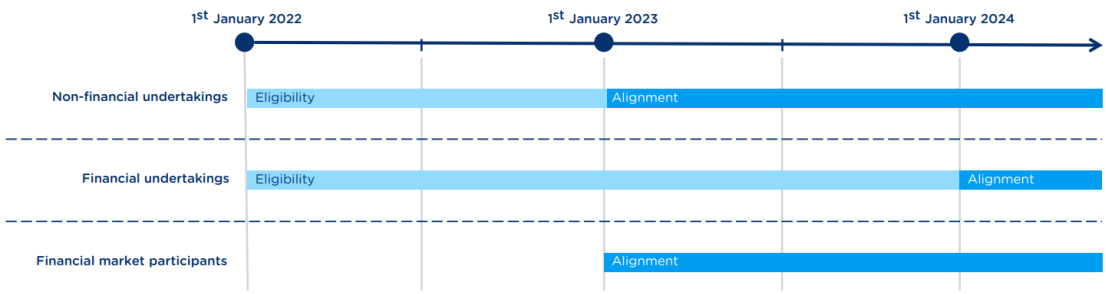
- The accounting policy
- An assessment of compliance with the Taxonomy Regulation (EU) 2020/852
- Contextual information on KPIs

[76] Final Report on Social Taxonomy. Platform on Sustainable Finance. February 2022. https://commission.europa.eu/system/files/2022-03/280222-sustainable-finance-platform-finance-report-social-taxonomy.pdf

3.5 Timetable for implementation

The Delegated Disclosure Act identifies two main temporal milestones to be met by affected entities (see 3.2.1 and 3.2.2) in order to comply with the reporting obligations, as shown in the timeline in Figure 17.

Figure 17. Timeline for the implementation of the EU Green Taxonomy.



Source: Ramboll[77]

Milestone 1: Eligibility

According to Article 10 of the Delegated Disclosure Act, from 1 January 2022 to 31 December 2022, non-financial entities - the primary subject of this study - shall report the proportion of economically eligible and non-eligible activities, in accordance with the list of economic activities of the Climate Delegated Act for the 2021 financial year, according to the taxonomy on

- their total turnover, their investments in fixed assets, their operating expenses and
- the qualitative information referred to in Section 1.2 of Annex I relevant to this disclosure, accompanying the KPIs of non-financial undertakings. This information relates to accounting policy (e.g. the basis on which the turnover, capital expenditure and operating expenditure were calculated, including any assessment in the allocation of revenues or expenditures to different economic activities), assessment of compliance with the Taxonomy Regulation (EU) 2020/852 (e.g. they shall explain how they avoided any double counting in the allocation in the numerator of turnover, CapEx, and OpEx KPIs across economic activities) and demonstration of the contribution to several environmental objectives (e.g. demonstrate compliance with the criteria set out in Article 3 of the Taxonomy Regulation (EU) 2020/852, with the technical screening criteria with respect to several environmental objectives), as well as the disaggregation of key performance indicators, ensuring, for example, that appropriate information accompanying the key performance indicators about the basis of such disaggregation is provided. Finally, it relates to contextual information about the turnover key performance indicator (e.g. information about the amounts related to Taxonomy-aligned activities pursued for non-financial undertakings' own internal consumption), and of CapEx (e.g. aggregation of additions related to acquisitions through business combinations) and OpEx (e.g. a qualitative explanation of the key elements of change in the OpEx key performance indicator during the reporting period).

[77] EU Taxonomy Regulation: Quick guide to the New Standard for Green Transition. https://ramboll.com/-/media/files/rm/eu-taxonomy-quick-guide.pdf?la=en

Milestone 2: Alignment

Once the percentage of eligible activity has been reported in 2022, the alignment of eligible activities must be reported as of 1 January 2023.

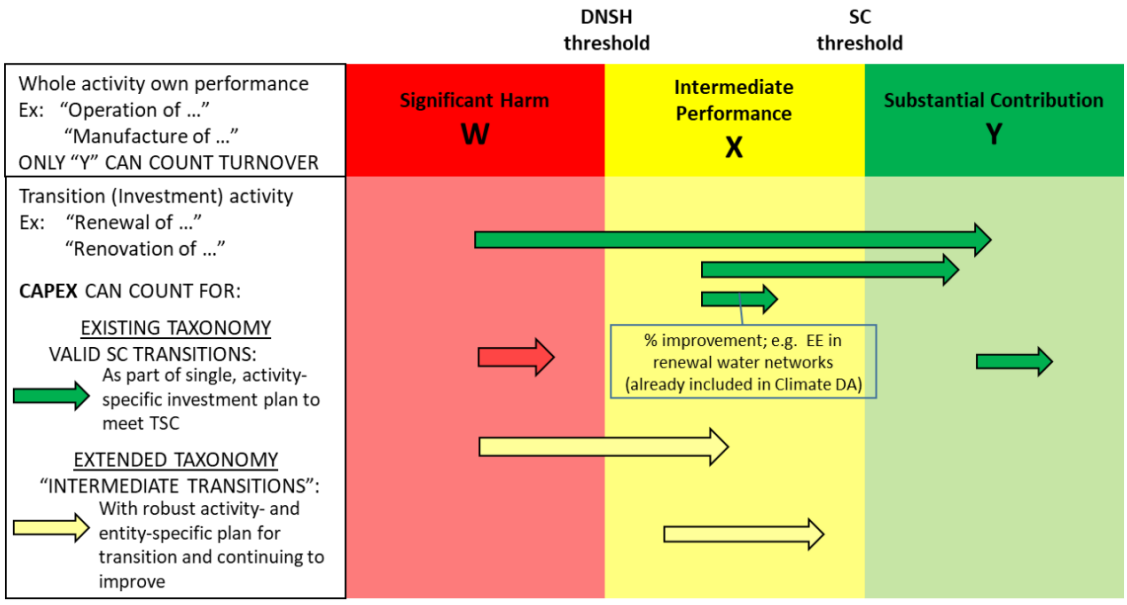
However, in the case of financial institutions, this list of aligned activities will not be required until January 2024.

3.6 Towards an extended taxonomy

The Taxonomy Regulation only provides for a binary system - aligned (green) or not aligned with the taxonomy (red) - which applies to those activities that can substantially contribute to the environmental objectives. All other activities, either because their potential contribution has not been characterised as substantial or because it is considered that negative impacts on one or more of the environmental objectives cannot be avoided, fall outside the scope of the taxonomy for the time being.

Understanding that taxonomy must be a dynamic and increasingly inclusive tool, in March 2022 the PSF published a report on taxonomy extension. This report proposes a new "traffic light system", overlaying the current binary classification with additional levels of performance: significant negative environmental impact (red), intermediate (amber) performance and substantial contribution (green) (see Figure 18).

Figure 18. Traffic light system for taxonomy extension.



Source: PSF 2022

The figure illustrates different types of transitions between performance levels for an activity included in the taxonomy. The aim is to leverage finance for the green transition and help companies unlock the necessary funds. This recognises the dynamic nature of the taxonomy and the importance of engaging with all companies, regardless of their initial performance and thus recognising changes from one performance level to another (e.g. transition from red to amber).

In addition, the report recognises a new category of activities with low or no impact on the environment (*Low Environmental Impact*, LEnvI), which represent around 30% of all economic activities in the markets. These activities - e.g. residential care, professional technical services

(auditors, architects, lawyers, consultants, etc.) or training and educational services - may never be included in the taxonomy.

3.7 Applications of taxonomy concepts to other domains

In addition to mandatory regulatory requirements (e.g. disclosure requirements for financial and non-financial companies on their environmental performance, which will have to disclose the extent to which their activities meet the criteria set out in the EU Taxonomy), other policy instruments may make use of taxonomic concepts, without necessarily applying the full compliance criteria of the delegated acts.

The following sections review the framework for the practical application of the DNSH principle in some of these instruments.

3.7.1 The Recovery, Transformation and Resilience Plan

The aim of the Recovery and Resilience Facility (RRF)[78] is to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient, and better prepared for the challenges and opportunities of the green and digital transitions. To this end, it has made available €723.8 billion to Member States in loans and grants. To articulate the use of these funds, each Member State was required to draft a national Recovery and Resilience Plan (RRP) detailing the investment packages for which the necessary funds and reforms are earmarked.

A novelty of this fund is precisely the requirement to justify compliance with the DNSH principle in each and every measure, albeit without requiring the use of technical screening criteria.

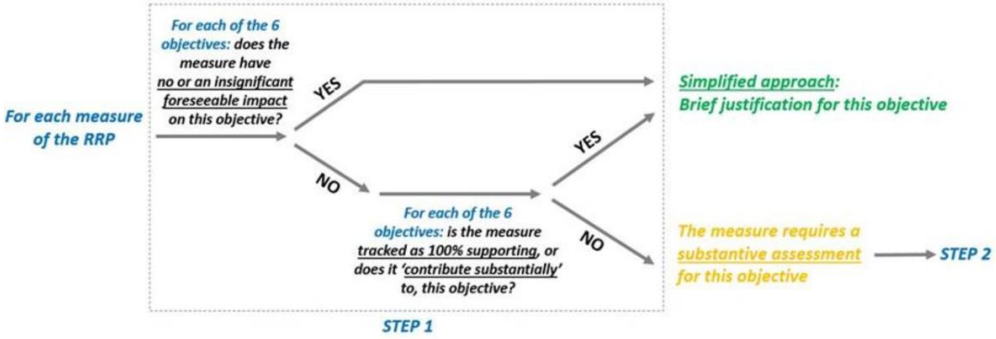
In this case, conditions for implementation are set out in a Technical Guidance document prepared *ad hoc* by the Commission[79]. The methodology is based on a decision tree that distinguishes between two approaches – simplified approach or substantive assessment - depending on the foreseeable impacts on the achievement of each objective (Figure 19). The guide provides checklists, methodological criteria, and several examples of application in annexes [80].

[78] Recovery and Resilience Facility. https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en

[79] Commission Notice Technical guidance on the application of 'do no significant harm' under the Recovery and Resilience Facility Regulation 2021/C 58/01. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021XC0218(01)&from=EN

[80] Energy efficiency measures in existing buildings, including replacement of heating and cooling systems; Waste management (treatment of construction and demolition waste); Waste incinerator (example of DNSH non-compliance); Transport infrastructure (roads); Car scrappage scheme (example of DNSH non-compliance); Irrigation.

Figure 19. Decision tree for the application of the DNSH principle to each measure.



Source: European Commission 2021

Subsequently, following the approval of the Spanish RRP in June 2021[81], the Ministry for Ecological Transition and the Demographic Challenge (MITECO) presented its own guide[82] with recommendations to adapt both the design and the development of the Plan's actions to the DNSH principle.

This guide, of an indicative and non-binding nature, offers a catalogue of good practices and is based on the assessment articulated in the Proposal for a Council Decision[83] on the approval of the Spanish plan, more specifically, in its annex[84]. As cross-cutting measures, useful for all objectives, the following are suggested:

- Compliance with the applicable environmental regulations in force.
- Implementation or use of environmental management systems (EMAS, ISO14001, etc.), use of goods or services with EU Ecolabel or other type I label as foreseen in ISO14024:2018.
- Compliance with green public procurement criteria.
- In the case of infrastructures, the subjection to climate and environmental verification.

The MITECO Guidebook provides in its annexes:

- A **self-assessment questionnaire** on the application of the DNSH principle[85] in an accessible format that should be used both for self-assessment in a responsible declaration and to accompany the administrative processing of regulations and economic management files.
- The **fields of intervention (climate/environmental label)** assigned to each measure and sub-measure. The climate and environmental contribution label corresponding to the type of RRP investment under which the measures fall (fields of intervention), meeting the provisions of Annex VI of the RRF and which is associated with coefficients of contribution to climate objectives and environmental objectives.

[81] NextGenerationEU. https://ec.europa.eu/commission/presscorner/detail/es/ip_21_2987

[82] Guía para el diseño y desarrollo de actuaciones acordes con el principio de no causar un perjuicio significativo al medio ambiente. https://www.miteco.gob.es/es/ministerio/recuperacion-transformacion-resiliencia/transicion-verde/guiadnshmitecov20_tcm30-528436.pdf

[83] Proposal for a Council Implement Decision on the approval of the evaluation of the Spanish recovery and resilience plan. https://eur-lex.europa.eu/resource.html?uri=cellar:4f067743-ceb8-11eb-ac72-01aa75ed71a1.0001.02/DOC_1&format=PDF

[84] https://ec.europa.eu/info/sites/default/files/com_322_1_annex_es.pdf

[85] https://www.miteco.gob.es/es/ministerio/recuperacion-transformacion-resiliencia/transicion-verde/cuestionariodnshmitecov20_tcm30-529213.pdf

- A series of **indications for specific activities** including desalinated water production and irrigation infrastructure. These indications are covered in the treatment of these activities in chapter 5.

On the other hand, the ministerial decree that configures the RRP management system[86] incorporates in its article 5 the obligation to undertake a risk analysis in relation to possible significant negative impacts on the environment (DNSH), as well as the monitoring and verification of the results of the initial assessment.

Annex II.B.4 includes a specific self-assessment test for compliance with the basic requirements, while Annex III.B provides management benchmarks to avoid undesirable environmental impacts.

One of the references cited in the ministerial decree for risk analysis on undesired environmental impacts is the Guidance Document "*Determinación de la significatividad del daño medioambiental en el contexto de la ley 26/2007, de 23 de octubre, de responsabilidad medioambiental*"[87]. This guide offers criteria for the definition of harm and the assessment of the significance, both to the environment and to human health, for species and habitats, surface and groundwater, soil, sea and estuaries.

Finally, it should be noted that the National Accreditation Body (ENAC) has developed an accreditation scheme for verification and validation agencies for compliance with the DNSH principle[88] to ensure that the assessments presented in RRP projects are technically sound, reasonable, and sufficiently and appropriately justified.

3.7.2 Water in the RRP

The RRP is structured into 30 components grouped into 10 Leveraging Policies. The "Coastal preservation and water resources" component[89] falls under the "Resilient infrastructures and ecosystems" development policy[90]. With an estimated investment of 2,091 million euros, it focuses on improving the management of water resources, for the strengthening of water policy and the development of three strategic lines established by MITECO: regulatory reform in support of the objectives of hydrological planning and the investments needed to implement it; the climate change adaptation of the Spanish coast; and the protection of the marine environment.

In order to access the Plan's funds, calls for tenders, subsidies and grants are issued by ministries, state public enterprises, autonomous communities, city councils and other local entities. Furthermore, two additional access mechanisms have been put in place:

- **Strategic projects for economic recovery and transformation**, which are expected to have a great capacity to boost economic growth, employment and the competitiveness of the Spanish economy, through collaboration between administrations, companies and research centres.

  Worthy of mention is the PERTE (Strategic Project for Economic Recovery and Transformation) for the digitalisation of the water cycle[91] approved by the Council of Ministers on 22 March 2022, for which 400 million euros have been earmarked for funding,

[86] Orden HFP/1030/2021, de 29 de septiembre, por la que se configura el sistema de gestión del Plan de Recuperación, Transformación y Resiliencia https://www.boe.es/boe/dias/2021/09/30/pdfs/BOE-A-2021-15860.pdf

[87] https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/responsabilidad-mediambiental/determinacionsignificatividaddano_noviembre2019_tcm30-497992.pdf

[88] https://www.enac.es/documents/7020/2fffab73-23d8-4b48-b7ce-bad02f283ee8?version=1.0

[89] https://planderecuperacion.gob.es/politicas-y-componentes/componente-5-preservacion-del-litoral-y-recursos-hidricos

[90] https://planderecuperacion.gob.es/politicas-y-componentes/infraestructuras-y-ecosistemas-resilientes

[91] https://planderecuperacion.gob.es/como-acceder-a-los-fondos/pertes/perte-de-digitalizacion-del-ciclo-del-agua

to be implemented through the MITECO subsidies call that will be managed by the regional governments. The total investment up to 2026 will be around 3 billion.

- The **Manifestations of Interest**, consultations carried out by the different ministries to analyse possible areas of action. So far, no specific manifestations have been published on water, although there are some that could be of interest to companies in the sector regarding energy efficiency and sustainability and the circular economy.

As has been seen, calls for proposals for grants and subsidies must include the requirement for a commitment to comply with the DNSH principle. In addition, specific conditions relating to ensuring compliance with the DNSH principle are included in tenders under the RRP.

As an example, the specifications for the drafting of the project, execution and implementation of the "*Ampliación y remodelación de la EDAR de Palma II*"[92] (Expansion and remodelling of the Palma II WWTP) of the Sociedad Mercantil Estatal Aguas de las Cuencas de España, S.A. (ACUAES) requires the development of a specific Annex for the justification of compliance with the DNSH principle as part of the Environmental Assurance Plan with the content set out in the box.

The successful tenderer will draw up a specific annex justifying, in the different phases of project development, compliance with this DNSH principle for each of the six environmental objectives established.

The annex shall be drafted in accordance with the following structure: Introduction and purpose of the annex; Reference regulations; Description of the action; Identification of the RRP Component in which the Project is framed; Assessment of the DNSH Principle (including classification of the activity and treatment of relevant aspects of the environmental impact assessment process in relation to the environmental objectives of the taxonomy).

It will also include the completion of the self-assessment form for compliance with the DNSH principle proposed by the Ministry's Guide for Ecological Transition and the Demographic Challenge; as well as the checklist according to the Technical Guide (2021/C 58/01).

Finally, it is required that a Monitoring Programme of compliance with the DNSH principle be established for each environmental objective and a Responsible Declaration of Compliance.

3.7.3 Other applications of the DNSH principle

A unique development in this respect is the assignment of the Ministry of Agriculture, Fisheries and Food to the Spanish National Research Council[93] for the elaboration of scientific-technical guidelines for the application of the DNSH principle in the Plan for the improvement of efficiency and sustainability in irrigation (investment C3.I1 of the Spanish RRP).

Moreover, the Common Provisions Regulation[94] governing the use of EU regional, cohesion and social funds for the period 2021-2027 incorporates the DNSH as one of its cross-cutting principles. Although the Strategic Environmental Assessment process applied to these

[92] Specific technical specifications for the joint contracting of the drafting of the construction project, the execution of the works and their start-up for the "Extension and remodelling of the Palma II WWTP https://planderecuperacion.gob.es/como-acceder-a-los-fondos/convocatorias/PLC/9660905/redaccion-del-proyecto-constructivo-la-ejecucion-de-las-obras-y-su-puesta-en-marcha-de-la-ampliacion-y-remodelacion-de-la-edar-de-palma-ii-financiado-por-la-union-europea-nexgenerationeu

[93] https://www.boe.es/diario_boe/txt.php?id=BOE-A-2021-19983

[94] Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund, as well as the financial rules for those Funds and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1060&from=ES

programmes already provides a first indication of compliance[95], a more detailed examination extended to all six objectives may be necessary. For this, the Commission suggests following the same approach as the RRF[96]. Furthermore, the programming and implementation of the Funds should ensure that future infrastructure projects supported are resilient to climate change, for which the Commission has adopted new guidelines[97].

[95] See, for example, the Strategic Environmental Study of the Spanish Multi-regional Programme 2021-2027 https://www.fondoseuropeos.hacienda.gob.es/sitios/dgfc/es-ES/ipr/fcp2020/P2127/PF/Documents/2022.07.19_EAE_POPE_21-27_FIRMADO.pdf

[96] https://www.eipa.eu/publications/briefing/taking-into-account-the-taxonomy/

[97] Communication from the Commission concerning guidance on the verification of the sustainability of the InvestEU Fund. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021XC0713(02)&from=ES

4 The challenges of taxonomy implementation

4.1 General issues

While there is growing acceptance and interest in adopting the principles on which the taxonomy is based, usability concerns regarding its application are emerging. The ambition of the conceptual structure, which addresses the impact of a wide range of economic activities on complex environmental processes, is matched by the methodological difficulties encountered. The first to face these difficulties are the professionals in charge of reporting, but the challenges will also be transferred to those responsible for auditing and verifying the information.

Various studies and discussion papers are beginning to systematically highlight these difficulties.

Written from the perspective of the financial sector, the report "Ensuring the usability of the EU Taxonomy"[98] (*International Capital Market Association* - ICMA, 2022) reviews some critical issues: the requirement for highly granular data for technical screening criteria purposes; the reliance on EU legislation and criteria in an international market; the inconsistencies that can arise in the use of third party estimates and data; the absence of a proportionality lens for smaller companies and projects; the use of dynamic criteria for substantial contributions and the need for grandfathering; the use of an activity-based classification system for complex projects.

This ICMA report provides access to other reports that provide a number of research and case studies that, in testing the practical application of the DNSH principle, coincide in highlighting the difficulties and limitations of a strict approach to the application of technical criteria. The report also includes an explanatory chapter on the initiatives underway to find solutions to implementation problems and a final chapter of recommendations.

From other areas, the delay in defining non-climate objectives is highlighted as a distorting factor, at least in early evaluations. It may be the case that funds dedicated to activities essential for the preservation of ecosystems and biodiversity or the prevention of pollution get lower ratings than others investing, for example, in gas or nuclear energy[99].

One of the central initiatives to address the implementation challenges is undoubtedly the work of the PSF subgroup on Data and Usability, which has resulted in the recent publication of an extensive recommendations report. The report has focused on three main lines of work:

- identify a comprehensive list of users and uses of the taxonomy;
- identify the main challenges for these users when applying the taxonomy;
- and identify possible solutions to these usability challenges.

The main product is a list of 64 *items in* the form of recommendations to the European Commission that affect a wide range of areas of the taxonomy and its interrelation with other regulatory tools and instruments.

[98] https://www.icmagroup.org/assets/documents/Sustainable-finance/Ensuring-the-Usability-of-the-EU-Taxonomy-and-Ensuring-the-Usability-of-the-EU-Taxonomy.pdf?vid=2

[99] https://www.triodos-im.com/articles/2022/current-implementation-of-eu-taxonomy-leads-to-distorted-picture

In summary, the report identifies the main usability problems as follows:

> *Mismatch between sustainable finance reporting requirements across the regulatory framework, including different definitions of "sustainable investment", "no significant harm" (DNSH), "good governance" and risk approaches;*
>
> *Sequencing issues in the reporting framework, ensuring that data are available to financial institutions to satisfy their own reporting obligations;*
>
> *Regulatory overload, ensuring that reporting requirements are evenly distributed and proportionate to the use cases of financial market participants, financial institutions, non-financial institutions, public sector actors and SMEs;*
>
> *Interpretation issues, to ensure that all user groups have a clear understanding of the information requirements (what needs to be reported, how and when); and*
>
> *Regulatory and data gaps, filling any regulatory gaps or addressing any regulatory barriers that may hinder the use of the taxonomy and promoting the availability and accessibility of data.*

In the case of non-financial institutions, the following difficulties may arise:

- *The very definition of economic activities*
- *The determination of the scope of CapEx and OpEx for each activity.*
- *Interpretation of the technical screening criteria*
- *Evidence of compliance (e.g. operations outside the EU complying with EU regulation)*
- *Verification requirements*
- *The availability of sources of technical advice on usability (helpline).*

Moreover, according to figures in the report, the total population of companies within the scope of the NFRD in the EU is 1,956 (excluding exempt subsidiaries), comprising 1,604 listed non-financial companies, 278 banks and 74 insurance companies. By June 2022, according to data aggregated by Bloomberg, a significant number of companies (285) would have started reporting their eligibility and, in some cases (65), their alignment with it. Not all companies use the three KPIs (Turnover, CapEx and OpEx) and a minority (22) use formal reporting templates, alternatively using narrative or pictorial disclosures of their eligibility and/or taxonomy alignment. These reporting exercises have allowed the PSF to witness some key usability issues which are recapped in Table 3.

Table 3. Key usability issues observed (financial and non-financial firms).

Structural issues	Interpretative issues	Technical issues
• Minimum acceptance of Annex II of the Delegated Disclosure Act. • Mixed information on eligibility percentage and total amount of revenue / CapEx / OpEx (not always both) • Companies sometimes report an approximate figure or a range (≈20%, less than 5% or a range of 15-20%). • Inconsistency in turnover reporting, with the use of language: "sales", "income", "gross rental income", "gross sales", "net income", etc. • Inconsistent treatment of *joint ventures* • No reporting on the Green Investment Ratio (credit institutions) is observed. • Information on the Green Asset Ratio is not yet available in the designated annexes (insurers).	• The "comply or explain" clause on operating costs has not been fully integrated. • Companies use different terms to refer to their alignment with the taxonomy and eligibility values, such as "green revenue share". • Use of "investments" instead of CapEx • Use of "business expenses" instead of OpEx • Divergence in the reporting of non-EU operations in the group's reports • Confusing eligibility with alignment • Disclosure of alignment with taxonomy without eligibility fee	• Confusion in the definition of economic activities; better information establishes assumptions when aligning business activities with NACE codes. • DNSH information in terms of Yes / No

Source: adapted from PSF 2022

4.2 Challenges specific to the water sector

Throughout the interviews carried out with water sector professionals in the framework of this study (see section 1.2.1), some specific issues were identified that condition the practical application of the taxonomy criteria to water cycle activities. These issues refer to criteria related, among others, to network efficiency, where the application of indicators is required, which in the opinion of the interviewees turn out to be very demanding and far from reality, and which could also lead to specific problems of capital flow and discrimination of utilities that have already achieved the lowest applicable level of leakage. Other issues also relate to the energy consumption ratios required for the economic activity of wastewater treatment, which is a concern to many associations and water operators interviewed, given the complexity of these consumption ratios, even for large entities.

The description of these issues is also based on a reading of the arguments generated by European sectoral associations during the drafting phase of the regulations and delegated acts, in particular the European Federation of National Water Services Associations (EurEau) and, in the case of hydroelectric production, the European Electricity Industry Association (Eurelectric). Beyond conveying the legitimate positions of each sector, these documents raise practical difficulties and uncertainties in implementation, as well as objective elements that may condition the possibility of alignment.

The sector understands that a considerable effort has been made to keep the criteria simple and understandable, but this simplicity can sometimes lead to difficulties of interpretation. In

addition, the use of "one size fits all" criteria clashes with the diversity of local circumstances that water utilities face. The risk is that those entities operating systems with more unfavourable geographical conditions - for example, areas with greater population dispersion or significant altimetric differences - may be less able to access favourable funding to undertake the necessary improvements.

For supply system operators, the single net energy consumption threshold of 0.5 kWh per cubic metre of water supplied may or may not be technically achievable depending on factors beyond the entity's control. In addition to physiographic conditions, circumstances such as the origin of the water - from very deep aquifers or from springs and rivers from which water is gravity fed – or the need for specific treatments for desalination[100] or water softening or for the removal of specific pollutants such as pesticides or PFAS (perfluoroalkyl and polyfluoroalkyl substances) are also relevant. It should also be clarified whether the purchase of energy produced solely by renewable methods can be used as compensation for the calculation of net energy consumption.

Single threshold conditions are also set for the renovation of catchment, water treatment and distribution systems, where net energy consumption or leakage levels are reduced by 20%. Investments in services with the greatest margin for improvement are thus favoured, so that the most efficient ones might have problems attracting capital.

In the case of "centralised waste water systems", different levels of energy consumption are introduced depending on the population size. However, the values may be difficult to achieve depending on local conditions and other factors that may be beyond the control of the operating entities, such as the relative weight and conditions of industrial discharges to the sewerage network, or the need to take on more advanced wastewater treatment depending on whether stricter environmental standards are applied or regeneration modules are incorporated for effluent use.

For renovations, 20% energy efficiency improvement targets are applied to either the collection system or the treatment plant. Again, the thresholds steer investment towards the most inefficient systems, which makes sense from the point of view of environmental achievement but harms the ability to attract funding to the best operators.

Anaerobic digestion of sewage sludge is recognised as an environmentally sustainable activity as long as leakage is controlled and the biogas is used for electricity or heat generation, for injection as biomethane into the natural gas grid, as vehicle fuel or as feedstock in the chemical industry. However, its use as a renewable fuel is discriminated against in the conditionalities for transport activities that privilege the "exhaust emissions" criterion rather than the more technology-neutral "well-to-wheels" principle, i.e. taking into account energy efficiency over the whole life cycle of both fuel and vehicles[101] .

Finally, hydroelectric production is subject to stricter criteria than other renewable energies due to its impact on the hydrological regime and the morphology of the watercourses in which it captures water. The sector's position is that no additional conditions other than those contained in current environmental legislation and compliance with the environmental protection measures required in operating permits should be necessary.

[100] At the time of going to press (28 November 2022), the PSF has published a supplementary Recommendations Report enabling the eligibility of desalination as an enabling activity for water supply.

[101] This criterion accounts for the efficiency of transformation of the raw material (i.e. crude oil to gasoline), the transport of the fuel from the production site to the delivery points to the user, and finally the efficiency of the engine and transmission.

Furthermore, the sector requires some clarifications regarding the determination of the power density, among them, the exemption from further assessments if the threshold of 5 W/m^2 is exceeded: what concept of area should be used for the calculations; how should the criterion be used in the case of complex hydropower systems (storage and pumping systems with multiple reservoirs, single plants with multiple upstream reservoirs, or cascading hydropower plants); how should the added power be assessed in the case of plant retrofitting, e.g. by adding new generation units.

5 Application of taxonomy to water cycle activities

5.1 Introduction

The objective of this chapter is to progress in the understanding of the applicability of the taxonomy to certain non-financial economic activities. In the first instance, this would include all the activities of the water cycle (chapter 5) and additionally, a selection of activities that stand out for their close link to water resources and their management (chapter 6).

For each activity, technical screening criteria, practical examples to facilitate the interpretation of the criteria or to illustrate their application, and technical and legal references to support the preparation of evidence of compliance will be provided.

The background guides cited at the beginning of this study (section 1.4) provide possible supporting evidence, mainly of compliance with the DNSH principle in the framework of certain planning instruments. In such cases, there are even practical examples of application to certain investments (section 3.7). However, such evidence cannot be assumed to be valid in the context of the application of the taxonomy, as compliance with the DNSH principle in the framework of these instruments does not strictly adhere to the technical screening criteria of the delegated acts. While these guidelines should be taken into account, it is necessary to go further in defining the technical criteria and supporting evidence.

At this stage, there is no Commission-endorsed guidance available to facilitate the interpretation of the screening criteria for determining substantial contribution or the DNSH principle, nor to determine what evidence of compliance is admissible. One of the subgroups (Data and Usability) of the Platform on Sustainable Finance (PSF) has the role of providing information and advice on the usability of the technical screening criteria, but its activity is more directed towards advising the Commission and the other subgroups. It has recently published a report on the subject[102] which outlines the main concerns identified on the usability of the taxonomy, which for non-financial companies would be the following, as outlined in chapter 4:

- Definition of economic activities
- Scope of CapEx and OpEx of activities
- Interpretation of the technical screening criteria
- Required evidence of compliance with the technical criteria
- Verification requirements
- Sources of advice on technical usability (helpline)

Indeed, there is currently no consultation mechanism in place to resolve technical implementation queries[103], so the Platform's report encourages the European Commission to provide further guidance and complementary advice to market practitioners to complete their alignment statements. In addition, the report proposes the development of further supporting material and the establishment of a permanent and competent technical assistance function

[102] Platform Recommendations on Data and Usability (October 2022) https://finance.ec.europa.eu/system/files/2022-10/221011-sustainable-finance-platform-finance-report-usability_en_1.pdf

[103] MITECO has set up a consultation mailbox, but this is limited to the application of the principle in the framework of the PRTR (bzn-DNSH@miteco.es).

or institute to assist companies obliged to disclose and support the effective implementation of the taxonomy.

The content of this study should be understood in this context as a set of technical support tools, rather than as a manual or application guide per se, far from any prescriptive intention. Materials are provided to identify eligible economic activities within the framework of operation of each economic sector, illustrations and examples to facilitate the interpretation of the criteria, and links to useful regulations and technical references.

5.2 Selection of activities included in the water cycle

The selected economic activities associated with the water cycle fall under section 5. Water supply, sanitation, waste treatment and decontamination of the Climate Delegated Act (referred to as type A in this study):

From the **Climate Delegated Act (Objectives 1 and 2):**

- Economic activities associated with water collection, treatment, distribution, sanitation and reclamation (activities 5.1, 5.2, 5.3 and 5.4).
- Economic activities that can take place at facilities where activities of the previous group are carried out, such as collection and transport of non-hazardous waste (activity 5.5) and anaerobic digestion of sewage sludge and bio-waste (activities 5.6 and 5.7). The composting of bio-waste (activity 5.8) has also been considered as it can be carried out together with sewage sludge.

This group also includes the activity of cogeneration (activity 4.19), which is increasingly present in wastewater treatment plants, as well as the activity of electricity generation from hydropower (activity 4.5).

From the **PSF Recommendations Report (Objectives 3-6)**[104]**:**

As in the previous case, in addition to the economic activities typically associated with the water cycle (activities 9.1, 9.2, 10.1, 10.2 and 10.3), other water-related activities have been considered, such as civil engineering (4.1), which in the case of activities associated with the water sector, could be the construction of waterways, pleasure ports, dams and dykes; and harbour and river works; the construction of infrastructures to prevent flood and drought risk, taking into account nature-based solutions (activities 6.8 and 6.9); restoration of ecosystem (8.3); remediation activities (8.4) of groundwater, surface water, marine water, etc.; and sustainable urban drainage systems (activity 10.4).

It should be clarified that, in addition to proposing technical screening criteria for substantial contribution to Objectives 3-6 for a number of economic activities, this Recommendations Report also proposes criteria for substantial contribution to adaptation (Objective 2) in new economic activities that had not been contemplated in Annex II of the Climate Delegated Act, including the following:

- 4.1. Civil engineering
- 6.8. Flood risk prevention and protection infrastructure for inland river, coastal and urban floods
- 8.3. Restoration of ecosystems
- 9.2. Desalination

[104] For the analysis carried out in this study, the proposed TEG recommendations published in March 2022 have been used as a reference.

This is why, in this study, these economic activities have been developed together with the rest of the activities that contribute to Objectives 1 and 2 according to the Climate Delegated Act, despite being recommendations of the PSF.

The final list of activities considered, including the objectives for which they are eligible, is shown in Table 4.

Table 4. List of eligible type A activities (water cycle) and objectives to which they contribute.

Type	Activity code	Name of economic activity	1	2	3	4	5	6
(A)	4.5	Electricity generation from hydropower	X	X				
(A)	4.19	Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels	X	X				
(A)	5.1	Construction, extension and operation of water collection, treatment and supply systems	X	X				
(A)	5.2	Renewal of water collection, treatment and supply systems	X	X				
(A)	5.3	Construction, extension and operation of waste water collection and treatment	X	X				
(A)	5.4	Renewal of waste water collection and treatment	X	X				
(A)	5.5	Collection and transport of non-hazardous waste in source segregated fractions	X	X				
(A)	5.6	Anaerobic digestion of sewage sludge	X	X				
(A)	5.7	Anaerobic digestion of bio-waste	X	X				
(A)	5.8	Composting of bio-waste	X	X				
(A)	4.1	Civil engineering		X				
(A)	6.8	Flood risk prevention and protection infrastructure for inland river, coastal and urban floods		X				
(A)	6.9	Nature based solutions (Nbs) for flood and drought risk prevention and protection for both inland and coastal waters			X			
(A)	8.3	Restoration of ecosystems		X				
(A)	8.4.	Remediation activities			X	X	X	X
(A)	9.1	Water supply			X			
(A)	9.2	Desalination		X				
(A)	10.1	Urban Wastewater Treatment			X			
(A)	10.2	Phosphorus recovery from waste water				X		
(A)	10.3	Production of alternative water resources				X		
(A)	10.4	Sustainable urban drainage systems (SUDs)			X			
(A)	11.1	Collection and transport of non-hazardous and hazardous waste as a means for material recovery				X		
(A)	11.4	Recovery of bio-waste by anaerobic digestion and/or composting				X		

Source: own elaboration based on:

Commission Delegated Regulation (EU) 2021/2139 (Objectives 1 and 2)

PSF Recommendations Report March and October 2022

5.3 Methodological approach

A series of factsheets - per activity or group of related activities - has been developed containing methodological guidance to verify and demonstrate compliance with the technical screening criteria, i.e. the conditions to be met by each activity for its alignment, and to verify both the substantial contribution and compliance with the DNSH principle. These factsheets, which are annexed to the original study, have not been translated into English, but their content is summarised in section 5.4 of the study, addressing the most relevant issues to be considered when assessing compliance with the screening criteria established for each activity.

For the climate objectives, these criteria have been regulated in the Climate Delegated Act: respectively in Annex I (climate change mitigation) and Annex II (climate change adaptation). For the remaining Objectives (3-6) and for some activities contributing to Objective 2, the

recommendations of the PSF published in March 2022 (version available during the development of this study), not yet consolidated by the European Commission, have been used.

The compliance guidelines set out in the factsheets of the Spanish version have been drawn up on the basis of an exhaustive review of background documents and other reference sources, including materials generated by European working groups, tools available online, analysis documents, sectoral guides, international management standards, databases and, finally, the legal provisions that are cited in the delegated acts themselves or other relevant documents. Specifically, the following factsheets have been produced:

Based on the Climate Delegated Act (Objectives 1 and 2):

- Eight factsheets to guide compliance with the criteria for substantial contribution to Objective 1 (climate change mitigation). Occasionally two activities are grouped together in a single factsheet when their criteria overlap (see section 5.4.1).
- An additional factsheet for Objective 2 (adaptation to climate change). The factsheet is unique because the technical criteria for substantial contribution in the Annexes of the Climate Delegated Act are identical for all economic activities (see section 5.4.2.1).
- Four factsheets with guidelines for the application of the DNSH principle for Objectives 2, 3, 5 and 6. See sections 5.4.3.2 to 5.4.3.6. No DNSH factsheet has been produced for Objectives 1 and 4 for the economic activities of the water cycle in the Climate Delegated Act because either it is not applicable under the delegated act, or the compliance guidelines proposed for substantial contribution to Objective 1 are valid (as they are similar) (in which case it is indicated in the corresponding factsheet).

Based on the PSF Recommendations Report (Objectives 3-6):

- Four factsheets to guide the compliance with the criteria for substantial contribution to Objective 2. Given their contribution to this objective, despite being derived from the Recommendations Report, these four factsheets have been integrated alongside the other factsheets on economic activities contributing to Objectives 1 and 2 in the Climate Delegated Act (see section 5.4.2 a 5.4.5).
- Two factsheets with guidelines on the application of the DNSH principle for Objectives 1 and 4, for those activities that contribute to Objective 2, but which derive from this PSF Recommendations Report (see sections 5.4.3.1 and 5.4.3.4).
- Nine factsheets to guide compliance with the criteria for substantial contribution to Objectives 3-6. In some cases, the factsheets have been simplified (see section 5.4.4).
- Five factsheets with guidelines for the application of the DNSH principle for Objectives 1, 3, 4, 5 and 6. No DNSH factsheet has been produced for Objective 2, as the guidelines for compliance proposed in the DNSH2 factsheet for Objectives 1 and 2 are valid (see section 5.4.5).

The structure of the factsheets that can be found in the annexes of the Spanish version is as follows:

TECHNICAL SCREENING CRITERIA OBJECTIVES 1 AND 2	
Eligible economic activity(ies)	**Associated CNAE code(s)**
Code. Name	Code(s)
Key indications	
This section presents a structured summary of the key indications, highlighting the most relevant aspects, reference sources and the most important tools. • Economic activities covered • Technical criteria for substantial contribution (SC) to Objective 1. • Guidelines for compliance with the technical criteria of Objective 1. • Technical criteria for substantial contribution (SC) and guidelines for compliance with Objective 2. • Technical criteria for compliance with the DNSH principle (objectives 1 and 2).	
Synthesis of technical screening criteria for substantial contribution to Objective 1	
• SC1, SC2. Summary of the description of the substantial contribution criteria in the delegated act	
Guidance for compliance	
SCn[105] . Substantial contribution criterion	
In most of the factsheets, this section consists of a first part contextualising the criterion, briefly explaining the activity and the current framework with respect to the technical screening criterion. In a second part, the main reference sources and tools that water operators can rely on in order to comply with the criteria, if applicable, are shown. Where guidelines or guidance documents are lacking, the regulations governing compliance with the criterion are presented and briefly explained. The contents are illustrated with graphs and figures to facilitate the interpretation of compliance guidelines.	
References	
This section presents the main references identified, classified, where appropriate, as follows: • Legal provisions • Guides and/or manuals • Documents and technical references • Databases (where applicable) • Websites (if applicable)	
Synthesis of technical screening criteria for substantial contribution to Objective 2	
Reference is made to the single summary factsheet on technical objectives, compliance guidelines and benchmarks for Objective 2.	
Synthesis of technical screening criteria for determining compliance with the DNSH principle	
It is indicated whether or not it applies to the activity considered and, where appropriate, reference is made to the guidelines for compliance in the specific factsheets that develop each objective.	
Objective 1	**Objective 2**
• DNSH2[106] . • DNSH3. • DNSH4. • DNSH5. • DNSH6.	• DNSH1. • DNSH3. • DNSH4. • DNSH5. • DNSH6.

The factsheets covering Objectives 3-6 follow the same structure, the main difference being that in this case only the criteria and guidelines for a single objective are presented and explained. Exception: in the case of one of the economic activities covered, which contributes substantially to four of the objectives, as explained in section 5.4.4.

5.4 Technical Screening Criteria

This section presents a summary of the content developed in each of the factsheets produced for the economic activities of the water cycle considered in the study, in terms of their contribution to Objectives 1 and 2 (according to the Climate Delegated Act), to the rest of the Objectives (3-6) and, in some cases, to Objective 2 (according to PSF Recommendations Report of March 2022 and October 2022).

The technical screening criteria for climate change mitigation and adaptation (Objectives 1 and 2) according to the Climate Delegated Act and to Objective 2 according to the PSF Recommendations Report of March 2022, are presented in the following sections 5.4.1, 5.4.2 and 5.4.3.

The technical screening criteria for the remaining objectives of the Taxonomy Regulation (Objectives 3-6) according to the Platform on Sustainable Finance report of March 2022, have been developed in sections 5.4.4 and 5.4.5.

5.4.1 Criteria for substantial contribution to Objective 1

For most of the economic activities in this package (water cycle, type A activities), the technical screening criteria for Objective 1 (climate change mitigation) are related to the following indicators:

1. **Energy efficiency**. Activities 5.1 / 5.2 (collection, treatment and supply of drinking water) and 5.3 / 5.4 (collection and treatment of waste water) have specific criteria relating to energy consumption, proposing a reduction of 20% from a given baseline. In the case of wastewater treatment, a maximum threshold of 0.5 kW-h/m^3 of treated water is set.
2. **GHG generation**. For activities 5.3 / 5.4, 4.19 (Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels) and 4.5 (Electricity generation from hydropower), criteria are established for the assessment of GHG emissions in operation or in the life cycle. Additionally, in several activities – 4.19, 5.6 (Anaerobic digestion of sewage sludge) and 5.7 (Anaerobic digestion of bio-waste) - the implementation of a monitoring plan for methane leakage detection at the facility is introduced as a criterion.
3. **Energy use**. Criteria for the use of energy from waste treatment (biogas) are set for activities 5.6, 5.7 and 4.19.
4. **Waste recovery**. Criteria are established to ensure waste reuse or recycling to replace fossil raw materials in activities 5.5 (Collection and transport of non-hazardous waste in source segregated fractions), 5.6, 5.7 and 5.8 (Composting of bio-waste).

The following sections present basic indications for the assessment of the screening criteria for the activities of the water cycle according to the Climate Delegated Act.

5.4.1.1 Electricity generation from hydropower (4.5)

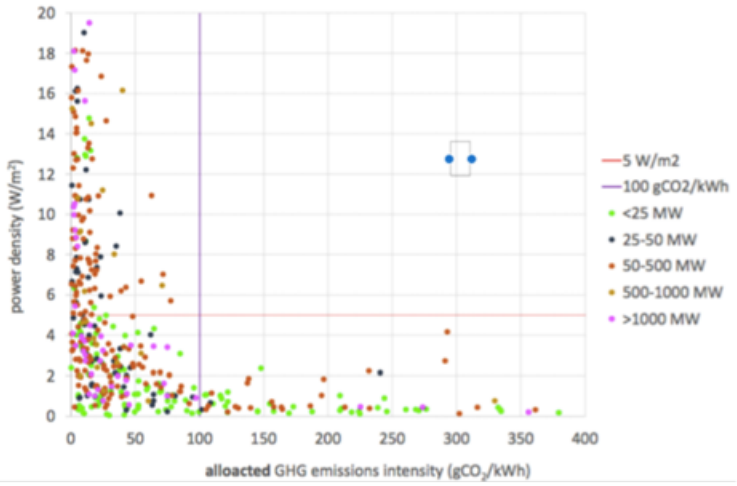
Economic activities covered
Construction or operation of electricity generation facilities that produce electricity from hydropower.
Technical criteria for substantial contribution (SC) to Objective 1
The technical criteria for substantial contribution to Objective 1 relate to power plant type, power density and life cycle GHG emissions.
Guidelines for compliance with the technical criteria of Objective 1
The technical criteria are presented as alternative, one of the three criteria need only be met:

[105] Ordinal numbering of the technical criteria of substantial contribution established for each economic activity: first, second, third, etc.

[106] The numbering of the DNSH refers to the objective that it does not significantly harm.

- The first refers to the type of power plant: if it is a run-of-river plant and there is no artificial reservoir, the contribution is considered to be substantial as it is a renewable energy with no significant impact on the water environment.
- In the case of run-of-river plants that involve the construction of an artificial reservoir (including pumped or reversible plants), the power density must be calculated. The power density of a hydroelectric power plant is its rated capacity divided by the surface area of its reservoir.
  - If the power density is above 5 W/m^2, the contribution is considered to be substantial. This threshold has been found to ensure a low level of GHG emission intensity.
  - Finally, if the power density is below the threshold of 5 W/m^2, an independent verifier will have to verify that the life cycle GHG emissions are below 100 g CO_2 e/kWh. For this purpose, the use of the G-res tool[107] or other means of verification accepted in the delegated act is suggested.

Figure 20. Emission intensity range (per installed capacity) based on assigned emissions using the operating regime methodology.



Source: IHA G-res database, taken from Climate Bonds Initiative 2021.

References

In relation to hydropower plant facilities:

Legal provisions

- Ley 7/2021, de 20 de mayo, de cambio climático y transición energética https://www.boe.es/buscar/act.php?id=BOE-A-2021-8447

Guides and/or manuals

- Comisión Europea 2017. Guidance Document No. 35 8 Exemptions to the Environmental Objectives according to Article 4(7). New modifications to the physical characteristics of surface water bodies, alterations to the level of groundwater, or new sustainable human development activities https://circabc.europa.eu/sd/a/0301c3f6-b0b1-4175-a5ac-bbe6ecd3cebc/WD2017-2-1%20-%20CIS%20Guidance%20Article%204.7.pdf
- UNECE 2021. Life Cycle Assessment of Electricity Generation Options https://unece.org/sed/documents/2021/10/reports/life-cycle-assessment-electricity-generation-options

Technical documents

- IDAE 2006. Manuales de Energía Renovables 6: Minicentrales hidroeléctricas https://www.idae.es/uploads/documentos/documentos_2.1.7_Minicentrales_hidroelectricas_125f6cd9.pdf
- MITECO 2021. Estrategia de almacenamiento energético. https://www.miteco.gob.es/es/prensa/estrategiaalmacenamiento_tcm30-522655.pdf
- MITECO 2020. Plan Nacional Integrado de Energía y Clima 2021-2030 https://www.miteco.gob.es/es/ministerio/planes-estrategias/plan-nacional-integrado-energia-clima/plannacionalintegradodeenergiayclima2021-2030_tcm30-546623.pdf

In relation to power density and life cycle emissions:

[107] Publicly available online tool developed by the International Hydropower Association (IHA) in collaboration with the UNESCO Chair for Global Environmental Change (version of 4.6.2021: https://www.hydropower.org/gres).

Legal provisions

- 2013/179/EU: Commission Recommendation of 9 April 2013 on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations Text with EEA relevance https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32013H0179&from=EN
- Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32021H2279&from=EN

Guides or manuals

- Prairie YT, Alm J, Harby A, Mercier-Blais S, Nahas R. 2017. The GHG Reservoir Tool (G-res) User guide, UNESCO/IHA research project on the GHG status of freshwater reservoirs. Updated version 3.0 (27-10-2021). Joint publication of the UNESCO Chair in Global Environmental Change and the International Hydropower Association. 41 pages. https://www.hydropower.org/publications/the-ghg-reservoir-tool-g-res-user-guide
- IEA Hydro Technical Report 2012. Guidelines for the Quantitative Analysis of Net GHG Emissions from Reservoirs. https://www.ieahydro.org/annex-xii-hydropower-and-the-environment
- UNECE 2021. Life Cycle Assessment of Electricity Generation Options https://unece.org/sed/documents/2021/10/reports/life-cycle-assessment-electricity-generation-options

Technical documents

- Climate Bonds Initiative. Hydropower Criteria. Development of Eligibility Criteria for the Climate Bonds Standard & Certification Scheme. Background Paper (March 2021). https://www.climatebonds.net/files/files/Hydro-Background-Paper-Mar%202021-release3%281%29.pdf
- Eurelectric 2020. Moving forward with a science-based EU Taxonomy for hydropower. Eurelectric WG Hydro views on the final recommendations of the Technical Expert Group on Sustainable Finance. https://cdn.eurelectric.org/media/4470/20200515_wg_hydro_teg_report_with_tc_ms-2020-030-0356-01-e-h-7113C0D5.pdf
- ISO 14067:2018. Greenhouse gases -Carbon footprint of products- Requirements and guidelines for quantification. https://www.iso.org/standard/71206.html
- ISO 14064-1:2018. Greenhouse gases -Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. https://www.iso.org/standard/66453.html
- Prairie YT, Mercier-Blais S, Harrison JA , Soued C, del Giorgio PA, Harby A, J Alm, Chanudet V, Nahas R. 2021. A new modelling framework to assess biogenic GHG emissions from reservoirs: The G-res tool. Environmental Modelling and Software 143 (2021) 105117, 1-16. https://doi.org/10.1016/j.envsoft.2021.105117
- Technical Expert Group on Sustainable Finances (March 2020). Technical annex to the TEG final report on the EU taxonomy. Updated methodology & Updated Technical Screening Criteria. https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

Tools and data sources

- G-res tool (version 4.6.2021) https://www.hydropower.org/gres
- https://www.iea.org/fuels-and-technologies/hydropower
- https://www.hydropower.org/

5.4.1.2 Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels (4.19)

Economic activities covered

Construction and operation of combined heat/cool and power generation facilities using gaseous and liquid fuels of renewable origin.

This activity does not include cogeneration of heat/cool and power from the exclusive use of biogas and bio-liquid fuels.

Considering the scope of this study, the analysis of this activity has focused on cogeneration systems that may be present in wastewater treatment plants and, in particular, those that are fuelled by biogas.

Technical criteria for substantial contribution (SC) to Objective 1

In general, the technical criteria for substantial contribution to Objective 1 are based on ensuring a maximum value of GHG emissions during the life cycle of the activity, on the control of methane leakage in the facilities and on requirements to be met by the agricultural biomass used for biogas production (for this last criterion it has not been considered necessary to give compliance guidelines, as it is of direct application and, in the case of water cycle activities, it is likely that the origin of the biomass will

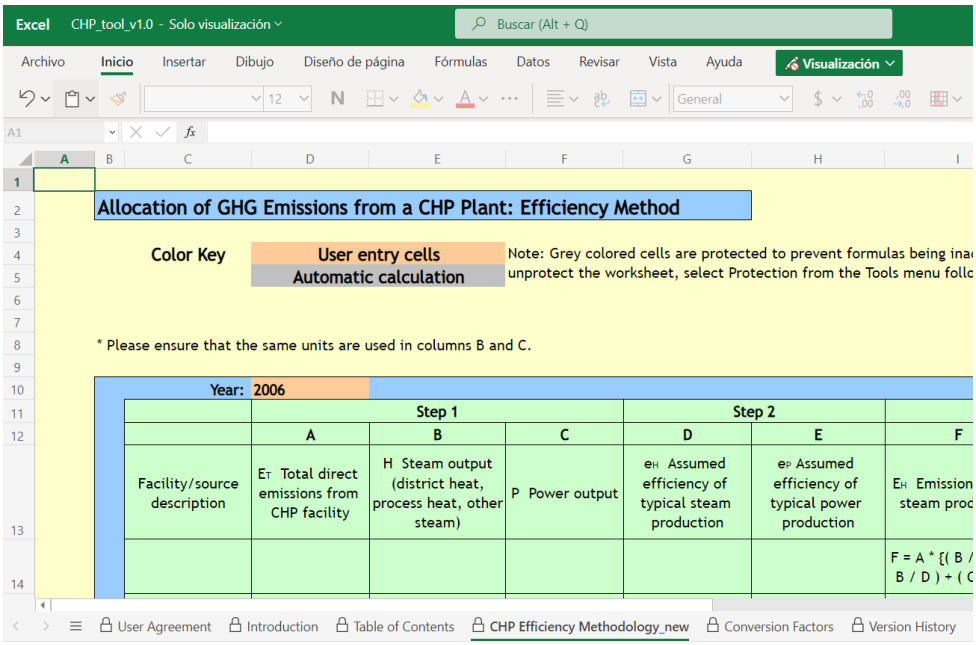
not be agricultural). In the case of SC2, concerning facilities incorporating forms of emission reductions (activities 5.11 and 5.12 of the Climate Delegated Act), criteria of direct application can be considered. Furthermore, in this case it would concern CHP plants that incorporate these forms of emission reductions. Guidance based on useful reports is provided for those facilities that meet all the conditions for the application of these criteria, including the JRC's 2022 report on carbon capture and storage in the European Union. It also cites the most relevant regulations relating to CO_2 capture and storage, as well as the incorporation of a CO_2 leak detection and repair plan.

Guidelines for compliance with the technical criteria of Objective 1

Compliance with the criterion relating to the assessment of GHG emissions in the life cycle of the activity must be based on the assessment methods recommended in the delegated act, for which various guides can be used. Of particular note is the GHG Protocol Product Lifecycle Standard guide, which has a specific tool for assigning the GHG emissions of a cogeneration plant, as well as the guide drawn up by the IDAE for biogas facilities, within the framework of the PERTE or the GHG calculator of the Oficina Catalana del Camvi Climatic.

Finally, the energy and emission savings calculator for the specific CHP activity developed by the Environmental Protection Agency (EPA) of the United States of America can be cited.

Figure 21. Interface v 1.0 of the GHG Protocol tool for the calculation of emissions from a CHP plant.



Source: Allocation of Emissions from a Combined Heat and Power (CHP) Plant. GHG Protocol. https://ghgprotocol.org/calculation-tools#cross_sector_tools_id

With regard to methane leakage control, reference should be made to the EU Methane Strategy, as all measures adopted in this area will be based on the premises of this strategy.

With regard to methane measurement, there is no regulation that specifically regulates emissions in cogeneration plants; however, some guidelines and recommendations have been found that the oil and gas sector has developed under the framework of the proposed Regulation on the reduction of methane emissions in the energy sector, which establishes the obligation to present Leak Detection and Repair Programmes (LDAR). Although they do not apply to the activity in question, they can serve as a reference when establishing the standardised framework in other sectors such as cogeneration. Furthermore, reference should be made to the documents developed for this purpose by the biogas sector, referring to the sources cited for activity 5.7 (Anaerobic digestion of bio-waste), (see section 5.4.1.7).

Finally, another criterion refers to the establishment of a Leak Detection and Repair Program. As with methane measurements, there is no standardised procedure for the development of such programmes in CHP plants. However, it is worth consulting the EPA guide that proposes a minimum content for LDAR programmes, which could be used as a reference to establish the minimum content of a monitoring and contingency plan to minimise methane leakage in cogeneration facilities.

References

In relation to GHG emissions:

Legal provisions

- Real Decreto 376/2022, de 17 de mayo, por el que se regulan los criterios de sostenibilidad y de reducción de las emisiones de gases de efecto invernadero de los biocarburantes, biolíquidos y

combustibles de biomasa, así como el sistema de garantías de origen de los gases renovables. https://www.boe.es/buscar/act.php?id=BOE-A-2022-8121

- 2013/179/EU: Commission Recommendation of 9 April 2013 on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations Text with EEA relevance. https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32013H0179
- Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations. https://environment.ec.europa.eu/publications/recommendation-use-environmental-footprint-methods_en
- Corrigendum to Commission Recommendation (EU) 2021/2279 of 15 December 2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations (Official Journal of the European Union L 471 of 30 December 2021) https://op.europa.eu/en/publication-detail/-/publication/ca3eccfd-da68-11ec-a95f-01aa75ed71a1/language-en/format-PDFA2A
- Real Decreto 376/2022, de 17 de mayo, por el que se regulan los criterios de sostenibilidad y de reducción de las emisiones de gases de efecto invernadero de los biocarburantes, biolíquidos y combustibles de biomasa, así como el sistema de garantías de origen de los gases renovables. https://www.boe.es/buscar/act.php?id=BOE-A-2022-8121
- Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:4372645

Guides and/or manuals

- Guía para la justificación de la reducción de emisiones de gases de efecto invernadero. https://sede.idae.gob.es/lang/extras/tramites-servicios/2022/BIOGAS/8._Guia_calculo_de_reduccion_de_GEI_(Actualizado_a_fecha_05.09.2022).pdf
- Guía de cogeneración, 2010. https://www.ingenieros.es/files/proyectos/Guia-de-la-Cogeneracion.pdf
- Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard. https://www.wri.org/research/greenhouse-gas-protocol-product-life-cycle-accounting-and-reporting-standard
- Guide of GHG Emissions from a Combined Heat and Power (CHP) Plant (2006). https://ghgprotocol.org/sites/default/files/CHP_guidance_v1.0.pdf
- Practical Guide for calculating GreenHouse Gas (GHG) emissions. Catalan Office for Climate Change, 2019. https://canviclimatic.gencat.cat/web/.content/04_ACTUA/Com_calcular_emissions_GEH/guia_de_calcul_demissions_de_co2/190301_Practical-guide-calculating-GHG-emissions_OCCC.pdf
- Guia de càlcul d'emissions de gasos amb efecte d'hivernacle (GEH). https://canviclimatic.gencat.cat/web/.content/04_ACTUA/Com_calcular_emissions_GEH/guia_de_calcul_demissions_de_co2/220622_Guia-calcul-emissions-GEH_OCCC.pdf
- Guía para el cálculo de la huella de carbono y para la elaboración de un plan de mejora de una organización. https://www.miteco.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/guia_huella_carbono_tcm30-479093.pdf

Technical documents

- Evaluación energética de la cogeneración mediante biogás procedente de la digestión anaerobia de fangos de una estación depuradora de agua residuales. https://dialnet.unirioja.es/servlet/articulo?codigo=7401433
- Giuntoli J, Agostini A, Edwards R, Marelli L, Solid and gaseous bioenergy pathways: input values and GHG emissions. Calculated according to the methodology set in COM(2016) 767, EUR 27215 EN, doi:10.2790/27486. https://publications.jrc.ec.europa.eu/repository/handle/JRC104759
- Ministerio para la Transición Ecológica y el Reto Demográfico, 2022. Hoja de ruta del biogás https://energia.gob.es/es-es/Novedades/Documents/00HR_Biogas_V6.pdf
- Methods of calculating greenhouse gas emissions: "actual value method" and "default value method. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1078316/ghg-savings-methodology.pdf
- Catalog of CHP Technologies, EPA. https://www.epa.gov/chp/chp-technologies#catalog
- IEA Bioenergy, 2017. Methane emissions from biogas plants. Methods for measurement, results and effect on greenhouse gas balance of electricity produced. https://www.researchgate.net/publication/323174976_Methane_Emissions_from_biogas_plants_Methods_for_measurement_results_and_effect_on_greenhouse_gas_balance_of_electricity_produced

GHG emission calculation tools

- Carbon footprint calculation toolkit of MITECO. https://www.miteco.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/calculadoras.aspx
- Tool GHG Emissions from a combined Heat and Power, GHG Protocol. https://ghgprotocol.org/calculation-tools#cross_sector_tools_id
- CHP Energy and Emissions Savings Calculator, EPA. https://www.epa.gov/chp/chp-energy-and-emissions-savings-calculator
- GHG emissions calculator of the Oficina Catalana del Camvi Climatic, 2022. https://canviclimatic.gencat.cat/ca/actua/calculadora_demissions/

In relation to methane leakage:

Legal provisions

- Proposal for a Regulation of the European Parliament and of the Council on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021PC0805R(01)&from=ES

Guides

- Leak Detection and Repair. A Best Practices Guide. https://www.epa.gov/sites/default/files/2014-02/documents/ldarguide.pdf

Technical documents

- Measurements of methane emissions from biogas production. http://www.sgc.se/ckfinder/userfiles/files/EF2015-158+methane+emissions+measuring.pdf
- Potential ways the gas industry can contribute to the reduction of methane emissions. https://www.gie.eu/wp-content/uploads/filr/3297/GIE-MARCOGAZ_Report%20for%20the%20Madrid%20Forum%20-%20Potential%20way%20gas%20industry%20can%20contribute.pdf
- Methane emission mitigation strategies. https://www.europeanbiogas.eu/wp-content/uploads/2020/05/Methane-emission-mitigation-strategies-info-sheet-for-biogas-industry.pdf
- Methane Emission Reduction: A Guide to Best Practice. Equipment Leaks. https://methaneguidingprinciples.org/wp-content/uploads/2021/02/Reducing-Methane-Emissions-Equipment-Leaks-Guide_ES.pdf

In relation to facilities with ways to reduce emissions: CO_2 capture and transport:

Legal provisions

- Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02009L0031-20181224&from=EN
- Ley 40/2010, de 29 de diciembre, de almacenamiento geológico de dióxido de carbono. https://www.boe.es/buscar/doc.php?id=BOE-A-2010-20049

Technical documents

- Carbon capture utilisation and storage in the European Union. Status report on technology development, trends, value chains and markets (JRR, 2022). https://setis.ec.europa.eu/carbon-capture-utilisation-and-storage-european-union_en
- Carbon Dioxide Capture and Storage. Summary for Policymakers and Technical Summary (IPCC, 2005). https://www.ipcc.ch/report/carbon-dioxide-capture-and-storage/
- Quantification techniques for CO_2 leakage (International Energy Agency, 2012). https://ieaghg.org/docs/General_Docs/Reports/2012-02.pdf

5.4.1.3 Construction, extension and operation of water collection, treatment and supply systems (5.1) and Renewal of water collection, treatment and supply systems (5.2)

Economic activities covered
Construction, extension and operation of water collection, treatment and supply systems. Renewal of water collection, treatment and supply systems including renewals to water collection, treatment and distribution infrastructures for domestic and industrial needs. It implies no material changes to the volume of flow collected, treated or supplied.

Technical criteria for substantial contribution (SC) to Objective 1

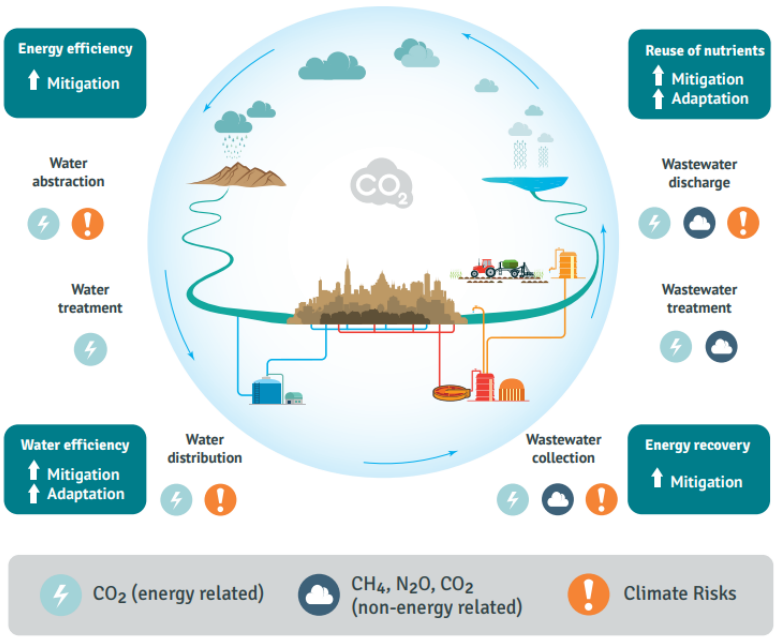
The technical criteria for substantial contribution to Objective 1 are related to system efficiency, by remaining below a certain threshold of energy consumption (0.5 kWh per cubic meter of water supplied) in the case activity 5.1, or by improving previous levels of energy efficiency by at least 20% in the case of activity 5.2, or by reducing the current leakage level in the network for both activities.

Guidelines for compliance with the technical criteria of Objective 1

In relation to the energy consumption criterion, according to current data, the supply of drinking water is one of the most energy-intensive stages.

In order to assess this consumption and reduce it, the ECAM Tool (Energy Performance and Carbon Emissions Assessment and Monitoring tool) has been of open access since 2018, whose latest version is dated 2022. The ECAM Tool has been designed to enable water supply and sanitation systems assess the energy performance of their installation and other aspects of water management.

Figure 22. Mitigation and adaptation in the urban water cycle.



Source: Factsheet WaCCliM Project. 2020[108]

Additionally, both the Environmental Protection Agency (EPA) and the International Water Agency (IWA) have various documentation on energy efficiency in the water sector.

Regarding the leakage reduction criterion, the Water Loss Specialist Group (WLSG) of the International Water Authority (IWA) has developed a globally accepted water audit methodology that accounts for water entering a water supply system, identifying several guidelines that can be used as a reference for active leakage control and pressure management in networks. This methodology has been implemented in several software tools that can be used to assess water losses, the functionalities and limitations of which are discussed in a recently published scientific paper (Al-Washali et al, 2020).

References

In relation to net energy consumption in collection, treatment and distribution facilities:

Guides and/or manuals

- ECAM resources: (information sheets, methodological guides, roadmaps, case studies, etc.) https://dev.climatesmartwater.org/ecam/

  https://climatesmartwater.org/resource_type/guidelines/page/5/

  https://dev.climatesmartwater.org/wp-content/uploads/2022/08/ECAMv3_Factsheet_ES.pdf

  https://climatesmartwater.org/library_page/

  https://climatesmartwater.org/wp-content/uploads/sites/2/2019/01/ECAM-Methodology-Guide-Jan-2019.pdf
- Energy Use Assessment at Water and Wastewater Systems. https://www.epa.gov/sustainable-water-infrastructure/energy-use-assessment-water-and-wastewater-systems

[108] https://climatesmartwater.org/wp-content/uploads/sites/2/2020/06/WaCCliM_Project_FactSheet_2020.pdf

- EPA's Energy Use Assessment Tool User's guide
- Energy Use Assessments at Water and Wastewater Systems Guide

- IWA Publishing, Global Omnium Universidad Politécnica de Valencia (2017). Good Practice Manual. Performance Indicators for Procurement Services. 3rd Edition. https://www.iwapublishing.com/sites/default/files/ebooks/Manual%20PI%20IWA_ES.pdf

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- UNESCO, UN-Water, 2020. The United Nations world water development report 2020: water and climate change. https://unesdoc.unesco.org/ark:/48223/pf0000372985
- EurEau (2019). Briefing note. Reducing the Energy Footprint of the Water Sector Possibilities, Success Stories and Bottlenecks https://www.eureau.org/resources/briefing-notes/3890-briefing-note-on-reducing-the-energy-footprint-of-water-sector/file
- IEA (2018). World Energy Outlook https://iea.blob.core.windows.net/assets/77ecf96c-5f4b-4d0d-9d93-d81b938217cb/World_Energy_Outlook_2018.pdf
- IEA (2016). Water-Energy Nexus, World Energy Outlook Special Report https://www.iea.org/reports/water-energy-nexus
- Local Government Climate And Energy Strategy Guides. 2013. Energy Efficiency in Water and Wastewater Facilities A Guide to Developing and Implementing Greenhouse Gas Reduction Program. https://www.epa.gov/sites/default/files/2015-08/documents/wastewater-guide.pdf
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In relation to leakage level:

Legal provisions

- Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast) (Text with EEA relevance). https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32020L2184&from=ES

Guides or manuals

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- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and VAG Armaturen GmbH Guidelines for water loss reduction. A focus on pressure management. (2010). https://www.icafrica.org/fileadmin/documents/Knowledge/GIZ/Guidelines-water-loss-reduction.pdf
- WHO (2001). Leakage management and control A BEST PRACTICE TRAINING MANUAL https://apps.who.int/iris/bitstream/handle/10665/66893/WHO_SDE_WSH_01.1_eng.pdf?sequence=1&isAllowed=y
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Technical documents

- EUREAU. Europe's Water in Figures An overview of the European drinking water and waste water sectors 2021 edition https://www.eureau.org/resources/publications/eureau-publications/5824-europe-s-water-in-figures-2021/file
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Tools

- EPANET. https://www.epa.gov/water-research/epanet
- AquaLite, AWWA Water Audit, BenchLeak, BenchLoss, CalacuLEAKator, CheckCales .... See Al-Washali TM et al 2020.

Websites

- International Water Agency (IWA). Water Loss. Water Loss - International Water Association (iwa-network.org)

5.4.1.4 Construction, extension and operation of waste water collection and treatment (5.3) and Renewal of waste water collection and treatment (5.4)

Economic activities covered

Construction, extension and operation of centralised waste water systems including collection (sewer network) and treatment. It implies no material change related to the load or volume of flow collected or treated in the waste water system.

The designation does not refer to the level of treatment applied. Considering that tertiary treatments (nutrient removal or regeneration) involve significant energy consumption, an assessment should be made as to whether the energy efficiency threshold should be applied indiscriminately to all installations. Especially considering that phosphorus removal or reuse are considered as distinct activities in the screening criteria recommendations for non-climate objectives.

According to the literature[109], energy consumption in plants with a regeneration module can increase to 1.0-2.5 kWh/m^3 compared to 0.62-0.87 kWh/m^3.

Technical criteria for substantial contribution (SC) to Objective 1

The technical criteria for a substantial contribution to Objective 1 are based on the one hand, on the energy efficiency of the system and, in certain cases, on an assessment of direct GHG emissions. The reduction of GHG emissions will depend, among other factors, on the degree of reduction in energy consumption, thus the two criteria are related.

In the case of construction, expansion and operation of systems, energy consumption must be below a certain ratio depending on the treatment capacity of the plant. In the case of the renovation of these facilities, the average energy consumption of the system must be reduced by at least 20 %

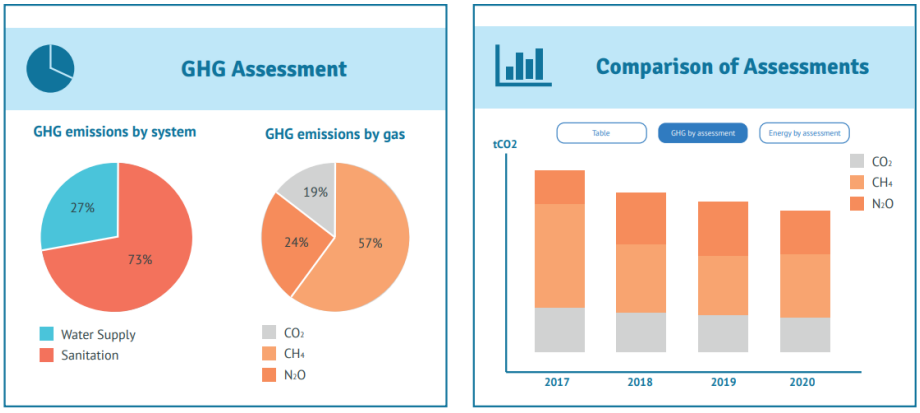
Guidelines for compliance with the technical criteria of Objective 1

In order to comply with the energy efficiency criteria, several tools have been identified, the most important of which are:

The **ECAM Tool** (Energy Performance and Carbon Emissions Assessment and Monitoring tool), the latest version of which is dated 2022, enables water and wastewater utilities to:

- Assess GHG emissions
- Assess energy performance
- Identify opportunities to reduce CO_2 emissions and electricity costs
- Develop scenarios and model the effects of reduction measures
- Monitor and report GHG emissions

Figure 23. Results of the ECAM Tool.



[109] Nicolás Martínez Cebrián. University of Alcalá de Henares (2019). Energy consumption for water purification in Spain. https://ebuah.uah.es/dspace/handle/10017/41898

Source: ECAM 3.0 Factsheet

The **Energy Use Assessment Tool** of the US Environmental Protection Agency (US EPA) for assessing energy efficiency, which was last updated in 2010.

On the other hand, the **PNE-FprCEN/TR 17614** Standard method for assessing and improving the energy efficiency of wastewater treatment plants, which is still in **draft form** and whose international equivalence is CEN/TR 17614:2021, provides a **methodology** that aims to describe, in a systematic way, the various steps necessary to establish the Water Treatment Energy Index (WTEI) of a particular WWTP.

The methodology includes the classification of WWTPs into different types, the identification of the different treatment stages and key performance indicators, the overview of existing energy monitoring standards and the detailed description of the methodology, including guidance on how to apply and implement it.

This methodology is based on the results of the ENERWATER project. One of the results of the project is the **ENERWATER tool,** which provides a standard method and an online tool to assess and improve the energy efficiency of wastewater treatment plants. This tool is mentioned in a European Commission Recommendation[110] on the "energy efficiency first" principle. However, the only link identified to access this tool is the following link (https://enerwater-h2020.wtelecom.es/), which requires a username and password. It is unknown whether it is available to the public.

Likewise, both the Environmental Protection Agency (EPA) and the International Water Agency (IWA) have various documents on energy efficiency in the water sector. And, in the case of the IWA, a recent publication on on GHG quantification in the water sector.

As for the tools available for the quantification of GHG emissions, in addition to the **ECAM Tool**, which has also been designed for water and sanitation systems to assess greenhouse gas emissions, other tools have been identified such as the **calculator developed by the Oficina Catalana del Camvi Climatic** (https://canviclimatic.gencat.cat/en/actua/calculadora_demissions/) in 2022 and a tool for calculating the carbon footprint of wastewater treatment facilities (https://va-tekniksodra.se/klimatpaverkan-berakningsverktyg/), developed by a Swedish organisation, which was last updated in 2021.

References

In relation to the criteria for reducing energy consumption:

Legal provisions

- CEN/TR 17614:2021 Standard method for assessing and improving the energy efficiency of waste water treatment plants https://standards.iteh.ai/catalog/standards/cen/87e2ec3b-4ac2-4943-9a19-047a0a42f32e/cen-tr-17614-2021

Guides and/or manuals

- ECAM resources: (fact sheets, methodological guides, roadmaps, case studies, etc.)
  - https://dev.climatesmartwater.org/ecam/
  - https://climatesmartwater.org/resource_type/guidelines/page/5/
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  - Energy Use Assessments at Water and Wastewater Systems Guide

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[110] COMMISSION RECOMMENDATION (EU) 2021/1749 of 28 September 2021 on Energy Efficiency First: from principles to practice - Guidelines and examples for application in energy decision-making and beyond https://www.boe.es/doue/2021/350/L00009-00059.pdf

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- CORDIS EU RESEARCH RESULTS. Standard method and online tool for assessing and improving the energy efficiency of wastewater treatment plants https://cordis.europa.eu/project/id/649819

Other documents

- Commission Recommendation (EU) 2021/1749 of 28 September 2021 on Energy Efficiency First: from principles to practice — Guidelines and examples for its implementation in decision-making in the energy sector and beyond. https://www.boe.es/doue/2021/350/L00009-00059.pdf

In relation to the assessment of GHG emissions:

Guides and/or manuals

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- ECAM resources: (information sheets, methodological guides, roadmaps, case studies, etc.) https://dev.climatesmartwater.org/ecam/

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- IWA Publishing Pathways to Water Sector Decarbonization, Carbon Capture and Utilization (2022) Pathways to Water Sector Decarbonization, Carbon Capture and Utilization (2022) Pathways to Water Sector Decarbonization, Carbon Capture and Utilization | IWA Publishing
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- Caculadora Oficina Catalana del Canvi Climatic. (2022). https://canviclimatic.gencat.cat/en/actua/calculadora_demissions/
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Technical documents

- EUREAU. Europe's Water in Figures An overview of the European drinking water and waste water sectors 2021 edition https://www.eureau.org/resources/publications/eureau-publications/5824-europe-s-water-in-figures-2021/file
- UNESCO, UN-Water, 2020: The United Nations world water development report 2020: water and climate change. https://unesdoc.unesco.org/ark:/48223/pf0000372985
- EurEau (2019). Briefing note. Reducing the Energy Footprint of the Water Sector Possibilities, Success Stories and Bottlenecks https://www.eureau.org/resources/briefing-notes/3890-briefing-note-on-reducing-the-energy-footprint-of-water-sector/file
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- IDAE (2010). Estudio de Prospectiva Consumo Energético en el sector del agua. https://www.idae.es/uploads/documentos/documentos_Estudio_de_prospectiva_Consumo_Energetico_en_el_sector_del_agua_2010_020f8db6.pdf

5.4.1.5 Collection and transport of non-hazardous waste in source segregated fractions (5.5)

Economic activities covered
Separate collection and transport of non-hazardous waste in single or comingled fractions aimed at preparing for reuse or recycling.
Technical criteria for substantial contribution (SC) to Objective 1
The only substantial contribution criterion established is that all separately collected and transported non-hazardous waste that is segregated at source be intended for preparation for reuse or recycling operations.
Guidelines for compliance with the technical criteria of Objective 1
Compliance with this criterion is in line with the precepts established in Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular [111], which requires in several of its articles the obligation that waste be collected separately and not mixed with other waste or other materials with different properties, as well as prioritising preparation for reuse and recycling.

[111] https://www.boe.es/buscar/act.php?id=BOE-A-2022-5809

References

Legal provisions

- Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular. https://www.boe.es/buscar/act.php?id=BOE-A-2022-5809

Guides and/or manuals

- Ministerio de Medio Ambiente, Medio Rural y Marino y Agencia de Ecología Urbana de Barcelona. 2013. "Guía de Recogida Selectiva y Gestión de la Fracción Orgánica de los Residuos Urbanos". https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/publicaciones/GUIA_MO_DEF_tcm30-185554.pdf
- Estrategia de Gestión Sostenible de los residuos de la Comunidad de Madrid 2017-2024 https://www.comunidad.madrid/sites/default/files/anexo_5.3._estrategia_de_gestion_sostenible_de_los_residuos_de_la_comunidad_de_madrid.pdf

5.4.1.6 Anaerobic digestion of sewage sludge (5.6)

Economic activities covered

Construction and operation of facilities for the treatment of sewage sludge by anaerobic digestion with the resulting production and utilisation of biogas or chemicals.

Anaerobic digestion of sewage sludge produces a source of bioenergy in the form of biogas, which can be used to produce electricity and heat and can supply 30-70 % of the energy needs of wastewater treatment.

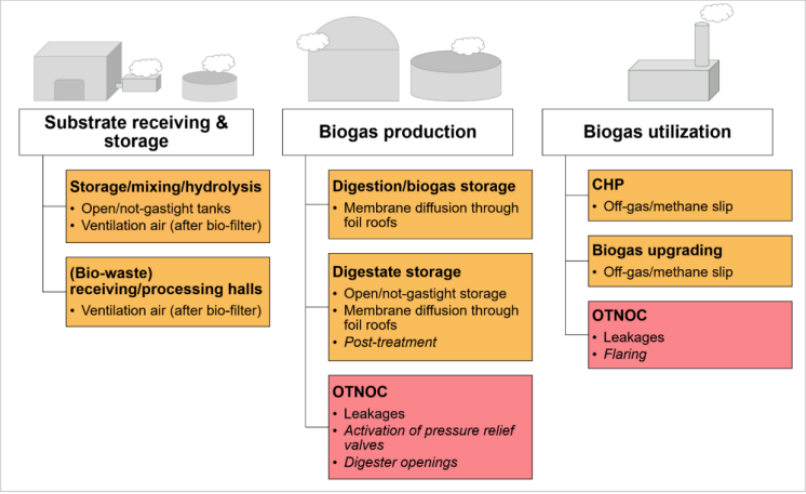
Technical criteria for substantial contribution (SC) to Objective 1

The technical criteria for substantial contribution to Objective 1 are based on controlling methane leakage from the facility and ensuring that produced biogas is used directly for the generation of electricity or heat or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel or as feedstock in chemical industry.

Guidelines for compliance with the technical criteria of Objective 1

With regard to methane leakage, the IPCC Guidelines (2006) state that CH_4 emissions from anaerobic digestion plants due to unintentional leakage during the process or other unexpected events are generally between 0 and 10% of the amount of methane generated and that a default value of 5% can be assumed in the absence of data.

Figure 24. Potential sources of methane emissions from a biogas production facility.



CHP: combined heat and power, **OTNOC:** other than normal operating conditions

Source: ERA-NET Bioenergy Thematic Online Seminar "Highlighting innovative bioenergy research" 18.01.2022

Although no standard has been identified that establishes the minimum content of a monitoring and contingency plan to minimise methane leakage in anaerobic digestion facilities, the industry is aware of the importance of minimising methane leakage.

For this reason, various associations such as the EBA (European Biogas Association) and the IEA (International Energy Agency) have developed various guides and documents that can be used as a reference to comply with this criterion. Likewise, the UK Environment Agency has published a proposal for a guide that establishes the minimum content for a LDAR programme in anaerobic digestion facilities, based on two technical documents that develop a methodology for measuring methane leakage.

Finally, the guidelines and recommendations developed by the oil and gas sector under the proposed Regulation on the reduction of methane emissions in the energy sector, which establishes the obligation to submit leakage detection and repair (LDAR) programmes, could be used as a reference.

With regard to the criterion of ensuring that biogas will be used for the different specified uses, Spain is committed to an energy transition that is materialised through the creation of a regulatory and normative framework conducive to the development of renewable energies, self-consumption and new energy vectors, among which biogas is included. Compliance with this criterion must be framed and based on the various legal initiatives that promote its use.

References

In relation to the Monitoring and Contingency Plan to minimise methane leakage:

Legal provisions

- Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02018L2001-20220607
- Real Decreto 376/2022, de 17 de mayo, por el que se regulan los criterios de sostenibilidad y de reducción de las emisiones de gases de efecto invernadero de los biocarburantes, biolíquidos y combustibles de biomasa, así como el sistema de garantías de origen de los gases renovables. https://www.boe.es/buscar/act.php?id=BOE-A-2022-8121

Guides or manuals

- EBA (2020). Minimum requirements for European voluntary systems for self and external inspection of possible methane emissions on biogas and biomethane plants (2020) https://www.europeanbiogas.eu/wp-content/uploads/2020/10/Minimum-requirements-for-European-voluntary-systems.pdf https://www.europeanbiogas.eu/wp-content/uploads/2020/10/Minimum-requirements-for-European-voluntary-systems.pdf
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- Environment Agency UK (2020). Appropriate measures for the biological treatment of waste. https://www.gov.uk/government/consultations/appropriate-measures-for-the-biological-treatment-of-waste.
- IEA Bioenergy. 2017. Methane Emissions from Biogas Plants. Methods for measurement, results and effect on greenhouse gas balance of electricity produced https://www.ieabioenergy.com/wp-content/uploads/2018/01/Methane-Emission_web_end_small.pdf
- Ricardo Energy&Environment (2017). Methodology to Assess Methane Leakage from AD Plants. Part I. Report on proposed categorisation of AD plants and literature of methane monitoring technologies. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/786756/Methodology_to_Assess_Methane_Leakage_from_AD_Plants_final_report_part1.pdf
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- International Environment Agency (IEA). IEA Bioenergy Task 37. 2017. Methane emissions from biogas plants. Methods for measurement, results and effect on greenhouse gas balance of electricity produced. https://www.ieabioenergy.com/wp-content/uploads/2018/01/Methane-Emission_web_end_small.pdf
- International Environment Agency (IEA). IEA Bioenergy Task 37. 2013. Process monitoring in biogas plants. https://www.ieabioenergy.com/wp-content/uploads/2013/12/Technical-Brochure-process_montoring.pdf

Technical documents

- Semra Bakkaloglu, Jasmin Cooper, Adam Hawkes, Methane emissions along biomethane and biogas supply chains are underestimated, One Earth, Volume 5, Issue 6,2022, Pages 724-736,ISSN 2590-3322, https://doi.org/10.1016/j.oneear.2022.05.012

In relation to the uses of biogas:

Legal provisions

- Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:4372645
- Real Decreto 376/2022, de 17 de mayo, por el que se regulan los criterios de sostenibilidad y de reducción de las emisiones de gases de efecto invernadero de los biocarburantes, biolíquidos y

combustibles de biomasa, así como el sistema de garantías de origen de los gases renovables https://www.boe.es/buscar/act.php?id=BOE-A-2022-8121

- Real Decreto-ley 18/2022, de 18 de octubre, por el que se aprueban medidas de refuerzo de la protección de los consumidores de energía y de contribución a la reducción del consumo de gas natural en aplicación del "Plan + seguridad para tu energía (+SE)", así como medidas en materia de retribuciones del personal al servicio del sector público y de protección de las personas trabajadoras agrarias eventuales afectadas por la sequía. https://www.boe.es/buscar/act.php?id=BOE-A-2022-17040
- Real Decreto-ley 17/2022, de 20 de septiembre, por el que se adoptan medidas urgentes en el ámbito de la energía, en la aplicación del régimen retributivo a las instalaciones de cogeneración y se reduce temporalmente el tipo del Impuesto sobre el Valor Añadido aplicable a las entregas, importaciones y adquisiciones intracomunitarias de determinados combustibles. https://www.boe.es/buscar/act.php?id=BOE-A-2022-15354
- Real Decreto-ley 14/2022, de 1 de agosto, de medidas de sostenibilidad económica en el ámbito del transporte, en materia de becas y ayudas al estudio, así como de medidas de ahorro, eficiencia energética y de reducción de la dependencia energética del gas natural. https://www.boe.es/buscar/act.php?id=BOE-A-2022-12925
- Real Decreto-ley 6/2022, de 29 de marzo, por el que se adoptan medidas urgentes en el marco del Plan Nacional de respuesta a las consecuencias económicas y sociales de la guerra en Ucrania. https://www.boe.es/buscar/act.php?id=BOE-A-2022-4972
- Ley 7/2021, de 20 de mayo, de cambio climático y transición energética. https://www.boe.es/buscar/act.php?id=BOE-A-2021-8447
- Real Decreto 413/2014, de 6 de junio, por el que se regula la actividad de producción de energía eléctrica a partir de fuentes de energía renovables, cogeneración y residuos. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2014-6123

Reference documents

- Gobierno de España. 2022. Plan + Seguridad Energética. https://www.miteco.gob.es/es/ministerio/planes-estrategias/seguridad-energetica/221011_planse_octubre2022_tcm30-546389.pdf
- Plan Nacional Integrado de Energía y Clima 2021-2030 (PNIEC) https://www.miteco.gob.es/images/es/pnieccompleto_tcm30-508410.pdf
- Plan de choque de ahorro y gestión energética en climatización https://www.boe.es/buscar/doc.php?id=BOE-A-2022-12925

Websites

- Registro administrativo de instalaciones de producción de energía eléctrica (PRETOR) del Ministerio para la Transición Ecológica y el Reto Demográfico https://energia.gob.es/electricidad/energias-renovables/Paginas/registro-administrativo.aspx
- Boletín Estadístico del gas https://www.enagas.es/es/gestion-tecnica-sistema/energy-data/publicaciones/boletin-estadistico-gas/

5.4.1.7 Anaerobic digestion of bio-waste (5.7)

Economic activities covered
Construction and operation of dedicated facilities for the treatment of separately collected bio-waste through anaerobic digestion with the resulting production and utilisation of biogas and digestate and/or chemicals.
Technical criteria for substantial contribution (SC) to Objective 1
The technical criteria for substantial contribution to Objective 1 for this activity relate to the control of methane leakage that may occur at the facility and to ensuring that the produced biogas is used directly for the generation of electricity or heat, injected into the grid or used as fuel or feedstock in industry, similar to those established for economic activity 5.6 (Anaerobic digestion of sewage sludge). In addition, criteria are also established regarding the separation at source of bio-waste for digestion, as well as the subsequent use of the produced digestate, either directly as fertiliser or soil improver or after composting or any other treatment.
Guidelines for compliance with the technical criteria of Objective 1
The guidelines for compliance with some of the criteria coincide with the proposals presented for activity 5.7. For the rest of the substantial contribution criteria, reference should be made to the legal requirements set out in Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular on the separation of bio-waste at source, as well as the criteria set out in Regulation 2019/1009 of 5 June on fertiliser products to enable the use of digestate as a component material of an EU fertiliser product.

References

In relation to the Monitoring and Contingency Plan to minimise methane leakage:

See section references 5.4.1.6.

In relation to the uses of biogas:

See section references 5.4.1.6.

Regarding the use of biowaste for anaerobic digestion:

Legal provisions

- Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast version) (Text with EEA relevance) https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32020L2184&from=ES
- Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular. https://www.boe.es/buscar/act.php?id=BOE-A-2022-5809

Guides and/or manuals

- Ministerio de Medio Ambiente, Medio Rural y Marino y Agencia de Ecología Urbana de Barcelona. 2013. "Guía de Recogida Selectiva y Gestión de la Fracción Orgánica de los Residuos Urbanos". https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/publicaciones/GUIA_MO_DEF_tcm30-185554.pdf
- Estrategia de Gestión Sostenible de los residuos de la Comunidad de Madrid 2017-2024 https://www.comunidad.madrid/sites/default/files/anexo_5.3._estrategia_de_gestion_sostenible_de_los_residuos_de_la_comunidad_de_madrid.pdf

Technical documents

- IEA Bioenergy Task 47. 2018. The role of anaerobic digestion and biogas in the circular economy. https://www.ieabioenergy.com/wp-content/uploads/2018/08/anaerobic-digestion_web_END.pdf

In relation to the uses of the digestate produced:

Legal provisions

- Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular. https://www.boe.es/buscar/act.php?id=BOE-A-2022-5809
- Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02019R1009-20220716&from=EN
- Real Decreto 506/2013, de 28 de junio, sobre productos fertilizantes. https://www.boe.es/buscar/act.php?id=BOE-A-2013-7540

5.4.1.8 Composting of bio-waste (5.8)

Economic activities covered

Construction and operation of dedicated facilities for the treatment of separately collected bio-waste through composting (aerobic digestion) with the resulting production and utilisation of compost.

Technical criteria for substantial contribution (SC) to Objective 1

The technical criteria for substantial contribution to Objective 1 consist of source separation and separate collection of bio-waste and the criteria that the compost produced must meet to be used as fertiliser or soil improver under EU fertiliser product regulation (Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.).

Guidelines for compliance with the technical criteria of Objective 1

The guidelines for compliance with the criteria are based on compliance with the legal requirements established in Law 7/2022, regarding the separate collection of bio-waste, as well as those established in Regulation 2019/1009, of 5 June, on EU fertiliser products in order to be able to use the compost obtained in this activity as fertiliser (category CMC3).

References

Regarding the separate collection of bio-waste:

Legal provisions

- Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular. https://www.boe.es/buscar/act.php?id=BOE-A-2022-5809

Guides and/or manuals

- Ministerio de Medio Ambiente, Medio Rural y Marino y Agencia de Ecología Urbana de Barcelona. 2013. "Guía de Recogida Selectiva y Gestión de la Fracción Orgánica de los Residuos Urbanos". https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/publicaciones/GUIA_MO_DEF_tcm30-185554.pdf
- Estrategia de Gestión Sostenible de los residuos de la Comunidad de Madrid 2017-2024 https://www.comunidad.madrid/sites/default/files/anexo_5.3._estrategia_de_gestion_sostenible_de_los_residuos_de_la_comunidad_de_madrid.pdf

Regarding the use of the compost produced:

Legal provisions

- Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003 (Text with EEA relevance)Text with EEA relevance. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02019R1009-20220716
- Real Decreto 506/2013, de 28 de junio, sobre productos fertilizantes. https://www.boe.es/buscar/act.php?id=BOE-A-2013-7540

5.4.2 Criteria for substantial contribution to Objective 2

The technical screening criteria for substantial contribution to Objective 2 are set out in Annex II of the Climate Delegated Act. As mentioned earlier, technical criteria for this objective have also been set out in the PSF Recommendations Report and are identical in both documents.

This is why the compliance guidelines are valid for all economic activities considered in this study (both water cycle and water-related). A summary of the criteria and guidelines reflected in this factsheet are presented in section 5.4.2.1 below.

The PSF Recommendations Report proposes new activities eligible for contribution to Objective 2 in addition to those identified in the Climate Delegated Act, and specific guidelines have been developed and are presented in the following sections. 5.4.2.2 to 5.4.2.5.

5.4.2.1 Compliance guidelines for SC2 for all economic activities

According to the European Commission[112], this criterion is proposed on the assumption that climate change will affect the whole economy. It is therefore a requirement that all economic activities must meet in order to achieve alignment with the taxonomy.

Both the criteria for substantial contribution to climate change adaptation and the DNSH requirements for adaptation (as set out in the delegated act and the PSF recommendation reports) are similar and qualitative in nature. These selection criteria are based on the **development of a climate risk and vulnerability assessment**, as well as on the demonstration that the necessary adaptation solutions to avoid or reduce these risks have been implemented (substantial contribution criterion) or at least planned (DNSH criterion).

Despite the fact that a priori it might seem that the criteria of substantial contribution to adaptation and the criteria of no significant harm to adaptation have a certain similarity, the substantial contribution criteria are more ambitious, as the European Commission itself makes clear.[112]

[112] COMMISSION STAFF WORKING DOCUMENT. IMPACT ASSESSMENT REPORT. Accompanying the document Commission Delegated Regulation (EU) .../...supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. Final https://eurlex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0152&from=EN

The criteria for substantial contribution to adaptation require the economic activity **to have already implemented** physical and non-physical **adaptation solutions** that reduce the most important physical climate risks that are material to that activity.

On the other hand, the DNSH criteria for adaptation only require a climate risk assessment and a plan to implement adaptations solutions (with a requirement for implementation within 5 years in the case of activities upgrading or altering existing physical assets or processes).

In addition, the criteria for substantial contribution include a number of **additional requirements that the DNSH criteria for climate change adaptation** do not include:

a) preference is given to green solutions;

b) monitoring and remedial actions,

c) physical adaptation solutions comply with DNSH technical screening criteria for those activities, if established.

The main reference for carrying out these climate vulnerability and risk assessments is the **Commission's Communication: Technical guidance on the climate proofing of infrastructure in the period 2021-2027 (2021/C 373/01**)[113].

This Communication mentions **ISO 14091. Adaptation to climate change - Guidelines on vulnerability, impacts and risk assessment.** This standard gives guidelines for assessing the risks related to the potential impacts of climate change. It describes how to understand vulnerability and how to develop and implement a sound risk assessment in the context of climate change.

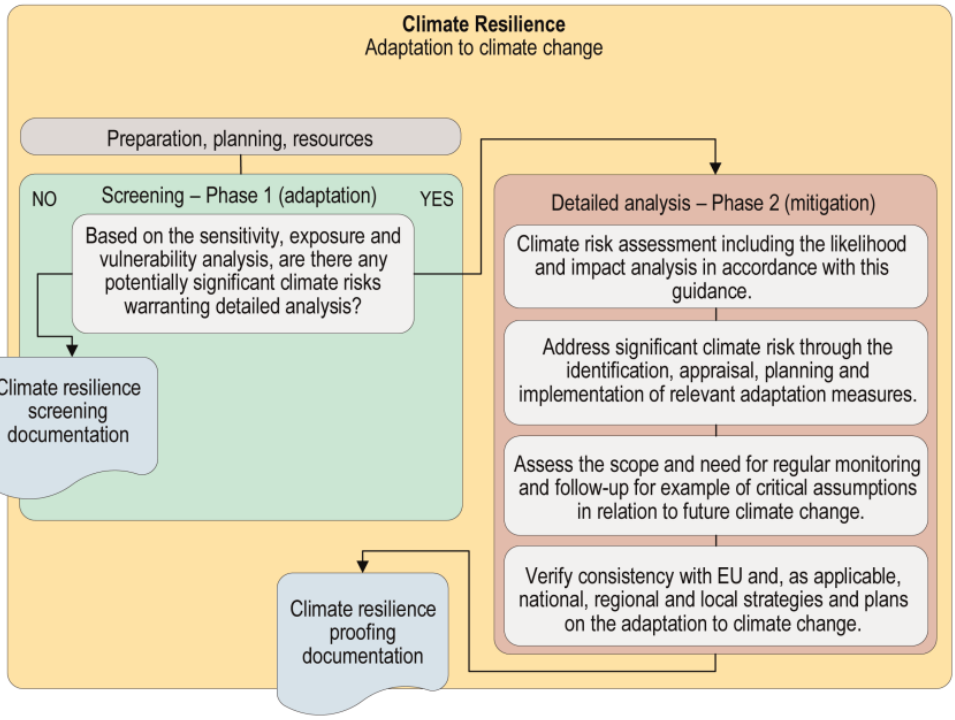
According to this Communication, the climate risk assessment process consists of two phases: the first phase is the vulnerability analysis (identification of potential climate hazards based on a sensitivity and exposure analysis), and the second phase is the risk assessment, which combines the assessment of the likelihood and severity of the impacts associated with the hazards identified in the vulnerability assessment.

[113] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021XC0916(03)&from=EN

The objective of this Communication is to provide technical guidance on climate proofing of infrastructure for the programming period 2021-2027. Article 8(6) of Regulation (EU) 2021/523 of the European Parliament and of the Council (InvestEU Regulation) requires the Commission to develop sustainability guidelines. Regulation (EU) 2021/1153 of the European Parliament and of the Council (CEF Regulation) also provides for Commission guidance on climate proofing of infrastructure projects, consistent with any guidance it has developed for other Union programmes.

The guidance is also considered a relevant reference for climate proofing of infrastructure under Articles 2(37) and 67(3)(j) of Regulation (EU) 2021/1060 of the European Parliament and of the Council [Common Provisions Regulation (CPR)], as well as under the Resilience and Recovery Mechanism.

Figure 25. Summary of the process of climate change adaptation[114].



Source: EC Communication, 2021/C 373/01

The Communication also refers to a 2018 study, **Adaptation to climate change of major infrastructure projects**[115] undertaken by DG REGIO, which compiles documents related to climate change, vulnerability and risk analysis and reviews the resources currently available in Spain to adapt to the impacts of climate change.

Among the resources mentioned, the **European platform Climate-Adapt**[116] and **the Spanish platform AdapteCCa**[117] are noteworthy**.**

It is also worth mentioning various organisations that offer quantitative data necessary to carry out these analyses (IPCC website, AEMET, Instituto Español de Oceanografía, Puertos del Estado, etc.), methodologies for integrating adaptation to climate change into project development, such as the virtual tool **MEDIATION Toolbox**[118], tools such as map viewers and water resource management tools, and various reference documents, including the study The Basics of Climate Change Adaptation Vulnerability and Risk Assessment[119], which aims to advise on the basic principles of a vulnerability assessment and climate risk analysis.

In addition, two guides are recommended:

[114] Erratum in the graph: Detailed analysis Phase 2 (adaptation)

[115] https://climate-adapt.eea.europa.eu/en/metadata/publications/climate-change-adaptation-of-major-infrastructure-projects

[116] http://climate-adapt.eea.europa.eu/

[117] AdapteCCa is a joint initiative of the Spanish Office for Climate Change and the Biodiversity Foundation, both part of the Ministry for Ecological Transition and the Demographic Challenge. https://adaptecca.es/que-es-adaptecca

[118] MEDIATION Toolbox. https://climate-adapt.eea.europa.eu/en/metadata/tools/mediation-toolbox

[119] Joint Assistance in Supporting Projects in European Regions (JASPERS) Guidance Note. 2017. The Basics of Climate Change Adaptation Vulnerability and Risk Assessment. http://www.jaspersnetwork.org/plugins/servlet/documentRepository/displayDocumentDetails?documentId=381

- Newly published German Guidance[120] (November 2022), which contains recommendations for carrying out a "climate risk and vulnerability assessment" in accordance with the requirements of the Climate Delegated Act of the taxonomy.
- IHOBE's Guide for the development of climate change adaptation plans for organisations (2019) and a tool in Excel format[121], which aims to support organisations in the analysis of their climate risks, as well as in the prioritisation of adaptation measures to help reduce the consequences of the negative impacts of climate change to which they are exposed.

For the approach based on establishing adaptation solutions, references can be found in the AdapteCCa national adaptation deliverables database[122], the EIONET database[123], and on the Climate-ADAPT website[124] and in various documents consulted.

The following sections present a synthesis of the content of the factsheets associated with each of the economic activities of the water cycle that contribute substantially to Objective 2, according to the Recommendations Report for Objectives 3-6 of the PSF of March 2022 and October 2022.

5.4.2.2 Civil engineering (4.1)

Economic activities covered
The new construction or reconstruction of civil engineering objects which, in the case of activities linked to the water sector, could be waterways, pleasure ports, dams and dykes; and harbour and river works (according to the Recommendations Report for Objectives 3-6). The aim is to adapt these constructions and infrastructures against climate effects (temperature change, influence of groundwater levels, change in *permafrost*, inland and coastal flooding, increased mechanical and other stresses on inland constructions and coastal flooding) compared to the current situation, which will require sophisticated and integrated water and resource management. In parallel, civil engineering could provide, for example, water infrastructures designed and built to better adapt to the future climate, which would allow the water sector to be better adapted.
Technical criteria for substantial contribution to Objective 2
The technical screening criteria for substantial contribution to Objective 2 for this activity are the same as the technical criteria for substantial contribution to this objective in Annex II of the Climate Delegated Act for all economic activities, which require the economic activity to have already implemented physical climate risk mitigation solutions that are material, in line with the completion of a climate risk and vulnerability assessment.
Guidelines for compliance with the technical criteria of Objective 2
Compliance guidelines and basic references can be found in section 5.4.2.1.
References
See section 5.4.2.1 text references

[120] German Environment Agency. 9 November 2022. How to perform a robust climate risk and vulnerability assessment for EU taxonomy reporting - Recommendations for companies - Final draft https://www.umweltbundesamt.de/sites/default/files/medien/2666/dokumente/climate-risk-assessments-for-taxonomy-reporting_final_bf_221122.pdf

[121] A guide to developing climate change adaptation plans for organisations. https://www.ihobe.eus/publicaciones/guia-para-elaboracion-planes-adaptacion-al-cambio-climatico-para-organizaciones

[122] What is AdapteCCa | Platform on Adaptation to Climate Change in Spain?

[123] Eionet Reporting Obligations Database (ROD). https://rod.eionet.europa.eu/obligations/703/deliveries

[124] Climate ADAPT. https://climate-adapt.eea.europa.eu/

5.4.2.3 Flood risk prevention and protection infrastructure for inland river, coastal and urban floods (6.8)

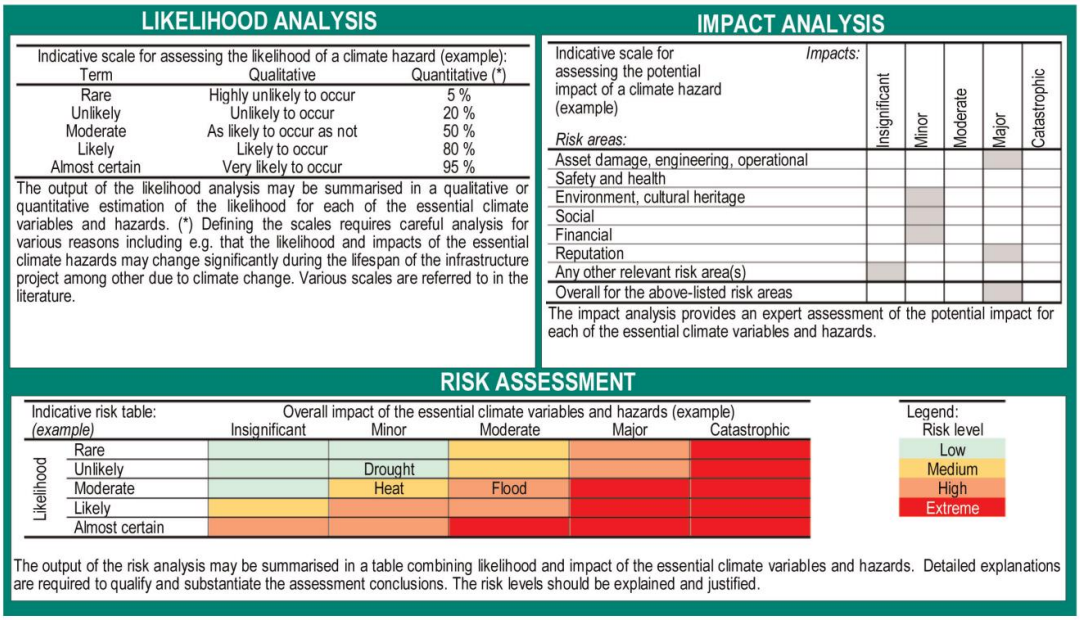
Economic activities covered

The activity refers to structural[125] (civil engineering structures) and non-structural[126] (not involving civil engineering structures) measures aiming at prevention and protection of people, ecosystems and infrastructure against river floods, floods from the seas in the coastal areas and pluvial floods in the context of the floods directive. It includes construction (new), extension, rehabilitation, upgrade and operation of the activity.

Technical criteria for substantial contribution (SC) to Objective 2

The technical screening criteria for substantial contribution to Objective 2 for this activity are the same as the technical criteria for substantial contribution to this objective in Annex II of the Climate Delegated Act for all economic activities, which require the economic activity to have already implemented physical climate risk mitigation solutions that are material, in line with the completion of a climate risk and vulnerability assessment.

Figure 26. Summary of the climate risk assessment.



Source: Communication from the Commission (2021/C 373/01).

Guidelines for compliance with the technical criteria of Objective 2

Compliance guidelines and references can be found in section 5.4.2.1.

References

See section 5.4.2.1 text references.

[125] Dikes, river embankments; sea defence dykes, storm barriers, seawalls, jetties and breakwaters; water retention (off-line) reservoirs for flood control; sustainable urban drainage systems (SUDs); upper catchment source control; hydraulic structures to regulate water flow, such as pumping stations, sluices, gates, etc.; sediment control structures along rivers or in deltas.

[126] Flood awareness campaigns; flood modelling and forecasting, flood hazard and risk mapping; flood regulations that take into account spatial planning (where to build) and building codes (how to build) in flood early warning systems.

5.4.2.4 Restoration of ecosystems (8.3)

Economic activities covered
It includes restoration in natural, semi-natural and urban contexts and/or in relation to private or public infrastructure, primary production, industrial production, commercial activities or other services as long as they serve a restoration objective as described above. This activity provides ecosystem services that increase the resilience of the restored ecosystem itself and of the economic activities for which it is an enabling activity. The activity excludes wetland restoration, which is covered by a separate economic activity (2.1 Restoration of wetlands) in Annex II of the Climate Delegated Act.
Technical criteria for substantial contribution (SC) to Objective 2
The technical screening criteria for substantial contribution to Objective 2 for this activity are the same as the technical criteria for substantial contribution to this objective in Annex II of the Climate Delegated Act for all economic activities, which require the economic activity to have already implemented physical climate risk mitigation solutions that are material, in line with the completion of a climate risk and vulnerability assessment.
Guidelines for compliance with the technical criteria of Objective 2
Compliance guidelines and references can be found in section 5.4.2.1.
References
See section 5.4.2.1 text references.

5.4.2.5 Desalination

Economic activities covered
The activity covers the construction and operation of desalination plants where the desalination process takes place in order to produce water to be distributed in drinking water supply systems where the water resources are or will be impacted by the effects of climate change, thus enabling the activity "Water Supply". Desalination plants usually include abstraction, pre-treatment (e.g. designed to remove contaminants, scale formation or membrane fouling), treatment (e.g. reverse osmosis, or 'RO'), post-treatment (disinfection and conditioning) and storage of processed water. Finally, the activity covers the disposal of brine (reject water), which usually is accomplished by means of deep sea pipes or outflows providing sufficient dilution. For plants located on more inland sites (such as for brackish water desalination), brine discharge techniques may differ. Increasingly, desalination plants are complemented with facilities for renewable energy generation such as photovoltaic plants or wind turbines, in order to attenuate the energy demand from the grid thus lowering the carbon footprint of the activity. However, their contribution to the total energy consumption still remains low. These facilities are also considered part of the activity when the purpose of power generation is to supply the plant. The distribution of the desalinated water is excluded in this activity as it is covered by the activity «Water Supply», which is part of activity 9.1, and which is developed in section 5.4.4.3.
Technical criteria for substantial contribution (SC) to Objective 2
Criteria for substantial contribution to adaptation require the economic activity to have already implemented physical climate risk mitigation solutions that are material, based on the completion of a climate risk and vulnerability assessment.
Guidelines for compliance with the technical criteria of Objective 2
Compliance guidelines and references can be found in section 5.4.2.1.
References
See section 5.4.2.1 text references.

5.4.3 Criteria for compliance with the DNSH principle for Objectives 1 and 2

The concept of "do no significant harm" is to be understood according to Article 17 of the Taxonomy Regulation (TR), which defines what constitutes "significant harm" for each of the six environmental objectives, as laid out in the following sub-sections.

In defining this concept, the Regulation takes into account "*the life cycle of the products and services provided by an economic activity, including evidence from existing life-cycle assessments*" (Art. 17.1 TR).

It should be noted that Art. 17.2 TR also clearly states that in assessing whether an economic activity does not cause significant harm, the following must be taken into account:

"both the environmental impact of the activity itself and the environmental impact of the products and services provided by that activity throughout their life cycle shall be taken into account, in particular by considering the production, use and end of life of those products and services".

In line with the recommendations of the European Commission, the technical screening criteria for determining whether an economic activity does not cause significant harm to any of the environmental objectives should be based, where appropriate: on existing EU legislation, best practice, officially adopted standards and methodologies or, in their absence, developed by public bodies of international standing.

Where objectively no viable alternatives in relation to a specific policy area, the technical screening criteria could also be based on well-established standards developed by internationally recognised private bodies[127].

The DNSH criteria set out in the Climate Delegated Act for both Objectives 1 and 2 are similar, as summarised in Table 5.

Table 5. Summary of DNSH criteria for full water cycle activities (objectives 1 and 2 of the TR and objective 2 of the PSF Recommendations Report).

DNSH	Activities	Summary of criteria
1	4.5. Hydropower 4.19 Cogeneration	Direct greenhouse gas emissions <270 gCO_2 e/kWh.
	4.1 Civil engineering 8.3. Restoration of ecosystems 9.2. Desalination	4.1. The constructed asset is not associated with fossil fuels. 8.3. The activity does not involve degradation of terrestrial, marine and inland freshwaters with high carbon stocks. 9.2. High GHG emission performance.
2	All type A activities	Appendix A to Annex I of the Climate Delegated Act. Climate risk assessment and a plan to implement adaptation solutions (with a requirement for implementation within 5 years for activities that improve or modify existing assets or processes).
3	All type A activities, except: 5.5. Collection and transport of non-hazardous waste and, 5.8. Composting of bio-waste	Appendix B to Annexes I and II of the Climate Delegated Act. Risks of environmental degradation related to the preservation of water quality and the prevention of water stress are identified and addressed with the aim of achieving good ecological status and good ecological potential of water bodies.
	4.1 Civil engineering	Specific requirements related to water footprint, land use changes in civil engineering works and their effect on parameters such as infiltration and evapotranspiration.
	6.8. Flood risk prevention and protection infrastructures for inland river, coastal and urban floods. 8.3. Restoration of ecosystems	Identification and consideration of risks of environmental degradation of water quality and prevention of water stress.
	9.2. Desalination	The desalination plant is included in a water management plan and/or a drought management plan; assessment of water impacts generated by brine discharge; identify and address risks of environmental degradation for the preservation of the marine environment; environmental impact assessment.
4	5.5. Collection and transport of non-hazardous waste	Separate waste collection.

[127]IHOBE-Basque Ecodesign Center (2022). Methodological Guide for the application of the Taxonomy Regulation. https://www.ihobe.eus/publicaciones/guia-para-aplicacion-taxonomia-europea-para-finanzas-sostenibles

DNSH	Activities	Summary of criteria
	4.1. Civil engineering. 6.8. Flood risk prevention and protection infrastructures for inland river, coastal and urban floods.	Waste management measures for different types of waste in accordance with the waste hierarchy of the Framework Directive, and specific requirements for construction and demolition waste, in terms of the required recycling percentage.
5	4.19. Cogeneration. 5.3/5.4. Wastewater treatment. 5.6. Anaerobic digestion of sewage sludge 5.7. Anaerobic digestion of bio-waste 5.8. Composting of bio-waste	Appendix C of Annexes I and II of the Climate Delegated Act (concerning the control of hazardous substances and substances that may harm human health or the environment, regulated under various European regulations, as well as compliance with the REACH Regulation[128]) and specific DNSH criteria: 4.19. Compliance with maximum emission levels according to Best Available Techniques (BAT) in combustion plants. 5.3/5.4. Compliance with waste water directive, measures to prevent overflows in sewage systems, compliance with sludge use regulations in agriculture. 5.6. Compliance with BAT maximum emission levels for waste treatment, anaerobic treatment; nitrogen control in digestate. 5.7. Compliance with emission levels associated with Best Available Techniques for waste treatment if biomethanisation plant capacity > 100 t/day; control of nitrogen in digestate and compliance with digestate requirements (CMC5) of the Fertiliser Products Regulation. 5.8. Compliance with emission levels associated with Best Available Techniques for waste treatment if plant capacity > 75 t/day; leachate control so that it does not reach groundwater and compliance with compost requirements (CMC3) of the Fertiliser Products Regulation.
	4.1. Civil engineering. 6.8. Flood risk prevention and protection infrastructures for inland river, coastal and urban floods. 8.3. Ecosystem restoration.	4.1. Measures to reduce dust, noise and pollutant emissions, control of substances of very high concern, and investigation of pollutants on contaminated construction sites. Asbestos management. Investigation of potential contaminants on contaminated sites 6.8. Measures to prevent and mitigate stormwater overflows. 8.3. Minimisation of pesticide use and Measures to avoid the use of active ingredients.
6	All type A activities	Appendix D to Annexes I and II of the Climate Delegated Act. Conducting an environmental impact assessment (EIA).
	4.1. Civil engineering. 9.2. Desalination 6.8. Flood risk prevention and protection infrastructures for inland river, coastal and urban floods.	1.1. Environmental Impact Assessment for transboundary activities. 4.1 y 9.2. Environmental Integration Plan and a Restoration Plan. 6.8. y 9.2. SEA, EIA, Habitats, Birds, Marine Strategy Framework, Floods and Water Framework Directives. 9.2. Appropriate characterisation of local water conditions and ecosystems and species in order to mitigate potential adverse effects of the brine discharge.

Source: Own elaboration

The following sections present a synthesis of the criteria DNSH2, DNSH3, DNSH5 and DNSH6 for activities contributing to Objectives 1 and 2 (TR) and DNSH1 and DNSH4 for activities contributing to Objective 2 as recommended by the PSF.

5.4.3.1 Objective 1 Climate change mitigation

According to Article 17(1)(a) of the TR, an economic activity causes significant harm:

[128] Regulation (EC) n.º 1907/2006 OF THE European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1907-20140410&from=ES

> *"(a) to climate change mitigation, where that activity leads to significant greenhouse gas emissions".*

The two economic activities of the water cycle contributing to Objectives 1 and 2 (TR) for which a DNSH1 technical screening criterion has been defined, are activity 4.5. Electricity generation from hydropower and activity 4.19. Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels, based on ensuring that a certain threshold of direct greenhouse gas emissions (270 gCO_2 e/kWh) is not exceeded.

The PSF [129] considers that if the activity exceeds this threshold it may cause significant harm, while in order to provide a significant contribution to the mitigation target, it should operate below 100 gCO_2 e/kWh (see section 5.4.1.1).

In order to comply with this criterion, the proposed compliance guidance for both economic activities for the substantial contribution to Objective 1 can be consulted, which includes tools for conducting GHG emission assessments and various background documentation.

In the case of activities 4.1 Civil Engineering, 9.2. Desalination and 8.3. Restoration of ecosystems, which contribute to Objective 2 (PSF recommendations), the criteria are based on:

- on the one hand, that economic activities do not involve the degradation of land, marine and inland freshwaters with high carbon stocks or that civil engineering structures are not related to fossil fuels (both criteria are directly applicable) and,
- on the other hand, in controlling GHG emissions in certain activities, such as desalination. In this case, in order to comply with these criteria, the factsheet presents a series of tools for calculating the carbon footprint in the water sector that could be applicable to desalination plants.

5.4.3.2 Objective 2 Climate change adaptation

According to Article 17(1)(b) of the TR, an economic activity causes significant harm:

> *"(b) to climate change adaptation, where that activity leads to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature or assets ".*

As discussed above, although the DNSH criteria for adaptation bear some similarity to the substantial contribution criteria for this objective, the DNSH criteria for adaptation are less ambitious than the substantial contribution criterion.

The DNSH criteria require a climate risk assessment and a plan to implement adaptation solutions (with a requirement for implementation within 5 years for activities that improve or modify existing assets or processes), in contrast to the substantial contribution criteria, which require that adaptation solutions that reduce these risks be already implemented.

Since the DNSH criteria are related to the substantial contribution to climate change adaptation criteria, based on carrying out climate risk assessments as well as on proposing adaptation solutions, the proposed compliance guidelines for the substantial contribution to climate change adaptation criterion reflected in section 5.4.2 are considered applicable.

[129] EU TEG on Sustainable Finance. Taxonomy Report. Technical Annex. March. 2020. https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

5.4.3.3 Objective 3 Sustainable use and protection of water and marine resources

According to Article 17(1)(c) of the TR, an economic activity causes significant harm:

> *"(c) to the sustainable use and protection of water and marine resources, where that activity is detrimental: (i) to the good status or the good ecological potential of bodies of water, including surface water and groundwater; or (ii) to the good environmental status of marine waters".*

In general terms, for activities contributing to Objectives 1 and 2 (TR), River Basin Management Plans (RBMPs) are the key to the compatibility of water uses with the achievement of environmental objectives in water bodies and protected areas and must include consideration of all economic activities carried out in the river basin. Therefore, as a first step, the necessary authorisations and concessions must be in place, as well as determining the water body(ies) from which water is abstracted and to which the final discharge is made. These authorisations and concessions are:

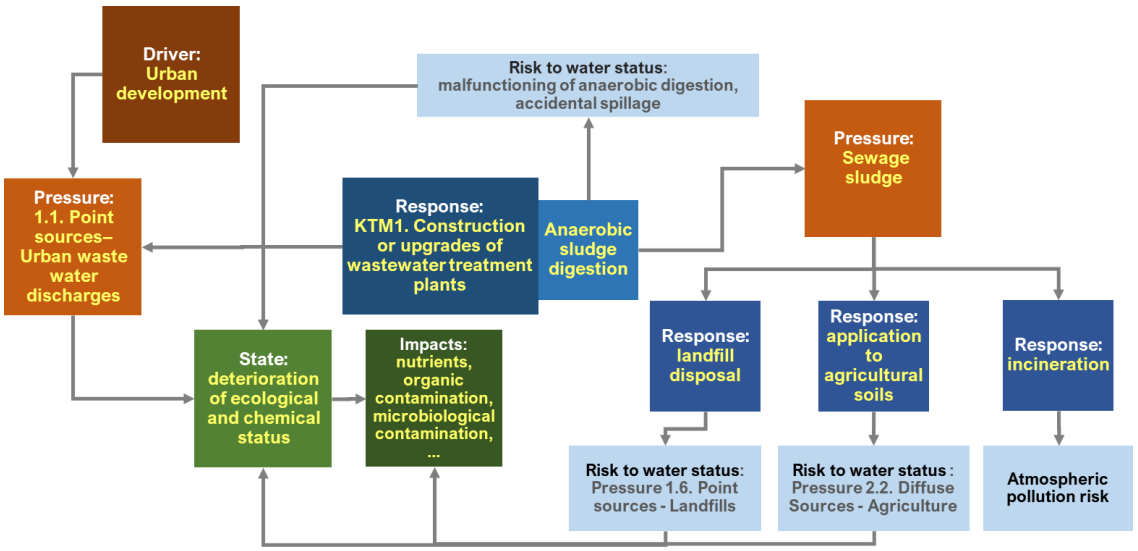
- the titles authorising the use of water: administrative concession, administrative authorisation, registration in the catalogue of private waters, documentation informing of the provision of water supply through a third party,
- authorisations and conditions for discharge into the public water domain or, where appropriate, into a sewerage system.

In addition, the environmental protection or correction measures programmed in the RBMP that involve the economic activity or investment must be identified. In the case that the activity benefits from measures that cause new modifications according to article 4.7 of the Water Framework Directive[130], these must be unequivocally identified and duly justified in the corresponding RBMP.

It seems appropriate to prepare a water use and protection management plan, as specified in the criterion. These plans should ensure the control of the quality of the effluent and the results obtained in terms of compliance with the conditions of the authorisation or any other document justifying the correct and adequate water management. In addition, they shall determine whether priority substances (Directive 2013/39/EU) are stored, produced or transported in the field of water policy.

[130] Water Framework Directive. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02000L0060-20141120&from=EN

Figure 27. Example: Application of the DPSIR conceptual framework for environmental risk assessment of waste water and sewage sludge.



Source: own elaboration

It is suggested that the DPSIR conceptual model (Driver, Pressure, State, Impact and Response) be used to address the diagnosis and ensure that the programmed measures adequately address the identified problems (example of application in Figure 27).

In the event that marine waters could be affected - coastal waters are included in the RBMP - a similar conceptual scheme must be applied in compliance with the Marine Strategy Framework Directive. In any case, no activities of the water cycle with the capacity to affect the marine environment have been identified.

Finally, it should be recalled that, if an environmental impact assessment has already been formalised and the identified risks have been addressed, no additional water impact assessment is required. Otherwise, it is suggested to follow the recommendations made by the Subdirectorate General for Environmental Assessment of MITECO.

In the case of economic activities contributing to Objective 2 (PSF recommendations), some issues that have not been addressed so far in any substantial contribution criteria or DNSH are noteworthy.

In particular for activity 4.1. Civil Engineering, firstly, the Water Footprint should be calculated. It is an indicator of freshwater use that takes into account both direct and indirect use by a consumer or producer. In this regard, we can refer to the methodology proposed by the Water Footprint Network and ISO 14.046, which are different and complementary to each other.

Secondly, issues related to changes in land use in civil engineering works are addressed, which may affect soil infiltration and evapotranspiration rates, in addition to the possible impact on the quality and quantity of aquifers water. The flood risk adaptation guides, prepared by the Ministry for Ecological Transition, address these issues and can be useful for assessing compliance with these criteria.

With regard to desalination - which is incorporated as an enabling activity for water supply - the conditions are essentially similar to the generic ones established for Objectives 1 and 2 (identify and address risks of degradation, environmental impact assessment) with some additions, in particular: its inclusion in the hydrological plan arguing that the possibility of meeting the supply by more environmentally favourable means (efficiency improvements or

reuse) has been exhausted; and the development of a specific assessment of the effects of brine discharge.

5.4.3.4 Objective 4 Transition to a circular economy

According to Article 17(1)(d) of the TR, an economic activity causes significant harm:

> "(d) to the circular economy, including waste prevention and recycling, where:
>
> (i) that activity leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources such as non-renewable energy sources, raw materials, water and land at one or more stages of the life cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products;
>
> (ii) that activity leads to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste; or
>
> (iii) the long-term disposal of waste may cause significant and long-term harm to the environment".

The only economic activity of the water cycle contributing to Objectives 1 and 2 (TR) for which a technical screening criterion DNSH4 has been set is activity 5.5. Collection and transport of non-hazardous waste in source segregated fractions, related to ensuring that waste is collected separately and not mixed with other waste.

This criterion is similar to the substantial contribution criterion established for this activity for Objective 1, and only requires compliance with current legislation, i.e. Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular.

In the case of activities contributing to Objective 2 (PSF recommendations), compliance with the DNSH4 criteria is in line with the precepts established in Law 7/2022, which requires in several of its articles the obligation for waste to be collected separately and not to be mixed with other waste or other materials with different properties, as well as prioritising preparation for reuse and recycling.

In the case of activities 4.1 Civil Engineering and 6.8. Flood risk prevention and protection infrastructures for inland rivers, coasts and urban areas, specific mention is made of waste from the construction process, referring to the best available practices in the EU Construction and Demolition Waste Protocol and establishing a minimum percentage of recovery of these materials.

5.4.3.5 Objective 5 Pollution prevention and control

According to Article 17(1)(e) of the TR, an economic activity causes significant harm:

> "(e) to pollution prevention and control, where that activity leads to a significant increase in the emissions of pollutants into air, water or land, as compared with the situation before the activity started."

The technical screening criteria for the DNSH5 principle for the water cycle activities have been classified into three groups.

- On the one hand, several of the activities have criteria relating to compliance with the emission levels associated with the best available techniques, specifically in the control of atmospheric emissions in the combustion plant sector (activity 4.19), and control of emissions to air and water in the waste treatment sector (activities 5.7 and 5.8).

- Specifically for activities 5.3 and 5.4 (wastewater treatment), the DNSH5 criteria are related to compliance with urban wastewater regulations and the establishment of measures to prevent and mitigate stormwater overflows in sanitation systems. Therefore, compliance with this criterion must be framed and based on existing water regulations, as well as on different practical guides that facilitate its interpretation and application.
- Finally, in several of the activities, the DNSH criteria for Objective 5 are related to the transition towards a circular economy, associated with the use of sewage sludge in agriculture (activities 5.3/5.4), the use of digestate and compost, generated after waste treatment, in compliance with European regulations on fertiliser products (activities 5.7 and 5.8).

In the case of activities contributing to Objective 2 (PSF recommendations):

- For activity 4.1. Civil engineering, the DNSH5 criteria are based on defining measures for the reduction of noise, dust and pollutant emissions during construction works, on the control of asbestos and a number of other substances of very high concern identified in the list of substances subject to authorisation in Annex XIV of the REACH Regulation and on the investigation of possible contaminants on contaminated sites.
- For activity 6.8 Flood risk prevention and protection infrastructure for inland river, coastal and urban floods, the criteria refer to establishing measures to prevent and mitigate damaging stormwater overflows from the combined sewerage collection system.
- For activity 8.3. Restoration of ecosystems, they are based on minimising the use of pesticides and taking measures to avoid the use of active ingredients listed in Regulation (EU) 2019/1021[131].

Guidelines for compliance with the criteria is based on an understanding of the legal requirements of the applicable legal provision or reference document in each case.

5.4.3.6 Objective 6 Protection and restoration of biodiversity and ecosystems

According to Article 17(1)(f) of the Taxonomy Regulation, an economic activity causes significant harm to:

> *"(f) the protection and restoration of biodiversity and ecosystems, where that activity is:*
>
> *(i) significantly detrimental to the good condition and resilience of ecosystems; or*
>
> *(ii) detrimental to the conservation status of habitats and species, including those of Union interest".*

The DNSH6 criteria are organised around the three criteria set out in the Climate Delegated Act for Objectives 1 and 2.

The **first criterion** involves compliance with the Environmental Impact Assessment Directive, so the compliance guidelines should focus firstly on clarifying the application of the procedure. In order to provide guidance on the obligation to carry out this assessment, the two existing modalities (ordinary or simplified) are differentiated, referring to the corresponding Annexes of the Directive and specifying the group in which projects linked to water cycle activities subject to both ordinary and simplified environmental assessment would fall.

In addition, depending on each modality, the environmental impact study or the environmental document will be prepared, the purpose and content of each of which must be clear. For a better understanding of this type of studies in projects linked to the water cycle, it is considered

[131] Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02019R1021-20221213&from=EN

very useful to consult the guidelines drawn up by the Directorate General for Decarbonisation and Energy Transition of the Regional Ministry of the Environment, Housing and Agriculture, for the preparation of environmental impact studies corresponding to wastewater treatment plant projects, which will contain some peculiarities that are developed in the guidelines for compliance with the criterion.

In the case of activity 4.1. Civil Engineering, some peculiarities are also introduced, such as the casuistry involving a project that covers more than one territory, i.e. cross-border projects. In this respect, the legal provisions must be taken into account, as well as a series of conventions and protocols that contextualise and focus compliance.

The **second criterion** corresponds to the effective implementation of the mitigation and compensation measures derived from the impact studies. Compliance must, therefore, be framed and based on knowledge of the types of measures available and their objectives, also considering the hierarchy to be followed in their application, opting first to implement actions that mitigate or repair the impacts identified, and if this is not possible, establishing other actions to compensate for the residual impacts of a project on biodiversity.

It is highly recommended to consult the JRC report referred to below, which presents an inventory of mitigation measures for the impacts of water infrastructure projects, in particular those for water storage, as exemplified in the figure below.

Figure 28. Example of water storage mitigation measures, linked to the main ecological impacts related to the Water Framework Directive (WFD) and mitigation measures in the 2016 WFD information guide.

Hydromorphological alteration*	Main ecological impact**	Mitigation for	Mitigation measures options	Mitigation measures in 2016 WFD reporting guidance	Pictogram
River continuity for upstream fish migration reduced/disoriented or interrupted	Fish: Populations of migratory fish absent or abundance reduced	Upstream continuity for fish	Ramp Fish pass By-pass channel Catch, transport & release (Fish stocking from hatchery)	Fish ladder* Bypass channels* Removal of structures	

Source: JRC Science Hub, 2016. Working Group ECOSTAT report on Common understanding of using mitigation measures for reaching Good Ecological Potential for heavily modified water bodies. Part 1: Impacted by water storage.

It is also recommended to consult the Guía para la elaboración de estudios de impacto ambiental de proyectos de plantas solares fotovoltaicas y sus infraestructuras de evacuación. Guía destinada para promotores y consultores [132] of the MITECO which, despite covering a different type of project to those that may be carried out in relation to the activities of the water cycle, contains a list of measures applicable to each environmental factor developed in the corresponding environmental study.

The **third criterion** concerns the environmental assessment for projects developed in sensitive areas and the assessment of repercussions on the Natura 2000 Network required by article 46.4 of Law 42/2007[133] within the different assessment procedures: ordinary or simplified.

To provide guidance on the typology of sensitive areas referred to in the delegated act, it is useful to consider the different types of protection. In addition, the use of the many map viewers that contain thematic layers of protected areas is recommended. For example, we

[132] https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/guiaelaboracionesiaplantasfotovoltaicassgea_tcm30-538300.pdf

[133] Ley 42/2007, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad. https://www.boe.es/buscar/act.php?id=BOE-A-2007-21490

suggest consulting the map viewer[134] on the website of the Environment of the Community of Madrid.

The compliance guidelines also refer to the compensation or conservation measures required under the Habitats Directive when the plan, programme or project may affect the Natura 2000 Network. To provide guidance on the implementation of these measures, reference is made to a standard data form[135] for the submission of information to the European Commission, which uses three criteria to determine the overall valuation of each species and habitat type present at that particular site.

In the case of activities contributing to Objective 2 according to the PSF Recommendations Report, the criteria refer to Environmental Integration and Restoration Plans. While the former relate directly to environmental assessment, guidelines for compliance with the latter should be based on the use of guides and consultation of reference projects where sustainable forest management measures, wildlife crossings along construction or Nature Based Solutions (Nbs) that protect, sustainably manage and restore natural or modified ecosystems have been applied.

In this case, there are not many guides for application at national level, which is why we refer directly to the Guía Práctica de Restauración Ecológica[136], published in 2018 by the MITECO.

Finally, many of the DNSH criteria refer to compliance with a broad acquis communautaire that is integrated through the EU Biodiversity Strategy 2020[137] and the new Strategy 2030[138], which aims to halt the deterioration in the conservation status of all species and habitats covered by EU nature protection legislation and to measurably and significantly improve this status. To this end, all the directives mentioned throughout the DNSH criteria refer to measures for the protection of species, habitats, inland and marine water bodies, etc. These directives have already been covered in depth in another series of factsheets, for Objectives 1 and 2, as well as for Objectives 3-6.

In response to the criteria referring to the presence and eradication of invasive alien species, compliance guidelines should be based on the provisions of Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species, as well as on the list of invasive alien species compiled in 2022. In addition, abundant supporting documentation is available, including the Spanish Catalogue of Invasive Alien Species drafted by the Ministry, as well as the Action Plan on the pathways for the introduction and spread of invasive alien species in Spain, in response to compliance with the aforementioned regulation.

In the case of desalination plants, which are also subject to environmental impact assessment when the new or additional volume is greater than 3,000 m^3/day, a series of considerations are established in order to design a suitable discharge device that allows, among other things, sufficient dilution within the limits of the near field to minimise, as much as possible, the possible adverse effects of the discharge on the environmental status of the marine environment.

[134] Community of Madrid Cartographic Viewer. https://www.comunidad.madrid/servicios/urbanismo-medio-ambiente/cartografia-ambiental

[135] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32011D0484&from=EN

[136] https://www.miteco.gob.es/es/ceneam/recursos/pag-web/guia-restauracion-ecologica.aspx

[137] EU biodiversity strategy to 2020. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0244&from=ES

[138] EU biodiversity strategy to 2030. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0380&from=ES

5.4.4 Criteria for substantial contribution to Objectives 3, 4, 5 and 6

The activities included in the water cycle contribute substantially to one of the Objectives 3-6, except for one activity that contributes to all four objectives at the same time, which corresponds to activity 8.4. Remediation activities. Each of the environmental objectives in the taxonomy is interconnected. Pollution is a pressure that affects the status of biodiversity and water, so reducing pollution will in turn mitigate pressure on biodiversity and water systems. And in turn, in a decontamination activity, measures can be put in place to reuse the waste generated and promote the circular economy.

In the case of Objective 3 on ensuring the sustainable use and protection of water and marine resources, the areas where substantial contribution criteria were established include:

- 6.9. Nature based solutions (Nbs) for flood and drought risk prevention and protection for both inland and coastal waters
- 8.4. Remediation activities
- 9.1. Water supply
- Urban Wastewater Treatment
- 10.4. Sustainable urban drainage systems (SUDs)

In the case of objective 4, the circular economy extends the life cycle of products, e.g. by recycling, reusing, repairing, restoring and sharing materials for as long as possible. The areas in which substantial contribution criteria were established for objective 4 include:

- 10.2. Phosphorus recovery from waste water
- 10.3. Production of alternative water resources
- 11.1. Collection and transport of non-hazardous and hazardous waste as a means for material recovery
- 11.4. Recovery of bio-waste by anaerobic digestion and/or composting

For Objectives 5 and 6, economic activity 8.4. Remediation activities is the only one that can substantially contribute to the restoration of the natural environment, affected by the introduction of substances or pollutants into natural systems at levels that trigger damage or adverse changes, as well as to the protection and restoration of biodiversity and ecosystems by preserving, restoring or protecting the services these systems provide, respectively.

The following sections provide a summary of criteria for economic activities in the water cycle that contribute substantially to Objectives 3-6, according to the PSF Recommendations Report for Objectives 3-6 of March 2022.

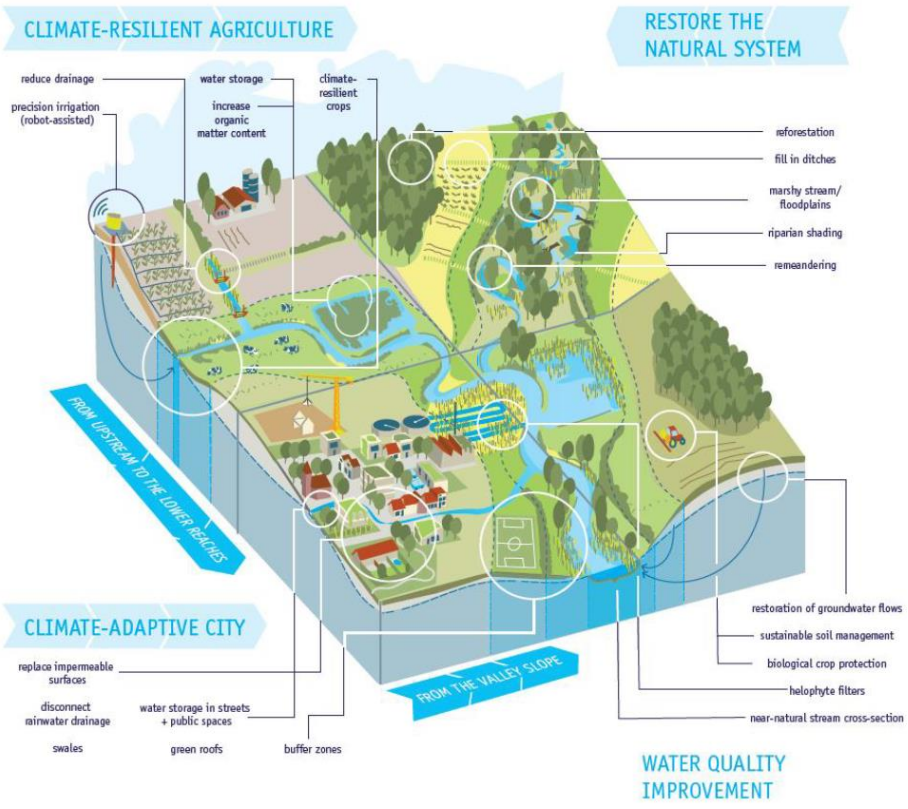
5.4.4.1 Nature based solutions (Nbs) for flood and drought risk prevention and protection for both inland and coastal waters (6.9)

Economic activities covered

The Recommendations Report for Objectives 3-6 includes Nbs for preventing flood and drought risks on a large scale, applied in rural and coastal areas, coordinated at river basin and/or regional/landscape scale.

Small scale Nbs, which represent green and blue solutions applied in an urban setting, such as Sustainable Urban Drainage Systems (SUDs), are excluded (see section 5.4.4.7).

Figure 29. Nature-based solutions to create climate-resilient river valleys.



Source: STOWA 2020, adapted by Deltares 2021

Technical criteria for substantial contribution (SC) to Objective 3

Society's concern about flood and drought risks and their consequences has led to the creation of a comprehensive regulatory framework at European, national and regional level.

This is why the first criterion for substantial contribution to Objective 3 of protection of water resources for this economic activity is based on the quantifiable and time bound measure or SbN to the achievement of flood/drought risk reduction objectives, and must be integrated into the programmes of measures of the Flood Risk Management Plans (FRMPs)/Drought Management Plans, in compliance with the objectives of the European regulatory framework: Floods Directive and Water Framework Directive (WFD).

The second substantial contribution criterion requires that the activity contributes to achieving good water status in accordance with the WFD and the nature restoration targets defined in the EU Biodiversity Strategy 2030, as refined in the proposed EU nature restoration regulation.

The third contribution criterion refers to the existence of a monitoring programme to evaluate the effectiveness of an Nbs to improving the status of the affected water body, and the changing climatic conditions, allowing an adaptive management approach to the indications contained in the Recommendations Report for Objectives 3-6.

Doubts have arisen as to the type of programmes to which this criterion refers, as the definition can fit different types of monitoring carried out in the framework of hydrological planning and flood and drought management. Therefore, guidelines have been given on the operation and context of those that best fit the definition.

Guidelines for compliance with the technical criteria of Objective 3

The guidelines for compliance with the technical criteria SC1 and SC3 has been developed jointly, as the programmes of measures referred to in criterion 3 are integrated into the policy framework of criterion 1.

Both criteria must be contextualised in the regulatory framework in which these Nbs actions are integrated: the Floods Directive, the WFD, the River Basin Management Plan (RBMP) and their dependent plans (FRMPs and Drought Management Plans). Likewise, the guidelines for compliance must be based on the knowledge of the programmes of measures of the different plans, aimed at achieving environmental and socio-economic objectives and flood and drought risk management, where the economic activity must be framed, and of the content of the periodic monitoring reports of the different plans.

In addition, consideration should be given to water quality and status monitoring programmes which, while not directly assessing the effectiveness of the measures adopted, do provide the necessary information to do so.

Regarding the second criterion, compliance guidelines should focus on their fit with the EU Biodiversity Strategy 2030, and the Proposal for a Regulation of the European Parliament and of the Council on Nature Restoration.

References

In relation to flood and drought risk reduction and monitoring programmes:

Legal provisions

- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02000L0060-20141120&from=EN
- Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32007L0060&from=EN
- Real Decreto 903/2010, de 9 de julio, de evaluación y gestión de riesgos de inundación. https://www.boe.es/buscar/doc.php?id=BOE-A-2010-11184
- Ley 10/2001, de 5 de julio, del Plan Hidrológico Nacional. https://www.boe.es/buscar/doc.php?id=BOE-A-2001-13042

Technical documents

- Planes Hidrológicos de Cuenca del segundo ciclo (2015-2021) – vigentes. https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/planes-cuenca/default.aspx
- Planes de Gestión de los Riesgos de Inundación del primer ciclo (2016-2021) – vigentes. https://www.miteco.gob.es/es/agua/temas/gestion-de-los-riesgos-de-inundacion/planes-gestion-riesgos-inundacion/Planes-gestion-riesgos-inundacion-Primer-ciclo.aspx
- Planes Especiales de Sequía vigentes. https://www.miteco.gob.es/es/agua/temas/observatorio-nacional-de-la-sequia/planificacion-gestion-sequias/Copia_de_default.aspx
- Informes de seguimiento de los planes hidrológicos de cuenca y de los recursos hídricos en España. https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/seguimientoplanes.aspx
- Seguimiento de los planes de gestión del riesgo de inundación. https://www.miteco.gob.es/es/agua/temas/gestion-de-los-riesgos-de-inundacion/planes-gestion-riesgos-inundacion/Seguimiento-PGRI.aspx
- Informes y mapas de seguimiento de la situación de sequía y escasez. https://www.miteco.gob.es/es/agua/temas/observatorio-nacional-de-la-sequia/informes-mapas-seguimiento/
- European Comission. Nature-based solutions. State of the art in EU-funded projects. https://op.europa.eu/en/publication-detail/-/publication/8bb07125-4518-11eb-b59f-01aa75ed71a1
- European Environment Agency, Castellari, S., Zandersen, M., Davis, M., et al., Nature-based solutions in Europe policy, knowledge and practice for climate change adaptation and disaster risk reduction, Publications Office, 2021. https://data.europa.eu/doi/10.2800/919315

Websites

- MITERD: Los programas de seguimiento del estado y calidad de las aguas. https://www.miteco.gob.es/es/agua/temas/estado-y-calidad-de-las-aguas/programas-seguimiento-aguas/
- MITECO: Soluciones basadas en la naturaleza. https://www.miteco.gob.es/es/ceneam/recursos/pag-web/soluciones-basadas-naturaleza.aspx

- European Commission: Nature-based solutions. https://research-and-innovation.ec.europa.eu/research-area/environment/nature-based-solutions_en
- Oppla. The EU Repository of Nature-Based Solutions. https://oppla.eu/

In relation to the achievement of the WFD objectives and the EU Biodiversity Strategy 2030:

Legal provisions

- Proposal for a Regulation of the European Parliament and of the Council on nature restoration. https://environment.ec.europa.eu/publications/nature-restoration-law_en

Websites

- European Commission: Biodiversity Strategy 2030**.** https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_es#medidas
- NAIAD. http://naiad2020.eu/
- European Commission. CORDIS. Horizon 2020 results. https://cordis.europa.eu/article/id/421775-a-comprehensive-toolkit-to-support-the-natural-mitigation-of-water-risks

5.4.4.2 Remediation activities (8.4)

Economic activities covered

This activity includes decontamination and/or remediation of soils and groundwater in the polluted area, either in situ or ex situ, using e.g., mechanical, physical, chemical or biological methods; decontamination and/or remediation of industrial plants or sites, including nuclear plants and sites, surface water and its shores following accidental pollution, and cleaning up oil spills and other pollutions in surface water, groundwater, marine water, etc.

In addition, it includes all activities that are required to prepare, plan and follow-up the decontamination and/or remediation activity itself.

This activity excludes the pest control in agriculture, treatment and disposal of hazardous or non-hazardous waste, landfill remediation, etc.

Finally, the Recommendations Report for Objectives 3-6 stresses that remediation carried out or commissioned by the same entity responsible for the pollution is excluded. In other words, if the remediation activity is undertaken as an obligation resulting from the application of the Environmental Liability Directive, it cannot be a substantial contribution, as it is in fact a compliance activity.

Consequently, only remediation activities carried out by private or public entities outside the scope or exempted from the Directive can make a substantial contribution.

Technical Criteria for Substantial Contribution (SC) to Objectives 3-6

The Recommendations Report for Objectives 3-6 states that remediation activities that contribute substantially to Objective 3 are enabling activities, leading to the improvement of the status of water bodies (with compliance with the maximum levels established in regulations), so that the area can be reused for specific purposes. Consequently, this type of activities, which contribute directly to Objective 3, can also contribute indirectly to environmental Objectives 4, 5 and 6. Technical screening criteria are therefore defined for all environmental Objectives 3-6.

Generally speaking, and although the wording is different in some cases, the technical criteria for substantial contribution proposed for the four objectives address the same issues, so that the compliance guidelines are given together. These substantial contribution criteria are based on three approaches, according to the Recommendations Report for Objectives 3-6:

- Performance based on environmental target: This refers to the need to ensure that contaminant levels and water use/abstraction levels following remediation are below certain accepted thresholds compatible with standards (Water Framework Directive (2000/60/EC) and the Marine Strategy Framework Directive (2008/56/EC) in order to achieve or maintain at least good ecological, chemical, quantitative and/or environmental status. In case these references are missing (as in some cases for soil or sediment), targets should be defined on a case-by-case basis by means of a risk assessment.
- Practice-based: Refers to the need to undertake the remediation activity in line with best industry practice (PPC objective).
- Process-based: In the case of substantial contribution to Objective 3, additional criteria are included, relating to the need to carry out restoration or conservation activities after the remediation activity, and to establish a permanent restoration plan, which must be approved by a competent authority. In addition, regular audits must be carried out by independent auditors to verify that both the substantial contribution criteria and the DNSH are met.

In the case of Objective 4, an additional criterion is established based on maximising the recirculation of materials and waste, giving preference to the reuse and recycling of materials over landfilling or incineration. In particular, recovery plans are required to include actions to maximise the reuse of materials, either through reuse, preparation for reuse or recycling, either *on-site* or *off-site*, citing a percentage of at least 90% of natural, non-hazardous materials. There are no specific EU legal targets for reuse, preparation for reuse or recycling of materials handled during decontamination activities. The material waste stream most similar to decontamination, and which has EU legal coverage, is that generated in construction and demolition operations.

For Objective 6, compliance with the substantial contribution criteria for activity '8.2. Restoration of biodiversity and ecosystems is additionally required, relating to restoration measures being provided for in a specific plan or equivalent instrument, ensuring that any economic use of the rehabilitated area is compatible with the objectives of that plan.

Finally, it is worth mentioning that the DNSH technical criteria, as well as the SC criteria for this activity, are similar for all objectives.

Guidelines for compliance with the technical criteria of Objectives 3-6

Guidance for compliance with these criteria should be framed and based on the Environmental Liability legislation, so as to understand the fundamental aspects governing all the legal compliance issues mentioned in the substantial contribution criteria, plus explicit reference is made to the remediation measures set out in Annex II of that legislation.

Furthermore, in relation to the SC criterion based on ensuring compliance with water-related environmental objectives, guidance on compliance with the DNSH3 criterion for objectives 1 and 2 can be consulted (see section 5.4.3.3), which briefly outlines the regulatory framework developed for water protection.

For the specific SC criteria relating to developing restoration plans, please refer to the DNSH6 compliance guidance for Objectives 3-6 (see section 5.4.5.6) where reference is made to the proposal for a Regulation of the European Parliament and of the Council on nature restoration based on the need to establish measures through restoration plans on the basis of existing legislation. To tackle these restoration plans, some practical guidelines for their development are cited, as well as some projects whose main objective was to restore a wide range of ecosystems. Other bibliographical references are also listed, such as guides and manuals produced by MITECO on the restoration of different water systems.

With regard to the SC criteria related to the reuse of waste generated in this activity, the guidelines in the DNSH4 criteria for Objectives 3-6 can be consulted (see section 5.4.5.4).

References

In relation to remediation measures:

Legal provisions

- Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02004L0035-20190626
- Ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental. Modificada mediante Ley 11/2014, de 3 de julio. https://www.boe.es/buscar/act.php?id=BOE-A-2007-18475
- Ley 11/2014, de 3 de julio, por la que se modifica la ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental. https://www.boe.es/buscar/act.php?id=BOE-A-2015-186
- Real Decreto 2090/2008, de 22 de diciembre, por el que se aprueba el Reglamento de desarrollo parcial de la Ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental. https://www.boe.es/buscar/act.php?id=BOE-A-2008-20680
- Real Decreto 183/2015, de 13 de marzo, por el que se modifica el Reglamento de desarrollo parcial de la Ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental, aprobado por el Real Decreto 2090/2008, de 22 de diciembre. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2015-3716
- Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32017D0848&from=EN

Documents and Technical Guides

- Documento guía sobre la aplicación de la normativa de responsabilidad medioambiental en España. https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/publicaciones/guia_responsabilidad_web_15-02-21_tcm30-504606.pdf
- Estructura y contenidos generales de los proyectos de reparación de daños medioambientales. https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/responsabilidad-mediambiental/estructuraycontenidosproyectosreparacion_junio2018_tcm30-459808.pdf

Tools/Data

- Sistema de Información de Responsabilidad Medioambiental (SIRMA). https://servicio.mapa.gob.es/mora/login.action

In relation to restoration plans:

Legal provisions

- Proposal for a Regulation of the European Parliament and of the Council on nature restoration. https://environment.ec.europa.eu/publications/nature-restoration-law_en

Websites

- European Commission: Biodiversity Strategy 2030. https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_es#medidas

5.4.4.3 Water supply (9.1, equivalent to activities 5.1 and 5.2 of Objectives 1-2)

Economic activities covered

This activity covers the abstraction of the water resource, the necessary treatment to make the water compliant according to the relevant legislation and the distribution to the population and water consumers in food business operators in piped systems in a safe and resource efficient way. This requires construction works, operational activities and maintenance works, including the upgrading of equipment and methods. Water supply is based on the abstraction of natural resources of water from surface or ground water sources.

Technical criteria for substantial contribution (SC) to Objective 3

The recommendations set out in the Recommendations Report published in March 2022 to establish the criteria for substantial contribution to Objective 3 refer to three types of sub-activities:

1. Operation of an existing water supply system to provide water supply

2. Construction and operation of a new water supply system or an extension of an existing water supply system

3. Renovation of existing water supply systems

The criteria can be divided into two groups:

- Compliance with water legislation: compatibility with the environmental objectives of the Water Framework Directive and monitoring of substances of emerging concern. Types 1 and 2 are concerned.
- Conditions to improve efficiency: monitoring of the leakage level of the system through appropriate indicators and provision of water meters at consumer supply points. All types are concerned.

Guidelines for compliance with the technical criteria of Objective 3

In relation to the first group of criteria, conditions are set that derive directly from the implementation of the legislation. The verification of compliance involves documenting compliance with these requirements, including those introduced by the renewed Drinking Water Directive.

Guidance for compliance with the leakage level criterion is developed in activities 5.1 and 5.2 (Construction, extension and operation of water collection, treatment and supply systems, and Renewal of water collection, treatment and supply systems) for objectives 1 and 2, and can be found in section 5.4.1.3.

Finally, the criterion on volumetric monitoring of consumption is directly applicable and there is no room for interpretation, other than to reinforce its importance as a prerequisite for encouraging responsible consumption and planning leakage reduction and efficiency improvements.

References

In relation to compliance with water regulations:

Legal provisions

- Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (no longer in force). https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31998L0083&from=ES
- Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast). https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32020L2184&from=ES
- Commission Implementing Decision (EU) 2022/679 of 19 January 2022 establishing a watch list of substances and compounds of concern for water intended for human consumption as provided for in Directive (EU) 2020/2184 of the European Parliament and of the Council (notified under document C(2022) 142). https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32022D0679&from=ES

- Proyecto de Real Decreto por el que se establecen los criterios técnico sanitarios del suministro y control de la calidad del agua de consumo. https://www.sanidad.gob.es/en/normativa/audiencia/docs/Proyecto_criterios_tecnico-sanitarios_del_suministro_y_control_de_la_calidad_del_agua_de_consumo.pdf
- Orden ICT/155/2020, de 7 de febrero, por la que se regula el control metrológico del Estado de determinados instrumentos de medida. https://www.boe.es/eli/es/o/2020/02/07/ict155/con

Technical documents

- Guía de buenas prácticas para la selección y adquisición de contadores de agua fría. Grupo de contadores de la Comisión 3ª de AEAS (mayo de 2019). https://www.aeas.es/images/publicaciones/manuales/2019_06_17_Guia_Buenas_Practicas_suministro_contadores_VERSION_DEFINITIVA.pdf
- Canfora, P., Antonopoulos, I., Dri, M., Gaudillat, P. and Schoenberger, H., Best Environmental Management Practice for the Public Administration Sector, EUR 29705 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-01442-3, doi:10.2760/952965, JRC116121. https://publications.jrc.ec.europa.eu/repository/handle/JRC116121

Tools/Data

- Third Cycle River Basin Management Plan. Accessible from. https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/PPHH_tercer_ciclo.aspx

  https://www.leakssuitelibrary.com/

In relation to leakage levels:

See list of references in section 5.4.1.4.

5.4.4.4 Urban Wastewater Treatment (10.1, equivalent to activities 5.3 and 5.4 of Objectives 1-2)

Economic activities covered

The activity refers to the construction, extension, rehabilitation, upgrade and operation of urban wastewater infrastructures such as: treatment plants, sewer network, stormwater management structures, stormwater management structures, connections, on-site sanitation facilities, and outflows; as well as innovative and advanced treatment to meet environmental requirements that are not yet encompassed in EU Law, such as the removal of micropollutants.

Technical criteria for substantial contribution (SC) to Objective 3

The first two substantial contribution criteria are based on the inclusion of the waste water treatment system in a River Basin Management Plan (RBMP) and compliance with discharge requirements. The third criterion requires treatment plants of a certain size to stabilize the sludge by anaerobic digestion or a lower net energy demand technology.

Guidelines for compliance with the technical criteria of Objective 3

In relation to the first two criteria, the regulatory framework concerning wastewater treatment is contextualised as the criteria do not establish additional conditions to those already in place. The third criterion is directly applicable to waste water treatment plants of the size set.

References

Legal provisions

- Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31991L0271&from=ES
- Commission Directive 98/15/EC of 27 February 1998 amending Council Directive 91/271/EEC with respect to certain requirements established in Annex I thereof. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31998L0015&from=EN
- Real Decreto-ley 11/1995, de 28 de diciembre, por el que se establecen las normas aplicables al tratamiento de las aguas residuales urbanas. https://www.boe.es/buscar/act.php?id=BOE-A-1995-27963
- Real Decreto 509/1996, de 15 de marzo, de desarrollo del Real Decreto-ley 11/1995, de 28 de diciembre, por el que se establecen las normas aplicables al tratamiento de las aguas residuales urbanas. https://www.boe.es/diario_boe/txt.php?id=BOE-A-1996-7159
- Real Decreto 2116/1998, de 2 de octubre, por el que se modifica el Real Decreto 509/1996, de 15 de marzo, de desarrollo del Real Decreto-ley 11/1995, de 28 de diciembre, por el que se establecen las normas aplicables al tratamiento de las aguas residuales urbanas. https://www.boe.es/buscar/doc.php?id=BOE-A-1998-24166

- 93/481/EEC: Commission Decision of 28 July 1993 concerning formats for the presentation of national programmes as foreseen by Article 17 of Council Directive 91/271/EEC (no longer in force). https://eur-lex.europa.eu/legal-content/ES/ALL/?uri=CELEX%3A31993D0481
- Proposal for a Directive of the European Parliament and of the Council concerning urban wastewater treatment (recast) (Text with EEA relevance) https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022PC0541&from=EN

Tools/Data

- EIONET Portal. Access to full Directive 91/271 compliance reports. https://cdr.eionet.europa.eu/es/eu/
- National census of discharges. https://www.miteco.gob.es/es/agua/temas/concesiones-y-autorizaciones/vertidos-de-aguas-residuales/censo-vertidos/
- Third Cycle River Basin Management Plan. Accessible from https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/PPHH_tercer_ciclo.aspx
- MITECO geo-portal (contains geo-referenced information reported in compliance with Directive 91/271) https://sig.mapama.gob.es/geoportal/

5.4.4.5 Phosphorus recovery from waste water (10.2, assess equivalence with 5.3 /5.4)

Economic activities covered

The activity covers the construction and operation of the necessary facilities for recovering phosphorus from on-site wastewater treatment plants (WWTP) (aqueous phase and sludge) and from materials (i.e., ashes) after thermal oxidation (i.e., incineration) of sewage sludge.

It should be noted that this activity only includes the facilities and processes that make Phosphorus recovery possible, not the previous steps (e.g., wastewater treatment or incineration facilities).

Technical criteria for substantial contribution (SC) to Objective 4

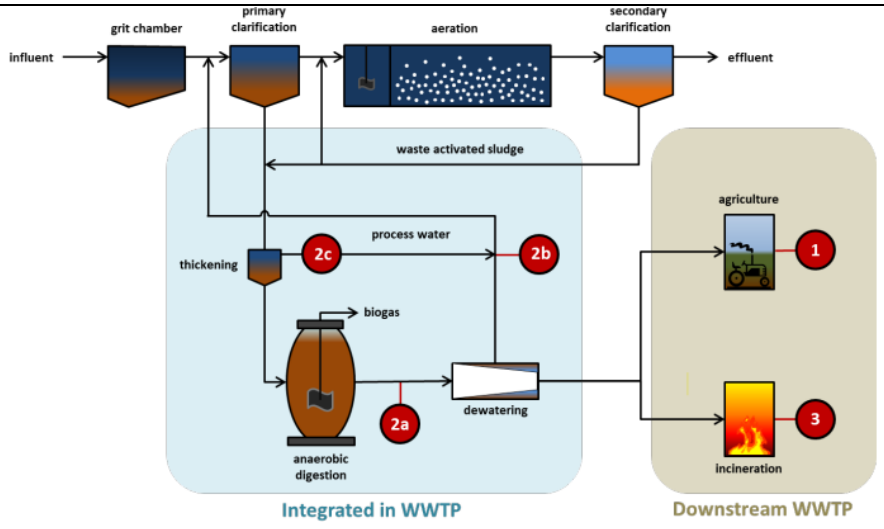
The criteria for a substantial contribution to Objective 4 (Transition to the circular economy) for this economic activity consist of establishing a minimum content of phosphorus recovered depending on the stage at which it is extracted: at least 15% if it is in the integrated processes of the WWTP (struvite crystallisation) or at least 80% if the recovery takes place downstream of the process, i.e. after sludge oxidation (SC1 and SC2).

In order to promote the circular economy, the Regulation on fertiliser products allows certain products recovered from sludge, such as phosphate salts, to be used as components of fertiliser products (Component Material Category CMC12) and therefore this use is explicitly mentioned under this regulation.

Guidelines for compliance with the technical criteria of Objective 4

Guidance on meeting the first two substantial contribution criteria can be based on the EurEau position paper of 2021, which describes the recovery of phosphorus in waste water and sewage sludge, where it is confirmed that the recovery rates proposed in the Recommendation Report for Objectives 3-6 can be achieved.

Figure 30. Hotspots for phosphorus recovery from the waste water stream.



Source: Wastewater treatment - sludge management (EurEau), 2021

With regard to the third criterion, guidance should be based on the main legal requirements of Regulation 2019/1009 on fertiliser products for the use of recovered phosphate salts, component material category CMC12.

References

With regard to the phosphorus recovery process:

Legal provisions

- European Commission, Joint Research Centre, Delgado Sancho, L., Eder, P., Saveyn, H., et al., Technical proposals for selected new fertilising materials under the Fertilising Products Regulation (Regulation (EU) 2019/1009) : process and quality criteria, and assessment of environmental and market impacts for precipitated phosphate salts & derivatives, thermal oxidation materials & derivatives and pyrolysis & gasification materials, Publications Office, 2019, https://data.europa.eu/doi/10.2760/186684
- Integral Management Model for Phosphorus recovery and reuse from Urban Wastewater LIFE 3.0 - LIFE Project Public Page (europa.eu)

Technical documents

- EurEau (2021). Briefing note: Wastewater treatment - sludge management https://www.eureau.org/documents/drinking-water/briefing-note/5629-briefing-note-on-sludge-management/file
- Global Water Research Coalition (2019). Technical report: Global Compendium on Phosphorus Recovery from Sewage/Sludge/Ash http://www.globalwaterresearchcoalition.net/sapi/custom.gwrc.project/documents/download?file=773
- European Sustainable Phosphorus Platform (2022). ESPP - DPP - NNP nutrient recovery technology catalogue. ESPP-NNP-DPP_nutrient-recovery_tech_catalogue.pdf (phosphorusplatform.eu)
- European Sustainable Phosphorus Platform (2019). ESPP Phosphorus Fact Sheet. ESPP-Phosphorus-fact-sheet-v21-4-19.pdf (phosphorusplatform.eu)

Tools

- International Water Association (2002). Biological Phosphorus Removal | IWA Publishing

Concerning the fertiliser products regulation:

Legal provisions

- Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019R1009&from=ES
- Commission Delegated Regulation (EU) 2021/2086 of 5 July 2021 amending Annexes II and IV to Regulation (EU) 2019/1009 of the European Parliament and of the Council for the purpose of adding precipitated phosphate salts and derivates as a component material category in EU fertilising products. https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32021R2086
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32006R1907

Technical documents

- Huygens D, Saveyn HGM, Tonini D, Eder P, Delgado Sancho L, Technical proposals for selected new fertilising materials under the Fertilising Products Regulation (Regulation (EU) 2019/1009) - Process and quality criteria, and assessment of environmental and market impacts for precipitated phosphate salts & derivatives, thermal oxidation materials & derivatives and pyrolysis & gasification materials, EUR 29841 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-09888-1, doi:10.2760/186684, JRC117856. https://publications.jrc.ec.europa.eu/repository/handle/JRC117856

5.4.4.6 Production of alternative water resources (10.3)

Economic activities covered

The activity includes the construction, extension and operation of:

- Facilities for producing reclaimed water. "Reclaimed Water" means urban wastewater that has been treated in compliance with the requirements set out in Directive 91/271/EEC and which results from further treatment in a reclamation plant.

- Facilities for harvesting rain and stormwater.
- Facilities for collection and treatment of grey water. "Grey water" is untreated wastewater that has not been contaminated by any toilet discharge. Grey water includes wastewater from bathtubs, showers, bathroom sinks, clothes washing machines and laundry sinks.

These systems can be used for aquifer recharge, irrigation, industrial reuse, recreation and any other municipal use. This activity only includes the facilities and processes that make it possible for the water to be reused (e.g., facilities for recharging aquifers or surface water storages), not the previous steps (e.g., primary and secondary) in the wastewater treatment plant or the subsequent steps necessary for the final reuse of these alternative water resources (e.g., irrigation systems).

Technical criteria for substantial contribution (SC) to Objective 4

The criteria for substantial contribution to Objective 4 (Transition to the circular economy) for this activity are based on defining requirements for various alternative solutions to ensure a constant and secure water supply, such as water reclamation and rainwater and greywater harvesting, taking into account the current scenario of climate uncertainty, where rainfall irregularities, water stress or generalised drought are increasingly frequent scenarios.

Guidelines for compliance with the technical criteria of Objective 4

Compliance with the criterion on the use of reclaimed water must be based on existing European and national regulations for the promotion of this type of alternative water resource.

In the case of rainwater and greywater, a series of recent documents published by the JRC that establish sustainability indicators for offices and residential buildings will be taken into account. Likewise, the use of this type of water resources is usually regulated by regional regulations, such as municipal ordinances, so some of the legal requirements established by *the Ordenanza de Gestión y Uso Eficiente del Agua en la Ciudad de Madrid* are extracted, related to the substantial contribution criteria defined for this activity.

References

In relation to reclaimed water:

Legal provisions

- Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse. https://eur-lex.europa.eu/eli/reg/2020/741/oj

Technical documents

- MITECO. 2020. PLAN DSEAR. Fomento de la reutilización de aguas residuales regeneradas.https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/6_ic_reutilizacion_1_tcm30-514162.pdf
- Plan Nacional de Depuración, Saneamiento, Eficiencia, Ahorro y Reutilización (Plan DSEAR) https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/planes-programas-relacionados/
- Guía para la Aplicación del R.D. 1620/2007 por el que se establece el Régimen Jurídico de la Reutilización de las Aguas Depuradas. https://www.miteco.gob.es/es/agua/publicaciones/GUIA%20RD%201620_2007__tcm30-213764.pdf

Concerning rainwater and stormwater collection and greywater collection

Legal provisions

- Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse. https://eur-lex.europa.eu/eli/reg/2020/741/oj
- Real Decreto 1620/2007, de 7 de diciembre, por el que se establece el régimen jurídico de la reutilización de las aguas depuradas. https://www.boe.es/buscar/act.php?id=BOE-A-2007-21092
- Ayuntamiento de Madrid. BO. Ayuntamiento de Madrid 22/06/2006 num. 5709 pag. 2410-2443. Ordenanza de Gestión y Uso Eficiente del Agua en la Ciudad de Madrid https://www.madrid.es/UnidadWeb/UGNormativas/Normativa/2006/Ficheros/ANM200650.pdf

Technical documents

- JRC. 2021. Level(s) Indicator 3.1: Use stage water consumption. https://susproc.jrc.ec.europa.eu/product-bureau//sites/default/files/2021-01/UM3_Indicator_3.1_v1.1_31pp.pdf
- Área de Gobierno de Medio Ambiente y Movilidad. Ayuntamiento de Madrid. Dirección General de Gestión del Agua y Zonas Verdes.2018. Guía Básica de Diseño de Sistemas de Gestión Sostenible de Aguas Pluviales en Zonas Verdes y otros Espacios Libres. https://www.madrid.es/UnidadesDescentralizadas/Agua/TODOSOBREAGUA(Informaci%C3%B3nSobreAgua)/SistemaUrbanosDrenajeSostenible/Gu%C3%ADa%20b%C3%A1sica%20de%20dise%C3%B1o%20sistemas%20de%20gesti%C3%B3n%20sostenible%20de%20aguas%20pluviales.pdf

- Domenech, L. y Valles, M.: «Local regulations on alternative water sources: greywater and rainwater use in the metropolitan region of Barcelona», Investigaciones Geográficas, 61, 2014, p. 87. DOI: 10.14198/INGEO2014.61.06 https://www.researchgate.net/publication/269603391_Local_regulations_on_alternative_water_sources_greywater_and_rainwater_use_in_the_Metropolitan_Region_of_Barcelona
- Asociación Española de empresas de tratamiento y control de aguas (AQUA ESPAÑA). 2016. Guía Técnica de recomendaciones para el reciclaje de aguas grises en edificios. https://aquaespana.org/sites/default/files/documents/files/Guia.tecnica%20grises.pdf

Websites

- JRC. Level(s) common framework. Launching of Level(s) indicators: 2020 - 2021. https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/412/documents
- MITECO. Plan Nacional de Depuración, Saneamiento, Eficiencia, Ahorro y Reutilización (Plan DSEAR) https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/planes-programas-relacionados/

5.4.4.7 Sustainable urban drainage systems (SUDs) (10.4)

Economic activities covered

The activity includes the construction, maintenance, and operation of facilities that help to improve both the urban water quality and the urban water quantity. SUDs complement traditional drainage systems by incorporating natural water processes, such as water retention and filtration through vegetative covers, permeable pavements, filtering drains or artificial wetlands.

This activity only includes SUDs at the level of urban environment. Nature-based solutions and flood protection outside urban environment are listed in other activities.

Technical criteria for substantial contribution (SC) to Objective 3

Society's concern about flood risk and its consequences has led to the creation of a very broad regulatory framework in this respect, both at European, national and Autonomous Community level. The first substantial contribution criterion for this economic activity, which contributes to Objective 3 of protecting water resources, is based on these SUDs being integrated in the urban drainage and wastewater treatment system regulatory instruments, as well as in the Flood Management Plan, which in turn implies compliance with water protection regulations. The second substantial contribution criterion refers to the impact indicators to be declared and calculated in the design phase of SUDs.

Guidelines for compliance with the technical criteria of Objective 3

Compliance with the first criterion should take into account the regulatory framework on floods, which is integrated into the framework of hydrological planning in Spain, where reference is made to the consideration of elements that mitigate the consequences derived from flooding episodes, as well as in the regulations governing land use, as it also requires taking into account the risks derived from extreme meteorological events.

With regard to the second criterion, we propose consulting documents produced by the JRC in which some of the impact indicators required in the Recommendations Report are mentioned and a calculation tool developed by the EPA is presented, which allows some of these indicators to be calculated.

References

Regarding the integration of SUDs into urban planning and wastewater treatment systems:

Legal provisions

- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A02000L0060-20141120
- Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32007L0060&from=ES
- Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration. https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=celex%3A32006L0118
- Real Decreto 903/2010, de 9 de julio, de evaluación y gestión de riesgos de inundación. https://www.boe.es/eli/es/rd/2010/07/09/903
- Real Decreto 849/1986, de 11 de abril, por el que se aprueba el Reglamento del Dominio Público Hidráulico, que desarrolla los títulos preliminar I, IV, V, VI y VII de la Ley 29/1985, de 2 de agosto, de Aguas. https://www.boe.es/eli/es/rd/1986/04/11/849/con
- River Basin Management Plan in force (Ministry for Ecological Transition and the Demographic Challenge). https://www.miteco.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/planes-cuenca/default.aspx

- Real Decreto Legislativo 7/2015, de 30 de octubre, por el que se aprueba el texto refundido de la Ley de Suelo y Rehabilitación Urbana. https://www.boe.es/eli/es/rdlg/2015/10/30/7/con

Technical documents

- Guía de adaptación al riesgo de inundación: sistemas urbanos de drenaje sostenible (2019). Ministerio para la Transición Ecológica. https://www.miteco.gob.es/es/agua/temas/gestion-de-los-riesgos-de-inundacion/guia-adaptacion-riesgo-inundacion-sistemas-urbano-drenaje-sostenible_tcm30-503726.pdf

With regard to impact indicators in the design of SUDs:

Technical documents

- Joint Research Centre (JRC) Science for Policy Report (2018). Best Environmental Management Practice for the Public Administration Sector https://publications.jrc.ec.europa.eu/repository/handle/JRC116121
- Joint Research Centre (JRC) Technical Reports (2021). Level(s) indicator 5.3: Sustainable drainage https://susproc.jrc.ec.europa.eu/product-bureau//sites/default/files/2021-01/UM3_indicator_5.3_v1.1_19pp.pdf
- Guía Básica para el Diseño de Sistemas Urbanos de Drenaje Sostenible en la Ciudad de Valencia (2021). Ayuntamiento de Valencia. https://www.ciclointegraldelagua.com/files/normativa/Guia_Basica_para_el_Diseno_de_Sistemas_Urbanos_de_Drenaje_Sostenible_en_la_Ciudad_de_Valencia_V01.pdf
- Guía Básica de Diseño de Sistemas de Gestión Sostenible de Aguas Pluviales en Zonas Verdes y otros Espacios Libres (2018). Ayuntamiento de Madrid. https://www.madrid.es/UnidadesDescentralizadas/Agua/TODOSOBREAGUA(Informaci%C3%B3nSobreAgua)/SistemaUrbanosDrenajeSostenible/Gu%C3%ADa%20b%C3%A1sica%20de%20dise%C3%B1o%20sistemas%20de%20gesti%C3%B3n%20sostenible%20de%20aguas%20pluviales.pdf
- Universidad Politécnica de Valencia. E2 STORMED PROJECT (Proyecto cofinanciado con Fondos FEDER). 2015. Improvement of energy efficiency in the water cycle by the use of innovative storm water management in smart Mediterranean cities. http://observatoriaigua.uib.es/repositori/SUDs_assessment.pdf

Tools

- EPA. CLASIC Tool. https://clasic.erams.com/docs/
- EPA Green Infrastructure Modeling Tools https://www.epa.gov/green-infrastructure/green-infrastructure-modeling-tools

5.4.4.8 Collection and transport of non-hazardous and hazardous waste as a means for material recovery (11.1)

Economic activities covered
It partially corresponds to economic activity 5.5. Collection and transport of non-hazardous waste in source segregated fractions of the delegated act for Objectives 1 and 2.
Technical criteria for substantial contribution (SC) to objective4
The technical screening criteria proposed for this activity are similar to those set out for activity 5.5 of the Climate Delegated Act, relating to compliance with waste management regulations and, in particular, in the area of separate waste collection as a preliminary step for its further use.
Guidelines for compliance with the technical criteria of Objective 4
Both Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives, as amended through Directive 2018/851 of 30 May; and the transposition at national level through *Ley 7/2022, de 8 de abril, de residuos y suelos contaminados para una economía circular*, have legal requirements in line with the substantial contribution criteria set out in the Recommendations Report. To this end, the guidelines for compliance with activity 5.5 for objectives 1 and 2 can be consulted (see section 5.4.1.5). Likewise, for each of the defined criteria, clarifications and references to the articles of Law 7/2022 have been included in relation to the substantial contribution criteria proposed in the Recommendations Report for Objectives 3-6.

5.4.4.9

5.4.4.10 Recovery of bio-waste by anaerobic digestion and/or composting (11.4)

Economic activities covered
This activity is understood to correspond to economic activities 5.7 Anaerobic digestion of bio-waste and 5.8 Composting of bio-waste of the Climate Delegated Act (Objectives 1 and 2).
Technical criteria for substantial contribution (SC) to Objective 4
Like the equivalent economic activities of the Climate Delegated Act, the technical criteria for selecting substantial contribution for this activity are associated with Objective 4, transition to the circular economy, relating to: • Separation at source of bio-waste. • Separate collection of bio-waste so that it can be reused, either to obtain biogas (anaerobic digestion) or to generate compost (composting), establishing a series of conditions, such as minimum bio-waste content, conditions in the case of co-digestion with other materials and the exclusion of certain materials. • Compliance with the requirements of the European regulation on fertiliser products, as this regulation has established criteria for the use of digestate obtained after waste digestion and compost obtained after composting. Explicit reference is made to the quality assurance of the production process in accordance with module D1 of the fertiliser product regulation itself. • Use of biogas either directly for the generation of electricity or heat, or upgraded to bio-methane for use as a fuel or as industry feedstock.
Guidelines for compliance with the technical criteria of Objective 4
The guidelines for compliance are in line with those proposed for activity 5.7. Anaerobic digestion of bio-waste and 5.8. Composting of bio-waste, both as part of the integrated water cycle for Objectives 1 and 2 (see sections 5.4.1.7 and 5.4.1.8). The only new feature of the Recommendations Report for Objectives 3-6 is that quality assurance of the production process is guaranteed by using Module D1 foreseen by Regulation (EU) 2019/1009. Part II (Description of conformity assessment procedures) of Annex IV (Conformity assessment procedures) of Regulation 2019/1009 of 5 June 2019 contains Module D1: Quality assurance of the production process. Quality assurance of the production process is the conformity assessment procedure whereby the manufacturer of the EU fertiliser product fulfils the obligations and ensures and declares on his sole responsibility that the EU fertiliser products satisfy the applicable requirements of the Regulation. The manufacturer must be aware of: • the technical documentation to be produced and its minimum content. This requires the manufacturer to put in place a quality system to ensure the conformity of the EU fertiliser product, with sufficient staff and resources. • the information to be recorded for each batch of raw materials (date of delivery, weight, supplier, type of raw materials, batch identification and place of delivery as well as the presence of hazardous substances). Finally, the requirements for assessment/audits of the quality system by a notified body, which must be carried out periodically, requirements for CE marking and the declaration of conformity must also be known.

5.4.5 Criteria for compliance with the DNSH principle for Objectives 3-6

The following Table 6 summarises the DNSH criteria set out in the PSF Recommendations Report for Objectives 3-6 of the identified water cycle activities.

Table 6. Summary of DNSH criteria for type A water cycle activities (Objectives 3-6).

DNSH	Activities	Summary of criteria
1	8.4. Remediation activities 10.1. Urban Wastewater Treatment 10.3. Production of alternative water resources 11.4. Recovery of bio-waste by anaerobic digestion and/or composting	The activities do not involve degradation of terrestrial, marine and inland freshwaters with high carbon stocks. The decontamination and monitoring plan includes measures to reduce Scope 1 and 2 emissions from the entire disposal and/or treatment process. The need for monitoring also affects the collection and treatment of wastewater.

DNSH	Activities	Summary of criteria
2	All type A activities except 6.8. Flood risk prevention and protection infrastructure for inland river, coastal and urban floods and 8.3. Restoration of ecosystems, which contribute to Objective 2.	Appendix A of the Climate Delegated Act. Climate risk assessment and a plan to implement adaptation solutions (with a requirement for implementation within 5 years for activities that improve or modify existing assets or processes).
3	All type A activities except 6.9. Nature based solutions (Nbs) for flood and drought risk prevention and protection for both inland and coastal waters, 9.1. Water supply, 10.1. Urban Wastewater Treatment and 10.4. Sustainable Urban Drainage Systems (SUDs), which contribute to Objective 3.	Appendix B of the Climate Act, which sets out specific requirements for identifying and addressing risks of environmental degradation and preservation of the marine environment, and recalls the need to develop risk management plans for the use of reused water in the agricultural sector.
4	8.4. Remediation activities.	The specific criteria refer to the management of construction and demolition waste and in particular to the best practices available in the EU Construction and Demolition Waste Protocol.
5	All type A activities except 9.1. Water supply.	Appendix C of the Climate Delegated Act in some of the activities, and specific requirements for all activities. 6.9. Minimisation of pesticide use. 8.4. Restrictions on certain substances. 10.1. Requirements for discharges of receiving waters according to applicable regulations, and application of the sewage sludge regulation. 10.2. Application of Best Available Techniques for emission reduction in phosphorus recovery processes. 10.3. Regulatory implementation in the framework of waste water reuse. 10.4. Regulatory implementation in the framework of SUDs to prevent discharges to surface water and groundwater. 11.1. Regulatory implementation in the context of waste treatment. 11.4. Application of Best Available Techniques for emission reductions in anaerobic digestion plants.
6	All type A activities except 11.1. Collection and transport of non-hazardous and hazardous waste as a means for material recovery.	Appendix D of the Climate Delegated Act in some of the activities, and specific requirements for some activities regarding compliance with EU regulations, specific requirements such as Environmental Integration and Restoration Plans and application of the invasive alien species Regulation.

Source: Own elaboration

The following sections provide a synthesis of the DNSH 1, DNSH3, DNSH4, DNSH5 and DNSH6 criteria for the water cycle activities contributing to Objectives 3-6.

5.4.5.1 Objective 1 Climate change mitigation

The DNSH1 criteria for activities that substantially contribute to any of the environmental Objectives 3-6 are based:

- on the one hand, on ensuring that economic activities do not damage those natural systems with high carbon stocks and,
- on the other hand, on controlling GHG emissions in certain activities, such as urban wastewater treatment, wastewater reclamation, and decontamination activities.

In this case, for compliance with these criteria, reference should be made to the guidelines on GHG emission assessment criteria, which is developed for activity 5.3/5.4 for Objectives 1 and 2 (see section 5.4.1.4).

5.4.5.2 Objective 2 Climate change adaptation

The technical DNSH2 screening criteria proposed in the Recommendations Report for Objectives 3-6 for the set of activities described in section 5.4.4 refer to Appendix A of Annex I of the Climate Delegated Act (Objectives 1 and 2). Therefore, the compliance guidelines given in section 5.4.3.2 are valid.

5.4.5.3 Objective 3 Sustainable use and protection of water and marine resources

In general terms, the DNSH3 criteria cover a wide range of issues related to the recovery of waste or materials in wastewater treatment processes and in water reuse. In this sense, reference is made in most cases to the guidelines provided for other resource management issues and the effects on the receiving environment, in this case, inland and marine waters.

With regard to the uses of reclaimed water in agriculture, the constraints imposed by Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse, and, in particular, the content of the risk management plans required by this Regulation are of particular importance.

5.4.5.4 Objective 4 Transition to a circular economy

The only typical economic activity of the water cycle that contributes to Objectives 3-6 (PSF recommendations) for which a DNSH4 technical screening criterion has been established is 8.4. Remediation activities. This criterion refers to the management of construction and demolition waste and in particular to the best practices available in the EU Construction and Demolition Waste Management Protocol[139]. It also mentions a recovery rate for these materials of at least 70%, which corresponds to that defined in the Spanish waste regulations. Generally, compliance with the DNSH4 is based on compliance with current community and national waste regulations.

5.4.5.5 Objective 5 Pollution prevention and control

The specific criteria set out in the DNSH5 for Objectives 3-6 affect a large number of the activities covered by the water cycle.

Generally speaking, they all cover the control of substances and atmosphere, soil and water emissions that can contribute to quality and pollution problems in these environments. In this sense, both EU and national regulations provide answers to the aspects that are explicitly and implicitly included in the various criteria, which affect substances of a very diverse nature (particles, acoustic emissions, pesticides, waste, etc.). This body of legislation establishes, among others, reference levels or lists and registers of substances whose manufacture, marketing and use are restricted or subject to authorisation, being the REACH Regulation noteworthy.

Many other criteria are aimed at pollution control and the establishment of prevention and mitigation measures to reduce or mitigate these emissions and discharges into the receiving environment, for which reference should be made to various guides that describe this type of measures in depth and provide guidance on compliance[140]. In the specific case of soils, for the

[139] https://ec.europa.eu/docsroom/documents/20509/attachments/1/translations/en/renditions/native

[140] Evaluación de la calidad del aire en España. MITECO, 2022. https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/atmosfera-y-calidad-del-aire/informeevaluacioncalidadaireespana2021_tcm30-545170.pdf

implementation of decontamination measures, a series of guides developed by those regions most affected by this issue are also cited[141].

On the other hand, the criteria cover issues related to the use of waste that may be generated from the activity and the reuse of water, so that, in general, the guidelines given in other activities in which both substantial contribution criteria and DNSH criteria relating to this topic have already been developed can be consulted. In addition, compliance should focus on complying with the wastewater reuse regulation, taking into account the differences with the EU legislation that strictly focuses on the use of reclaimed water for irrigation[142], and the national legislation[143], which establishes differentiated requirements for a wide range of uses.

5.4.5.6 Objective 6 Protection and restoration of biodiversity and ecosystems

The DNSH6 criteria for Objectives 3-6 are similar to those indicated for the climate objectives of the water cycle activities, and which addressed matters related to environmental assessment, and therefore we refer to the compliance guidelines given in section 5.4.3.6.

[141] Manual práctico para la investigación de la contaminación del suelo. https://www.euskadi.eus/contenidos/documentacion/manual_practico_suelo/es_doc/adjuntos/manual_practico.pdf

[142] Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0741

[143] Real Decreto 1620/2007, de 7 de diciembre, por el que se establece el régimen jurídico de la reutilización de las aguas depuradas. https://www.boe.es/buscar/doc.php?id=BOE-A-2007-21092

6 Applying taxonomy to other water-related activities

6.1 Selection of water-related activities

As indicated in section 1.1, a specific analysis has been carried out in the complementary study "Assessment of the situation in the region of Madrid" to identify eligible economic activities other than those of the water cycle, but with a link to water.

Specifically, the economic activities selected have been those that are characterised by exerting significant pressure on water resources, whether extractive or polluting, or by requiring the application of specific water-related management constraints as expressed in the Climate Delegated Act and in the Recommendations Report for Objectives 3-6, according to the typologies presented in Table 7:

- Type B. Water-related activities, which take place in the water environment (such as maritime transport or inland navigation activities and/or on aquatic ecosystems, such as wetland restoration activities).
- Type C. Water-related activities with high water consumption and/or significant discharges into the water environment.
- Type D. Water-related activities with specific taxonomic requirements.

In this context, a total of 48 new eligible economic activities are identified, in addition to those already addressed in chapter 5. These activities are listed in the following Table 7.

Table 7. List of other eligible B-D (water-related) activities and the objectives to which they contribute.

Type	Activity code	Economic activity name	Objectives
(B)	2.1	Restoration of wetlands	1 2
(B)	4.4	Electricity generation from ocean energy technologies	1 2
(B)	6.7	Inland passenger water transport	1 2
(B)	6.8	Inland freight water transport	1 2
(B)	6.9	Retrofitting of inland water passenger and freight transport	1 2
(B)	6.10	Sea and coastal freight water transport, vessels for port operations and auxiliary activities	1 2
(B)	6.11	Sea and coastal passenger water transport	1 2
(B)	6.12	Retrofitting of sea and coastal freight and passenger water transport	1 2
(B)	6.16	Infrastructure enabling low carbon water transport	1
(B)	6.16	Infrastructure for water transport[144]	2
(C)	1.1	Animal production	6
(C)	1.2	Crop production	6
(C)	1.3	Fishing	6
(C)	2.1	Manufacture of chemicals	5
(C)	2.5	Manufacture of food products and beverages	4 6
(C)	3.1	Environmental refurbishment of facilities that produce electricity from hydropower	6
(C)	3.7	Manufacture of cement	1 2
(C)	3.8	Manufacture of aluminium	1 2
(C)	3.9	Manufacture of iron and steel	1 2
(C)	3.10	Manufacture of hydrogen	1 2
(C)	3.11	Manufacture of carbon black	1 2

[144] It is worth mentioning that economic activity 6.16 in Annex I (contribution to Objective 1) is different from activity 6.16 in Annex II (contribution to Objective 2). No other similar cases have been detected in the economic activities of the Climate Delegated Act analysed.

Type	Activity code	Economic activity name	Objectives
(C)	3.12	Manufacture of soda ash	1 2
(C)	3.13	Manufacture of chlorine	1 2
(C)	3.14	Manufacture of organic basic chemicals	1 2
(C)	3.15	Manufacture of anhydrous ammonia	1 2
(C)	3.16	Manufacture of nitric acid	1 2
(C)	3.17	Manufacture of plastics in primary form	1 2
(C)	4.13	Manufacture of biogas and biofuels for use in transport and of bioliquids	1 2
(C)	7.1	Construction of new buildings	1 2
(C)	7.2	Renovation of existing buildings	1 2
(D)	1.4	Conservation forestry	2
(D)	9.1	Close to market research, development and innovation	1
(D)	9.2	Research, development and innovation for direct air capture of CO_2	1
(D)	2.4	Furniture: manufacturing, repairing/refurbishing/remanufacturing and sale of spare parts, sale of second-hand, product-as-a-service and other circular use- and result-oriented service models	4
(D)	2.6	Finishing of textiles	5
(D)	2.8	Footwear and leather goods: manufacturing, repairing/refurbishing/remanufacturing, sale of second-hand, product-as-a-service and other circular use- and result-oriented service models	4
(D)	2.9	Tanning of leather	5
(D)	6.1 a 6.6	Emergency services	2
(D)	7.5	Air transportation ground handling operations	2
(D)	8.1	Conservation of habitats and ecosystems	6
(D)	8.2	Restoration of biodiversity and ecosystems	6
(D)	11.3	Treatment of hazardous waste	4 5
(D)	11.5	Remediation of legally non-conforming landfills and abandoned or illegal waste dumps	5

Spurce: own elaboration based on:

Water-related activities type B: Delegated Regulation (EU) 2021/2139 (Objectives 1 and 2)

Water-related activities type C: Platform on Sustainable Finance Recommendations Report on technical screening criteria (Objectives 3-6)

Water-related activities type C: Delegated Regulation (EU) 2021/2139 (Objectives 1 and 2)

Water-related activities type D: Delegated Regulation (EU) 2021/2139 (Objectives 1 and 2)

Water-related activities type D: Platform on Sustainable Finance Recommendations Report on technical screening criteria (Objective 2 and 3-6)

6.2 Methodological approach

The same methodological approach has been followed for the **related economic activities belonging to type B** as the one used in chapter 5 for the economic activities of the water cycle. To this end, the following factsheets have been produced:

Based on the requirements of the Climate Delegated Act (Objectives 1 and 2):

- Ten factsheets to guide compliance with the criteria for substantial contribution to Objective 1 (climate change mitigation), see section 6.3.1.
- One factsheet to guide compliance with the criteria for substantial contribution to Objective 2 (climate change adaptation) for activity 6.16 of Annex II of the Climate Delegated Act, see section 6.3.1.10.
- Three factsheets with guidelines for the application of the DNSH principle for objectives 4, 5 and 6, see section 6.3.3.

No DNSH factsheet has been produced for Objective 1 because either it is not relevant under the delegated act, or the compliance guidelines proposed for substantial contribution to Objective 1 are valid (as they are similar) (in which case it is indicated in the corresponding factsheet).

No DNSH factsheet has been produced for Objective 2, as the guidelines given for compliance with the criteria set for water cycle activities are considered valid (see sections 5.4.3.2 and 5.4.5.2)

No relevant Type B water-related activities have been identified in the **PSF Recommendations Report (Objectives 3-6),** so no content has been developed.

For the rest of **water-related economic activities (types C and D)** no guidelines have been established for the compliance with the criteria. As can be seen in the table above, types C and D are activities that use water as a productive *input*, unlike those of type B, which are carried out in the water environment and/or aquatic ecosystems, or those of type A (water cycle), whose social purpose is the management of water resources. Consequently, they include a good number of industrial activities of a very diverse nature, especially in the chemical sector, primary sector activities (agriculture, livestock and fishing), residential construction and environmental restoration. That is why, in these cases, it has only been considered relevant to identify and summarise the technical criteria that specifically refer to water and/or water resources management.

For types C and D water-related activities contributing to Objectives 1 and 2, only water-specific criteria for DNSH have been identified. Whereas for types C and D water-related activities contributing to Objectives 3-6, technical criteria, both substantial contribution and DNSH, that make explicit reference to water have been identified.

An exception to the above is activity 1.2. (Crop production) for which a series of guidelines for compliance with the criteria have been established due to its high importance in terms of water use (slightly more than 80% at national level according to data from the RBMP) and even higher in terms of consumption or evaporative demand.

6.3 Technical Screening Criteria

The following sections provide a summary of the technical screening criteria identified for the selected water-related activities.

The summarised content of the guidelines developed for compliance with the criteria established for type B economic activities (taking place in the water environment and/or aquatic ecosystems) is presented separately in sections 6.3.1 (substantial contribution to Objective 1 of the Climate Delegated Act) and 6.3.3 (DNSH principle for Objectives 1 and 2 of the Climate Delegated Act).

As indicated in section 5.4.2, the substantial contribution criteria for Objective 2 are the same for all economic activities. In section 6.3.2, the proposed guidelines for their compliance can be consulted, being valid for the three types of water-related activities considered (type B, C and D).

Furthermore, the summary of the technical screening criteria specifically related to water and/or water resources management identified for water-related activities type C (extractive or polluting impact) and type D (with specific taxonomic requirements linked to water), is presented in section 6.3.4.

6.3.1 Criteria for substantial contribution to Objective 1 for type B water-related activities

The following is a list of type B activities for which guidelines for compliance with criteria have been established. A synthesis of these guidelines can be found in sections. 6.3.1.1 to 6.3.1.10.

Table 8. Extract of eligible type B water-related economic activities for which factsheets have been produced.

Type	Activity code	Economic activity name	Objectives
(B)	2.1	Restoration of wetlands	1 2
(B)	4.4	Electricity generation from ocean energy technologies	1 2
(B)	6.7	Inland passenger water transport	1 2
(B)	6.8	Inland freight water transport	1 2
(B)	6.9	Retrofitting of inland water passenger and freight transport	1 2
(B)	6.10	Sea and coastal freight water transport, vessels for port operations and auxiliary activities	1 2
(B)	6.11	Sea and coastal passenger water transport	1 2
(B)	6.12	Retrofitting of sea and coastal freight and passenger water transport	1 2
(B)	6.16	Infrastructure enabling low carbon water transport	1
(B)	6.16	Infrastructure for water transport [145]	2

For economic activity **2.1 Restoration of wetlands**, the substantial contribution criteria relate to:

- The activity is covered by a restoration plan consistent with the Ramsar Convention,
- a climate benefits analysis being carried out to demonstrate that the net balance of GHG emissions and removals from the activity is lower than a baseline value corresponding to a net balance in the affected area in the absence of the restoration activity, and
- ensuring that the wetland condition is maintained over time.
- In addition, for this economic activity to contribute to Objective 1, both the substantial contribution criteria and the DNSH should be verified by the national authority or by an independent certifier. These audits may be carried out in conjunction with other types of certification.

For economic activity **4.4. Electricity generation from ocean energy technologies**, the substantial contribution criterion refers to the generation *per se* of electricity from ocean energy. It would therefore be an activity that in itself already makes a substantial contribution to the climate change mitigation objective, and whose alignment will depend solely on compliance with the technical criteria for the DNSH principle for contribution to Objective 1.

For the **economic activities covered by the maritime and inland navigation sector**, the criteria for substantial contribution to Objective 1 are consistent with the package of measures that the European Commission has planned to implement in the maritime sector to reduce GHG emissions (such as inclusion in the European Emission Trading System, boosting demand for sustainable alternative fuels under the *FuelEU Maritime* initiative[146] and the revision of existing directives on energy taxation, alternative fuels infrastructure and renewable energy), as well as with those already established by the International Maritime Organisation (IMO),

[145] It is worth mentioning that economic activity 6.16 in Annex I (contribution to Objective 1) is different from activity 6.16 in Annex II (contribution to Objective 2). No other similar cases have been detected in the economic activities of the Climate Delegated Act analysed.

[146] The FuelEU Maritime initiative proposes a common EU policy framework to increase the share of renewable and low-carbon fuels in the international shipping fuel mix without creating barriers to the single market. https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12312-Emisiones-de-CO2-procedentes-del-transporte-maritimo-fomento-del-uso-de-combustibles-con-bajas-emisiones-de-carbono_es

which with its initial strategy on reducing GHG emissions from ships[147], is committed to improving carbon intensity by at least 40% by 2030.

Taking into account the considerations set out in all these initiatives, to comply with the criterion of substantial contribution to mitigation for all the economic activities considered (except for retrofitting activities 6.9 and 6.12), the use of vessels with zero direct CO_2 emissions (exhaust gases) is required.

In addition, in all economic activities described in this sector, except for 6.7 and 6.11 concerning inland and sea and coastal passenger water transport respectively, in order to make a substantial contribution to the climate change mitigation objective, it is an essential condition that the vessels are neither dedicated to the transport or storage of fossil fuels.

According to the study developed by the European Commission[148] whose proposals have been used to establish the technical screening criteria in this sector, emissions can be evaluated on a life-cycle basis over the whole life cycle (often called well-to-wake or WTW, i.e. over the entire value chain from production of the fuel until its conversion into useful energy) or on conversion into useful energy (often called tank-to-wake or TTW or tailpipe emissions).

The Commission has decided to use the TTW approach for **all modes of transport** in the technical criteria for climate mitigation in the Delegated Act 2020. Using the same approach for maritime shipping has the advantage that it is consistent with the approach taken in the taxonomy framework for other transport modes, that it incentivises energy efficiency improvements as well as the uptake of technologies relying on fuels that potentially emit no GHG and air pollutants, and that a mere inspection of the ship can determine whether the criteria are met or not – in other words, meeting the criteria does not depend on information about how the fuel has been produced. However, the Commission's study points out that, due to current technological developments, only very few zero emissions vessels are available in the market and those are electrical vessels for short sea shipping.

For this reason, substantial contribution criteria have been defined that allow a transition period until 2025 to allow for a certain amount of direct emissions. In general terms, vessels will meet the criteria if they derive a minimum of 50% or 25% of their energy (depending on the activity) from zero direct emission fuels, through the use of hybrid and dual-fuel ships; or if their direct emissions are 50% below a given reference value, calculated through two energy efficiency indicators already used by IMO[149]. In retrofitting activities (6.9 and 6.12), it is required to achieve a reduction in the vessel's fuel consumption of at least 10%.

The term *retrofitting* used in Climate Delegated Act, refers in this context to the installation of state-of-the-art or innovative components or systems on ships in order to comply with new energy and emission standards or other environmental standards, or to the shipowner's interest in improving the operation of the ship.

In the case of activity **6.16 Infrastructure enabling low carbon water transport**, the criteria followed are similar, but associated with infrastructures for the navigation of vessels with zero direct (tailpipe) CO_2 emissions (exhaust emissions); the provision of alternative fuels such as electricity charging and hydrogen-based refuelling; and the performance of port operations with zero CO_2 emissions. For this activity to contribute to Objective 1 it is also required that the infrastructures are not dedicated to the transport or storage of fossil fuels.

[147] International Maritime Organisation Initial GHG Emission Reduction Strategy for Ships. 2018. https://www.imo.org/es/MediaCentre/PressBriefings/Pages/06GHGinitialstrategy.aspx

[148] European Commission. 2021. Development of a methodology to assess the 'green' impacts of investment in the maritime sector and projects https://op.europa.eu/en/publication-detail/-/publication/8aa9a115-aedd-11eb-9767-01aa75ed71a1

[149] International Maritime Organization. https://www.imo.org/

The following sections present basic guidelines for assessing the compliance of water-related economic activities with the criteria.

6.3.1.1 Restoration of wetlands (2.1)

Economic activities covered

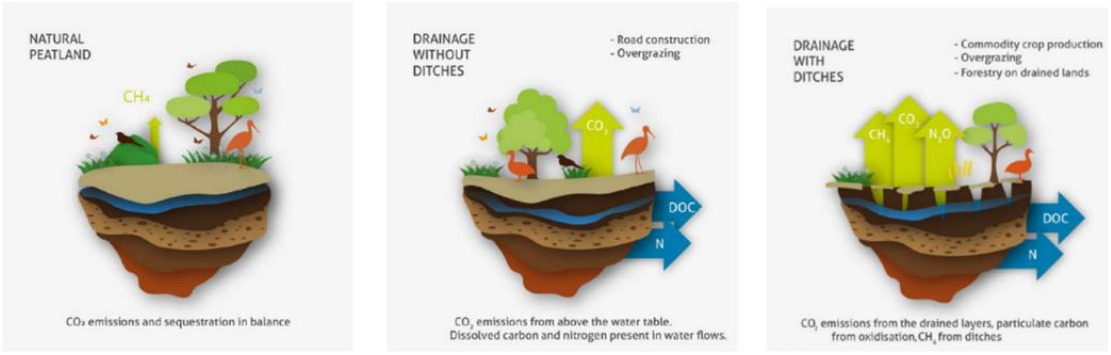
Restoration of wetlands refers to economic activities that promote a return to original conditions of wetlands and economic activities that improve wetland functions without necessarily promoting a return to pre-disturbance conditions.

Technical criteria for substantial contribution (SC) to Objective 1

For the activity to contribute substantially to Objective 1, it must meet all the criteria defined in the Delegated Act.

Wetlands play a key role in buffering the effects of climate change, as well as having numerous other co-benefits (water quality, fish and wildlife habitat, flood control, etc.).

Figure 31. Comparison of land uses affecting peatlands and associated impacts on GHG emissions.



Source: Global Water Adaptation (AGWA) and Wetlands International, 2020. Locking Carbon in Wetlands. Enhancing Climate Action by Including Wetlands in NDCs.

However, wetlands with a certain degree of degradation or impairment have a reduced capacity to provide benefits. Therefore, in order for the economic restoration activity to contribute to Objective 1, one of the substantial contribution criteria requires that a climate benefit analysis be carried out to demonstrate that the net balance of GHG emissions and removals generated by the activity is lower than a baseline value corresponding to a net balance considering the affected area in the absence of the restoration activity over a period of 30 years and 100 years (average balance).

On the other hand, degraded wetlands can also emit significant amounts of GHGs, which can be reversed through proper management and wise use, preventing such emissions and even promoting sequestration of GHG emissions.

All of this supports the need for wetlands to be part of climate solutions, and to play an increasingly important role in mitigation, adaptation and disaster risk reduction plans. It is therefore essential to implement measures to protect these environments through the proper management, conservation and restoration of wetlands and peatlands, which is reflected in another criterion of the Climate Delegated Act.

In addition, the proper management of wetlands must be guaranteed by national legislation that designates these environments as protected areas, which limits other possible future uses, as stated in another criterion.

Guidelines for compliance with the technical criteria of Objective 1

In assessing compliance with the criterion related to restoration plans, a distinction can be made between peatlands and other wetlands.

In the case of peatlands, reference should be made to the recommendations contained in the relevant Ramsar Convention Resolutions, including Resolution XIII/13 and Resolution VIII.17, as well as other publications that can serve as guidance for compliance with SC1, resulting from the work of organisations promoting peatland protection and restoration actions.

For the rest of wetlands, in addition to the Ramsar Convention itself, a series of Spanish wetland restoration and rehabilitation projects should be considered. The main causes of degradation should be established, and the difference between what is known as ecological restoration and rehabilitation should be taken into consideration. Guidelines contained in some restoration manuals are useful.

On the other hand, the complexity of this issue relating wetlands to their climate adaptation and mitigation capacity should be emphasised. This may be due to multiple factors such as the sector to which these emissions are associated, or the complexity of accounting for GHG capture and emission

levels, which would justify the lack of specific tools or methodologies to account for these emissions resulting from wetlands. However, these tools should be based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories which provide methodologies for estimating national anthropogenic emissions and reductions We suggest consulting the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, which provides methodological guidance for land with wet or draining soils and constructed wetlands for wastewater treatment.

References of particular interest include the Spanish System of Inventory and Projections of Emissions to the Atmosphere (SEI), and some tools such as the Blue Carbon Calculator, AFOLU calculator, CarboScen or FAO's EX ACT tools that, without being specific to wetlands and/or peatlands, can be used as a reference.

As guidelines for compliance with the criteria referring to national legislation, a review of the most relevant national legislation on wetlands and the National Inventory of Wetlands is presented. In addition, reference is made to specific legislation at regional level (Region of Madrid) and the Regional Catalogue of Reservoirs and Wetlands of the Community of Madrid and the Action Plan on Catalogued Wetlands of the Community of Madrid are cited.

References

Regarding restoration plans:

Legal provisions

- Ramsar Convention. https://www.miteco.gob.es/es/biodiversidad/temas/ecosistemas-y-conectividad/leg_texto_convenio_ramsar_tcm30-196467.pdf
- Instrumento de 18 de marzo de 1982 de adhesión de España al Convenio relativo a Humedales de importancia internacional, especialmente como hábitat de aves acuáticas, hecho en Ramsar el 2 de febrero de 1971. https://www.boe.es/buscar/doc.php?id=BOE-A-1982-21179
- Instrumento de ratificación del Protocolo de Enmienda del Convenio relativo a los Humedales de importancia internacional, especialmente como hábitat de aves acuáticas, hecho en París el 3 de diciembre de 1982. https://www.boe.es/buscar/doc.php?id=BOE-A-1987-16336
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0147&from=ES
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31992L0043&from=EN
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32000L0060
- Communication from the Commission to the Council and the European Parliament on the Wise Use and Conservation of Wetlands. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51995DC0189&from=EN

Guides and/or manuals

- MITECO. 2022. Borrador del Plan Estratégico de Humedales a 2030. https://www.miteco.gob.es/es/biodiversidad/participacion-publica/PEHumedales.aspx
- MITECO. 2000. Plan Estratégico Español para la Conservación y Uso Racional de los Humedales, en el marco de los ecosistemas acuáticos de que dependen https://www.chj.es/Descargas/ProyectosOPH/Consulta%20publica/PHC-2021-2027/PHJ/ReferenBibliograficas/MMA,2000_Plan_Estrategico_Humedales.pdf
- Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente, 2017. https://www.miteco.gob.es/en/biodiversidad/temas/ecosistemas-y-conectividad/proyecto_rest_humedales_completo_tcm38-486719.pdf
- Junta de Andalucía. 2007. Manual de restauración de humedales mediterráneos. https://www.juntadeandalucia.es/medioambiente/portal/documents/20151/0/manual_humedales_medi_2007.pdf/7e18d302-9f75-fc63-6320-243955111d96?t=1602148201185
- IHOBE. Identificación, valoración y restauración de turberas: contribuciones recientes. https://ufmsecretariat.org/wp-content/uploads/2022/03/Restoration-policy-paper_LongVersion.pdf
- International Peatland Sociaty, 2019. Estrategia para la gestión responsable de las turberas. https://peatlands.org/assets/uploads/2019/10/srpm2019finalforprint.pdf
- Martin Schumann & Hans Joosten, 2008. Manual mundial de restauración de turberas. http://www.imcg.net/media/download_gallery/books/gprm_01.pdf

Regarding the climatic benefits of wetlands:

IPCC Guidelines

- 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands Methodological Guidance on Lands with Wet and Drained Soils, and Constructed Wetlands for Wastewater Treatment https://www.ipcc.ch/site/assets/uploads/2018/03/Wetlands_Supplement_Entire_Report.pdf
- 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4: Agriculture, Forestry and Other Land Use. Chapter 7. Wetlands. https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch07_Wetlands.pdf

Guides, documents, and/or manuals

- MITECO. Sistema Español de Inventario de Emisiones: Informe interactivo. https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei-/informe-interactivo-inventario-nacional-emisiones.aspx
- UNESCO & UN-Water (2020). United Nations World Water Development Report 2020: Water and Climate Change. Paris, France: UNESCO https://unesdoc.unesco.org/ark:/48223/pf0000372985.locale=en
- Denef, K., K. Paustian, S. Archibeque, S. Biggar, D. Pape, 2012. Report of Greenhouse Gas Accounting Tools for Agriculture and Forestry Sectors. Interim report to USDA under Contract No. GS23F8182H. https://downloads.regulations.gov/CEQ-2019-0003-164945/attachment_56.pdf
- Food and Agriculture Organization of the United Nations, 2020. Peatlands and climate planning. https://www.fao.org/documents/card/en/c/cc2895en%20/
- Food and Agriculture Organization of the United Nations, 2012. Peatlands-Guidance for climate change mitigation through conservation, rehabilitation and sustainable use. https://www.fao.org/3/an762e/an762e00.pdf
- Global Water Adaptation (AGWA) and Wetlands International, 2020. Locking Carbon in Wetlands. Enhancing Climate Action by Including Wetlands in NDCs. https://www.wetlands.org/publications/locking-carbon-in-wetlands/
- ProClima, 2021. Documento metodológico del sector AFOLU para la cuantificación de la reducción de emisiones y remociones de GEI. https://proclima.net.co/wp-content/uploads/2021/03/Documento-metodol%C3%B3gico_AFOLU-en-EAM_v1.1.pdf

GHG calculation tools

- Blue Carbon Calculator. https://www.mass.gov/blue-carbon-calculator
- AFOLU Calculator. https://www.climatelinks.org/resources/agriculture-forestry-and-other-land-use-afolu-carbon-calculator
- CarboScen tool. https://www.cifor-icraf.org/qcs/knowledge/toolboxes/carboscen/
- FAO EX ACT tools. https://www.fao.org/in-action/epic/ex-act-tool/suite-of-tools/en

In relation to permanence assurance, audit and group assessment:

Legal provisions

- Ley 42/2007, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad. https://www.boe.es/buscar/act.php?id=BOE-A-2007-21490
- Ley 7/1990, de 28 de junio, de Protección de Embalses y Zonas Húmedas de la Comunidad Autónoma de Madrid. https://www.boe.es/buscar/doc.php?id=BOE-A-1990-23936
- Real Decreto Legislativo 1/2001, de 20 de julio, por el que se aprueba el texto refundido de la Ley de Aguas. https://www.boe.es/buscar/doc.php?id=BOE-A-2001-14276
- Real Decreto 849/1986, de 11 de abril, por el que se aprueba el Reglamento del Dominio Público Hidráulico, que desarrolla los títulos preliminar I, IV, V, VI y VII de la Ley 29/1985, de 2 de agosto, de Aguas. https://www.boe.es/buscar/doc.php?id=BOE-A-1986-10638
- Real Decreto 435/2004, de 12 de marzo, por el que se regula el Inventario nacional de zonas húmedas. https://www.boe.es/buscar/act.php?id=BOE-A-2004-5404
- Real Decreto 556/2011, de 20 de abril, para el desarrollo del Inventario Español del Patrimonio Natural y la Biodiversidad. https://www.boe.es/buscar/act.php?id=BOE-A-2011-8228
- Real Decreto 1274/2011, de 16 de septiembre, por el que se aprueba el Plan estratégico del patrimonio natural y de la biodiversidad 2011-2017, en aplicación de la Ley 42/2007, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad. https://www.boe.es/buscar/act.php?id=BOE-A-2011-15363

- Decreto 26/2020, de 8 de abril, del Consejo de Gobierno, por el que se aprueba el Plan de Actuación sobre Humedales Catalogados de la Comunidad de Madrid. http://www.madrid.org/wleg_pub/secure/normativas/contenidoNormativa.jsf?opcion=VerHtml&nmnorma=11176&eli=true#no-back-button

Wetland inventories

- Spanish Inventory of Wetlands. https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-nacional-de-zonas-humedas/index_invent_zonas_humedas.aspx
- Reservoirs included in the Regional Catalogue of Reservoirs and Wetlands of the Community of Madrid. https://www.comunidad.madrid/sites/default/files/doc/medio-ambiente/listado_embalses_catalogo_diciembre_2018.pdf

6.3.1.2 Electricity generation from ocean energy technologies (4.4)

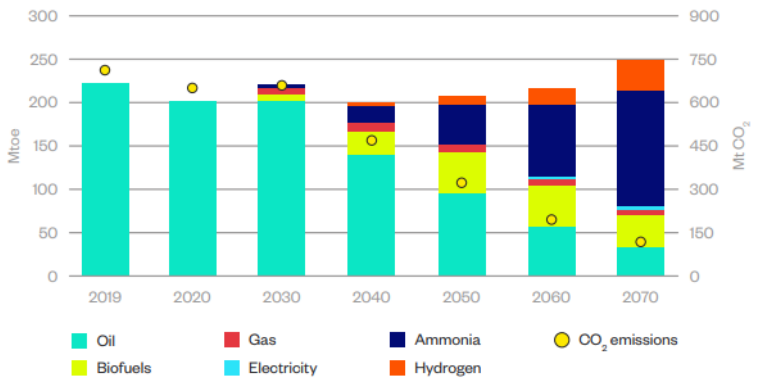
Economic activities covered
Construction or operation of electricity generation facilities that produce electricity from ocean energy.
Technical criteria for substantial contribution (SC) and guidelines for compliance with the technical criteria of Objective 1
The substantial contribution criterion for this activity refers to the generation *per se* of electricity from ocean energy. It would therefore be an activity that in itself already makes a substantial contribution to the climate change mitigation objective, and whose alignment will depend solely on the fulfilment of the technical criteria for the DNSH principle for Objective 1.

6.3.1.3 Inland passenger water transport (6.7)

Economic activities covered
Purchase, financing, leasing, rental and operation of passenger vessels on inland waters, involving vessels that are not suitable for sea transport.
Technical criteria for substantial contribution (SC) to Objective 1
For the activity to contribute substantially to Objective 1, it must meet one or more of the criteria defined in the Climate Delegated Act. The technical criteria for substantial contribution to Objective 1 have been defined to be compatible with the package of measures that the European Commission (EC) has planned to implement in the maritime sector to reduce GHG emissions (inclusion in the European Emissions Trading System, boosting demand for sustainable alternative fuels under the *FuelEU Maritime* initiative and revision of the existing directives on energy taxation, alternative fuels infrastructure and renewable energy), as well as with those already established by the International Maritime Organisation (IMO), which with its initial strategy on reducing GHG emissions from vessels, is committed to improving carbon intensity by 40% by 2030. Taking into account the considerations set out in all these initiatives, for the economic activity to contribute to Objective 1, the use of vessels with zero direct (tailpipe) CO_2 emissions is required. However, given current technological developments, there are currently very few zero-emission vessels available on the market, these being mainly electric ships for short sea shipping. For this reason a transition period until 2025 is envisaged to allow for a certain level of direct emissions on existing vessels. In general terms, ships will meet the criteria if they obtain a minimum of 50 % of their energy from zero direct emission fuels, using hybrid and dual-fuel vessels.

Guidelines for compliance with the technical criteria of Objective 1

Figure 32. Global energy consumption and CO_2 emissions in a sustainable scenario 2019-2070.



Source: Catalysing-the-fourth-propulsion-revolution, 2020.

With regard to both the European and international regulatory framework on which the substantial contribution criteria are based, a distinction is made between fuels that emit zero direct CO_2 emissions, such as hydrogen and ammonia, and zero emission technologies, such as electricity. Mention is made of the concern of maritime operators to be able to meet these criteria, who consider that the degree of progress of these technologies will not be sufficient until 2030.

For the transition period up to 2025, in which the use of hybrid and dual-fuel propulsion vessels is allowed, the findings of the study developed by the EC whose proposals have been used to establish the technical screening criteria for maritime and inland navigation activities are relevant, which concludes that this type of measures is more suitable for short sea shipping, while deep sea shipping faces greater challenges in terms of decarbonisation due to long distance voyages.

Meeting the substantial contribution criteria is entirely dependent on the implementation of the European Commission's recent proposals to amend existing regulations in response to the European Green Pact and the Sustainable and Intelligent Mobility Strategy to promote the use of alternative fuels, as well as the necessary infrastructure for refuelling and recharging.

References:

In relation to zero direct CO_2 emissions (exhaust gases):

Legal provisions

- Proposal for a Regulation of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU of the European Parliament and of the Council. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021PC0559&from=EN
- Proposal for a Regulation of the European Parliament and of the Council on the use of renewable and low-carbon fuels in maritime transport and amending Directive 2009/16/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:562:FIN
- Regulation (EU) 2015/757 of the European Parliament and of the Council of 29 April 2015 on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending Directive 2009/16/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32015R0757&from=ES
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Sustainable and Smart Mobility Strategy – putting European transport on track for the future. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0789&from=ES
- Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L2001
- Communication From the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640

Technical documents

- European Commission. 2021. Development of a methodology to assess the 'green' impacts of investment in the maritime sector and projects. https://op.europa.eu/en/publication-detail/-/publication/8aa9a115-aedd-11eb-9767-01aa75ed71a1

Websites

- FuelEU Maritime https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12312-Emisiones-de-CO2-procedentes-del-transporte-maritimo-fomento-del-uso-de-combustibles-con-bajas-emisiones-de-carbono_es
- International Maritime Organisation's Initial GHG Emission Reduction Strategy for Ships https://www.imo.org/es/MediaCentre/PressBriefings/Pages/06GHGinitialstrategy.aspx

In relation to hybrid and dual-fuel vessels that obtain at least 50% of their fuel energy with zero direct CO_2 emissions:

Legal provisions

- Proposal for a Regulation of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU of the European Parliament and of the Council. https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52021PC0559

Technical documents

- EMSA (2020), Study on Electrical Energy Storage for Ships. https://www.emsa.europa.eu/publications/item/3895-study-on-electrical-energy-storage-for-ships.html
- Bouman E.A. et al. (2017), State-of-the-art technologies, measures, and potential for reducing GHG emissions from shipping - A review. Transportation Research. https://www.sciencedirect.com/science/article/pii/S1361920916307015

6.3.1.4 Inland freight water transport (6.8)

Economic activities covered

Purchase, financing, leasing, rental and operation of freight vessels on inland waters, involving vessels that are not suitable for sea transport.

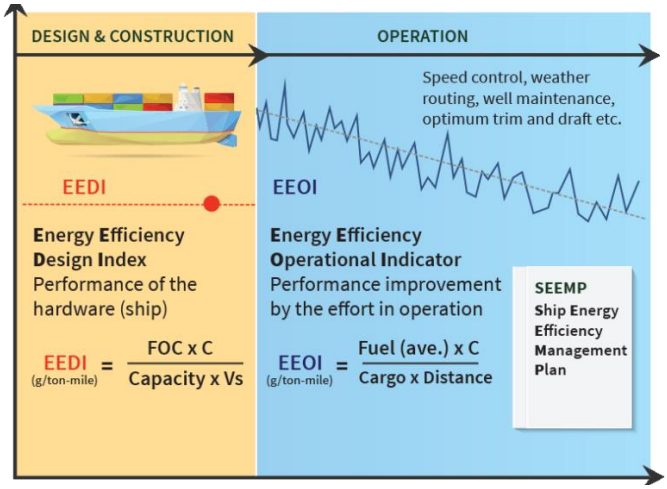
Technical criteria for substantial contribution (SC) to Objective 1

For the activity to contribute substantially to Objective 1, it must meet one or more of the criteria defined in the Climate Delegated Act.

The technical criteria for substantial contribution to Objective 1 have been defined to be compatible with the package of measures that the EC has planned to implement in the maritime sector to reduce GHG emissions (inclusion in the European Emissions Trading System, boosting demand for sustainable alternative fuels under the *FuelEU Maritime* initiative and revision of existing directives on energy taxation, alternative fuels infrastructure and renewable energy), as well as with those already established by the International Maritime Organisation (IMO).

The IMO adopted a series of amendments to Annex VI of the MARPOL Convention, of mandatory technical and operational energy efficiency measures, which are expected to significantly reduce the amount of CO_2 emissions from international shipping. In this area, the quantitative thresholds defined in the Climate Delegated Act are linked to indicators and metrics used by IMO, such as the Energy Efficiency Design Index (EEDI) and Energy Efficiency Operational Indicator (EEOI).

Figure 33. Relations between EEDI, EEOI and SEEMP.



Source: IMO presentation on Technical Measures.

Taking into account the considerations set out in all these initiatives, for this activity to contribute to climate change mitigation, the use of vessels with zero direct CO_2 emissions is required. However, given

current technological developments, there are currently very few zero-emission vessels available on the market, these being mainly electric ships for short sea shipping. For this reason a transition period until 2025 is envisaged to allow for a certain level of direct emissions. In this case, ships will meet the criteria if the direct CO_2 emissions calculated using an energy efficiency indicator defined by the IMO (EEOI), are 50 % below the average CO_2 emissions reference value defined for heavy duty vehicles.

According to the EC study whose proposals have been used to establish the technical screening criteria for maritime and inland waterway activities, the threshold thus defined (comparing emissions from maritime transport with those from road transport) ensures that the carbon intensity of the maritime transport sector remains similar to that of eligible road freight vehicles, with a review in 2025 to analyse the evolution of technology in the freight transport sector.

The last criterion defined for this activity is directly applicable, declaring as ineligible those vessels dedicated to the transport of fossil fuels.

Guidelines for compliance with the technical criteria of Objective 1

The proposed compliance guidelines for activity 6.7 for the substantial contribution criterion requiring vessels to have zero direct CO_2 emissions (exhaust emissions) can be found in section 6.3.1.3.

With regard to the criterion on the calculation of the energy efficiency indicator (EEOI), an explanation is given of what the indicator consists of, referring to the calculation guidelines developed by the IMO, as well as available calculation tools (software).

References

In relation to zero direct CO_2 emission:

See list of references in section 6.3.1.3.

In relation to the energy efficiency of vessels:

Websites

- Energy efficiency measures. IMO. https://www.imo.org/es/OurWork/Environment/Pages/Technical-and-Operational-Measures.aspx
- Access to the Guidelines related to the energy efficiency of ships. IMO. https://www.imo.org/en/OurWork/Environment/Pages/Index-of-MEPC-Resolutions-and-Guidelines-related-to-MARPOL-Annex-VI.aspx

Legal provisions

- Amendments of 2011 to the Annex to the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (Inclusion of Ship Energy Efficiency Regulations in MARPOL Annex VI) adopted in London on 15 July 2011 by Resolution MEPC.203(62).https://www.epa.gov/sites/default/files/2016-09/documents/resolution-mepc-202-62-7-15-2011.pdf
- Resolution MEPC.346(78) (adopted on 10 June 2022). 2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP). https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Air%20pollution/MEPC.346(78).pdf
- Regulation (EU) 2019/1242 of the European Parliament and of the Council of 20 June 2019 setting CO2 emission performance standards for new heavy-duty vehicles and amending Regulations (EC) No 595/2009 and (EU) 2018/956 of the European Parliament and of the Council and Council Directive 96/53/EC. https://eur-lex.europa.eu/eli/reg/2019/1242/oj

Guides and/or manuals

- MEPC.1/Circ.684. Guidelines for voluntary use of the ship Energy Efficiency Operational Indicator (EEOI) https://gmn.imo.org/wp-content/uploads/2017/05/Circ-684-EEOI-Guidelines.pdf

Tools and Data

- DNV GL EEOI Calculator: https://www.dnvgl.com/maritime/eeoi-calculator-download.html
- ABS My Digital Fleet: https://www.abswavesight.com/my-digital-fleet
- ClassNK ZETA: https://www.classnk.or.jp/hp/en/info_service/ghg/nk-zeta.html

6.3.1.5 Retrofitting of inland water passenger and freight transport (6.9)

Economic activities covered

Retrofit and upgrade of vessels for transport of freight or passengers on inland waters, involving vessels that are not suitable for sea transport.

The term retrofitting used in Climate Delegated Act, refers in this context to the installation of state-of-the-art or innovative components or systems on ships in order to comply with new energy and emission standards or other environmental standards, or to the shipowner's interest in improving the operation of the ship.

Technical criteria for substantial contribution (SC) to Objective 1

For the activity to contribute substantially to Objective 1, it must meet the two criteria defined in the Climate Delegated Act.

The first criterion states that the retrofitting activity carried out on the vessel until 31 December 2025 must reduce the fuel consumption of the vessel by at least 10% (in litres of fuel per tonne-kilometre), as demonstrated by a comparative calculation for the representative navigation areas (including representative load profiles) in which the vessel is to operate or by means of the results of model tests or simulations. The latter two referring, as in activity 6.12, to hydrodynamic tests such as tank tests and computational fluid dynamics simulation, as referred to in section 6.3.1.8.

The last criterion defined for this activity is directly applicable, declaring as ineligible those vessels intended to transport of fossil fuels.

Guidelines for compliance with the technical criteria of Objective 1

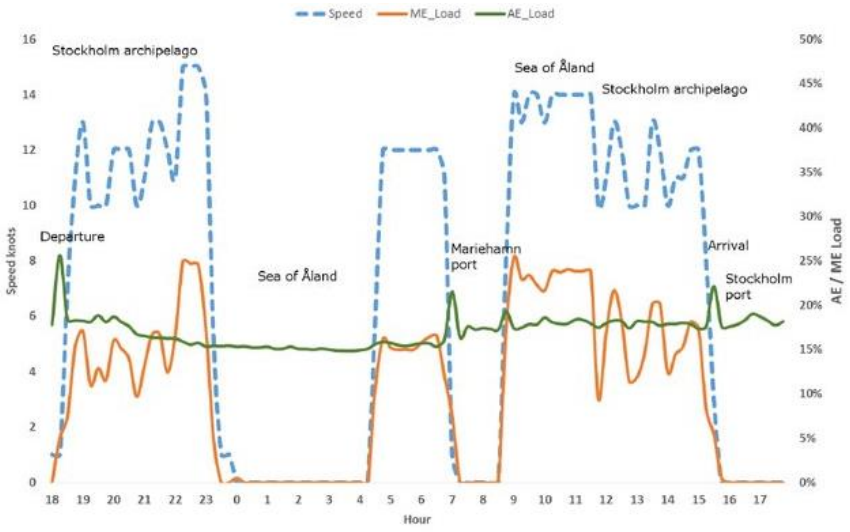
The compliance guidelines are in line with those proposed for activity 6.12 for the substantial contribution criterion requiring the retrofitting activity to lead to a reduction in fuel consumption of at least 10% in the transition period up to 2025.

The methods that may be used to demonstrate the percentage of fuel reduction are listed.

For the first method: a comparative calculation for the representative navigation areas and load profiles in which the vessel is to operate, we first elaborate on the concept of load profile as the engine operating profile, in terms of its load variation over time, which determines the engine performance, and then explain the influence that the route and navigation area in which the vessel operates have on the load profile, as these condition the engine's energy demand.

A relevant reference is the European research project PROMINENT (Promoting Innovation in the Inland Waterways Transport Sector), in which a study was carried out to identify the operational profiles (including load profiles) of ships in the European fleet in representative navigation areas and routes based on sensor-based on-board monitoring systems, as a starting point for further research leading to a massive introduction of emission reduction technologies

Figure 34. Ejemplo de perfil de carga



Fuente: Baldi, F. et al. (2018)

For the other two methods: tank tests and computational fluid dynamics, the proposed compliance guidance can be found in section 6.3.1.8.

References

In relation to energy efficiency:

Technical documents

- Boyd, E., & Macpherson, D. Using Detailed Vessel Operating Data to Identify Energy-Saving Strategies. ITS, 2014. https://hydrocompinc.com/wp-content/uploads/documents/Boyd%202014%20Using%20Detailed%20Vessel%20Operating%20Data%20to%20Identify%20Energy-Saving%20Strategies.pdf
- Hekkenberg, R. G., & Thill, C. (2014). Retrofit solutions for inland ships: the MoVe IT! approach. In EIWN 2014: European Inland Waterway Navigation Conference, Budapest, Hungary, 10-12 September 2014. Budapest University of Technology and Economics. https://www.researchgate.net/profile/Robert-Hekkenberg/publication/270729297_Retrofit_solutions_for_inland_ships_the_MoVe_IT_approach/links/54b382030cf220c63cd2820e/Retrofit-solutions-for-inland-ships-the-MoVe-IT-approach.pdf
- Promoting Innovation in the Inland Waterways Transport Sector (PROMINENT), 2016. D1.1 List of operational profiles and fleet families. Identification of the fleet, typical fleet families & operational profiles on European inland waterways. https://www.prominent-iwt.eu/wp-content/uploads/2015/06/2015_09_23_PROMINENT_D1.1-List-of-operational-profiles-and-fleet-families-V2.pdf
- Promoting Innovation in the Inland Waterways Transport Sector (PROMINENT), 2017. D5.7 Technical evaluation of procedures for Certification, Monitoring & Enforcement Technical evaluation of the monitoring results on Rhine, Danube and other vessels. Public report. https://www.prominent-iwt.eu/wp-content/uploads/2015/06/2015_09_23_PROMINENT_D1.1-List-of-operational-profiles-and-fleet-families-V2.pdf

6.3.1.6 Sea and coastal freight water transport, vessels for port operations and auxiliary activities (6.10)

Economic activities covered

Purchase, financing, chartering (with or without crew) and operation of vessels designed and equipped for transport of freight or for the combined transport of freight and passengers on sea or coastal waters, whether scheduled or not.

Purchase, financing, renting and operation of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers.

Technical criteria for substantial contribution (SC) to Objective 1

For the activity to contribute substantially to Objective 1, it must meet one or more of the criteria defined in the Climate Delegated Act.

Technical screening criteria 1(a) and (b) are broadly the same as those defined in economic activity 6.7. Inland passenger water transport, except that in this case ships will meet the criteria if they obtain at least 25 % of their energy from zero direct emission fuels, through the use of hybrid and dual-fuel vessels (compared to 50 % in the case of activity 6.7).

In addition, and only for vessels that are used exclusively for operating coastal and short sea services, ships will contribute to mitigation if the direct CO_2 emissions calculated using an IMO defined energy efficiency indicator (EEDI), are 50 % below the average reference value for CO_2 emissions defined for heavy duty vehicles.

Another criterion states that ships will contribute to mitigation if direct CO_2 emissions calculated using an IMO defined energy efficiency indicator (EEDI), are 10 % below the EEDI requirements applicable on 1 April 2022, if the ships can operate on fuels with zero direct CO_2 emissions or on fuels from renewable sources.

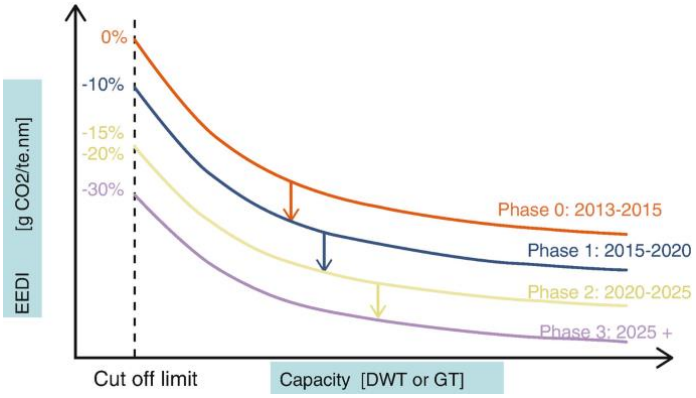
As for the rest of the economic activities in the maritime and inland navigation sector, the last criterion defined for this activity is directly applicable, declaring as ineligible those vessels dedicated to the transport and storage of fossil fuels.

Guidelines for compliance with the technical criteria of Objective 1

The compliance guidelines are in line with those proposed for activity 6.7 for the substantial contribution criterion requiring ships to have zero direct CO_2 emissions (exhaust emissions) and for the criterion that sets a transition period until 2025.

With regard to the criterion on the calculation of the energy efficiency indicator (EEDI), reference should be made to the conceptual framework and calculation guidelines developed by the IMO, as well as to available calculation tools (*software*).

Figure 35. Phases of implementation of the EEDI.



Source: The energy efficiency design index (EEDI) (Polakis et al., 2019).

References

In relation to zero direct CO_2 emissions and hybrid and dual-fuel vessels:

See list of references in section 6.3.1.3.

In relation to energy efficiency:

Websites

- IMO. Energy efficiency measures. https://www.imo.org/es/OurWork/Environment/Pages/Technical-and-Operational-Measures.aspx
- IMO. Access to the Guidelines related to the energy efficiency of ships. https://www.imo.org/en/OurWork/Environment/Pages/Index-of-MEPC-Resolutions-and-Guidelines-related-to-MARPOL-Annex-VI.aspx

Legal provisions

- Amendments of 2021 to the Annex to the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978. Revised 2021 Annex VI to the MARPOL Convention (Resolution MEPC.328(76)). https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MEPCDocuments/MEPC.328(76).pdf
- Regulation (EU) 2019/1242 of the European Parliament and of the Council of 20 June 2019 setting CO2 emission performance standards for new heavy-duty vehicles and amending Regulations (EC) No 595/2009 and (EU) 2018/956 of the European Parliament and of the Council and Council Directive 96/53/EC. https://eur-lex.europa.eu/eli/reg/2019/1242/oj

Tools and Data

- DNV Energy Efficiency Design Index Calculator: https://www.dnv.com/services/energy-efficiency-design-index-calculator-140598
- ABS EEDI verification service: https://ww2.eagle.org/en/Products-and-Services/sustainability/eedi-verification-.html
- ClassNK PrimeShip-GREEN/PSTA: https://www.classnk.or.jp/hp/en/activities/primeship/index.html

6.3.1.7 Sea and coastal passenger water transport (6.11)

Economic activities covered

Purchase, financing, chartering (with or without crew) and operation of vessels designed and equipped for performing passenger transport, on sea or coastal waters, whether scheduled or not. The economic activities in this category include operation of ferries, water taxies and excursions, cruise or sightseeing boats.

Technical criteria for substantial contribution (SC) to Objective 1

For the activity to contribute substantially to Objective 1, it must meet one or more of the criteria defined in the Delegated Act.

The three technical screening criteria established for this activity are the same as criteria 1.a), b) and d) defined for economic activity 6.10. Sea and coastal freight water transport, vessels for port operations and auxiliary activities.

Guidelines for compliance with the technical criteria of Objective 1

Proposed compliance guidance can be found in section 6.3.1.6 for activity 6.10.

References
See list of references in section 6.3.1.6.

6.3.1.8 Retrofitting of sea and coastal freight and passenger water transport (6.12)

Economic activities covered
Retrofit and upgrade of vessels designed and equipped for the transport of freight or passengers on sea or coastal waters, and of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers. The term retrofitting used in Climate Delegated Act, refers in this context to the installation of state-of-the-art or innovative components or systems on ships in order to comply with new energy and emission standards or other environmental standards, or to the shipowner's interest in improving the operation of the ship.
Technical criteria for substantial contribution (SC) to Objective 1
For the activity to contribute substantially to Objective 1, it must meet the two criteria defined in the Climate Delegated Act. The first criterion states that the retrofitting activity carried out on the vessel until 31 December 2025 must reduce the vessel's fuel consumption by at least 10% (in grams of fuel per deadweight tonne per nautical mile), as demonstrated by computational fluid dynamics (CFD), tank tests or similar engineering calculations. The second criterion defined for this activity is directly applicable, declaring vessels dedicated to the transport of fossil fuels, as ineligible.
Guidelines for compliance with the technical criteria of Objective 1
The assessment of compliance with this criterion is linked to the implementation of possible retrofitting measures to improve fuel efficiency in shipping. Also, tank tests and computational fluid dynamics tests, as referred to in the substantial contribution criterion, should be considered as evidence of the reduction of the vessel's fuel consumption resulting from the improvements.
References
Regarding energy efficiency: **Technical documents** • Krikke, M. (2015). Retrofitting Ships with New Technologies for Improved Overall Environmental Footprint. *RETROFIT Project Final Report, Rotterdam: Netherlands Maritime Technology Foundation.* https://cordis.europa.eu/docs/results/285/285420/final1-150521-retrofit-ec-final-report-final.pdf • Methodology for retrofit energy efficiency measures in shipping. Gold Standard, 2021. https://globalgoals.goldstandard.org/methodology-for-retrofit-energy-efficiency-measures-in-shipping/ • The Retrofit Project. Retrofitting to reduce CO2 emission - a case study of three different vessels. Green Ship, 2019. https://greenship.org/project/2019-retrofit-series/ **Tools and Data** • OpenFOAM https://www.openfoam.com/ • Flow-3D https://www.flow3d.com/ **Websites** • TRIMIS Search Centre: https://trimis.ec.europa.eu/search?filter=RETROFITTING&sort_by=search_api_relevance&sort_order=DESC&f%5B0%5D=transport_mode%3A11#collapse-searchsortblock • CEHIPAR (Canal de Experiencias Hidrodinámicas del Pardo). https://www.inta.es/ICTS-CEHIPAR/es/inicio/# • CEHINAV (Canal de Ensayos Hidrodinámicos de la ETSI Navales - UPM). https://www.upm.es/recursosidi/offers-resources/servicios-cientifico-tecnologico/servicios-servicios-cientifico-tecnologico/cehinav-canal-de-ensayos-hidrodinamicos-de-la-etsi-navales-upm/

6.3.1.9 Infrastructure enabling low carbon water transport (6.16 Annex I Climate Delegated Act)

Economic activities covered

Construction, modernisation, operation and maintenance of infrastructure that is required for zero tailpipe CO_2 operation of vessels or the port's own operations, as well as infrastructure dedicated to transhipments.

According to the study prepared by the European Commission whose proposals were used to define the technical screening criteria in the maritime and inland navigation sector, low-carbon infrastructure for waterborne transport includes basic inland waterway infrastructure, inland ports and seaports.

Technical criteria for substantial contribution (SC) to Objective 1

The technical screening criteria defined for this activity relate to whether the infrastructure is intended for the navigation of zero CO_2 emission vessels (electricity charging and hydrogen-based refuelling), for the performance of zero-emission port operations or transhipment of goods, or for the electricity supply in port.

As for most economic activities in the maritime and inland navigation sector, the last criterion defined for this activity is directly applicable, declaring as ineligible those infrastructures is not dedicated to the transport or storage of fossil fuels.

Guidelines for compliance with the technical criteria of Objective 1

Achieving compliance with the substantial contribution criteria set for this economic activity is linked to the existence of an appropriate regulatory framework.

For this reason, consideration should be given to the EC's recently published legislative proposals in 2021 for ensuring the availability and ease of use of a dense and widespread network of alternative fuel infrastructure across the EU, which will encourage the use of greener fuels by ships in order to reduce GHG emissions.

References

Legal provisions

- Proposal for a Regulation of the European Parliament and of the Council on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU of the European Parliament and of the Council. https://eur-lex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:52021PC0559&from=en
- Proposal for a Regulation of the European Parliament and of the Council on the use of renewable and low-carbon fuels in maritime transport and amending Directive 2009/16/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:562:FIN
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Sustainable and Smart Mobility Strategy – putting European transport on track for the future https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0789&from=ES
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - The European Green Deal COM/2019/640 final. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640&from=EN

Technical documents

- European Commission. 2021. Development of a methodology to assess the 'green' impacts of investment in the maritime sector and projects. https://op.europa.eu/en/publication-detail/-/publication/8aa9a115-aedd-11eb-9767-01aa75ed71a1
- Commision Notice - Technical guidance on the climate proofing of infrastructure in the period 2021-2027. https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=uriserv%3AOJ.C_.2021.373.01.0001.01.SPA&toc=OJ%3AC%3A2021%3A373%3ATOC
- Paula Ruiz. Forética. El Carbon Pricing como herramienta de gestión empresarial https://foretica.org/carbon_pricing_foretica.pdf

6.3.1.10 Infrastructure for water transport (6.16 Annex II Climate Delegated Act)

Economic activities covered

Construction, modernisation and operation of waterways, harbour and rivers works, pleasure ports, locks, dams and dykes and other, including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products and excludes Project management activities related to civil engineering works.

The economic activities in this category exclude dredging of waterways.
Technical criteria for substantial contribution (SC) to Objective 2
The criteria for substantial contribution to adaptation require the economic activity to have already implemented physical climate risk mitigation solutions that are material, based on the completion of a climate risk and vulnerability assessment. These criteria have been developed in section 5.4.2.1.
Guidelines for compliance with the technical criteria of Objective 2
These technical screening criteria require the economic activity to have already implemented physical and non-physical adaptation solutions that reduce the most important physical climate risks, which are material to that activity, analysed through the development of a climate risk and vulnerability assessment. See section 5.4.2.1 for water cycle activities.
References
See list of references in section 5.4.2.1.

6.3.2 Criteria for substantial contribution to Objective 2

As already indicated, the technical screening criteria for substantial contribution to Objective 2 are the same for all economic activities. The content developed in section 5.4.2 can therefore be consulted for all water-related activities (type B, C and D).

6.3.3 Criteria for compliance with the DNSH principle for Objectives 1 and 2 for type B water-related activities

The DNSH criteria established for the climate objectives are similar for this set of activities, which allows them to be presented together in Table 9.

Table 9. Summary of DNSH criteria for type B water-related activities (Objectives 1 and 2).

DNSH	Activities	Summary of criteria
1	2.1. Restoration of wetlands 6.8. Inland freight water transport 6.9. Retrofitting of inland water passenger and freight transport 6.10. Sea and coastal freight water transport, vessels for port operations and auxiliary activities 6.12. Retrofitting of sea and coastal freight and passenger water transport Retrofitting of sea and coastal freight and passenger water transport 6.16. Infrastructure for water transport	The vessels are not dedicated to the transport of fossil fuels. Wetland restoration plans, substantial contribution criteria and the DNSH verification by the national authority or by an independent certifier. Quantification of the carbon footprint and a clearly defined shadow cost of carbon.
2	All type B activities covered in Table 8 except 6.16. Infrastructure for water transport, which contributes to Objective 2.	Appendix A of the Climate Delegated Act.
3	All type B activities covered in Table 8	Appendix B of the Climate Delegated Act. Achievement of good environmental status in accordance with Directive 2008/56/EC on the marine environment. Compliance with the provisions of the Water Framework Directive 2000/60/EC, in particular all the requirements set out in Article 4 thereof.

DNSH	Activities	Summary of criteria
4	All type B activities covered in Table 8	Peat extraction is reduced to a minimum. Compliance with waste management regulations, as well as international guidelines and directives applicable in this field. Management of construction and demolition waste. Reference is made to the best practices available in the EU Construction and Demolition Waste Protocol. Battery recycling.
5	All type B activities covered in Table 8	Appendix C of the Climate Delegated Act (relating to the control of substances of concern, hazardous substances and substances that may harm human health or the environment, regulated under various European regulations, as well as compliance with the REACH Regulation[150]). Compliance with regulations on the protection of air quality (noise, vibrations and atmospheric emissions generated by the activity) both at European and international level (through the guidelines established in Annex IV of the MARPOL Convention). Control of grey and black water generated on ships, referring to Annex IV of the MARPOL Convention. Rules for the prevention of pollution by sewage from ships (2003). Minimising the toxicity of anti-fouling paints and biocides, which are necessary to prevent marine organisms such as algae and molluscs from adhering to the hull, causing a decrease in speed and an increase in fuel consumption of ships.
6	All type B activities covered in Table 8except 6.7. Inland passenger water transport, 6.8. Inland freight water transport, and 6.9. Retrofitting of inland water passenger and freight transport.	Appendix D of the Climate Delegated Act. Do not cause significant harm to the marine environment, in general to all the descriptors established in the Marine Strategy Framework Directive, establishing specific criteria for descriptors 2 (Alien species), relating to avoiding impacts generated by ballast water when introducing alien species and 11 (Noise/energy) for the control of underwater noise and vibrations that may be generated by equipment and machinery.

Source: Own elaboration

The following sections provide a synthesis of guidelines for compliance with the DNSH4, DNSH5 and DNSH6 criteria for this group of water-related activities that contribute to the climate objectives.

6.3.3.1 Objective 1 Climate change mitigation

For activity 2.1 Restoration of wetlands, the DNSH1 criteria established for Objective 2 are similar to the substantial contribution criteria for Objective 1.

[150] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02006R1907-20140410&from=EN

All the economic activities considered in the maritime and inland navigation sector, (except 6.7) have a DNSH1 criterion defined for adaptation objective 2, relating to vessels are not dedicated to the transport or storage of fossil fuels.

In the case of activity 6.16. Infrastructure for water transport of Annex II of the Climate Delegated Act (contributes to climate change adaptation), additionally, and only for new infrastructure or major renovation, quantification of the carbon footprint and a clearly defined shadow cost of carbon are required. For this, the European Commission's Communication, which sets out guidelines to be integrated in climate change preparedness and defence of infrastructure projects for the period 2021-2027, proposes a methodology for the calculation of the carbon footprint and a valuation of the shadow cost of carbon.

6.3.3.2 Objective 2 Climate change adaptation

As discussed in section 5.4.2 the technical screening criteria for substantial contribution to Objective 2 are the same for all economic activities. Therefore, the indications set out in that section are considered to be valid.

For certain economic activities, the Climate Delegated Act establishes an additional contribution criterion to Objective 2, which states that in order for the activity to be considered as an **enabling activity** under Article 11(1)(b) of the TR, the economic operator must demonstrate, through an assessment of current and future climate risks, that the activity provides a technology, product, service, information or practice, or promotes its use, with one of the following main objectives:

> a) to increase the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;
> (b) to contribute to the adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

From all the activities identified in Table 7, only the Wetland restoration activity includes this criterion.

6.3.3.3 Objective 3 Sustainable use and protection of water and marine resources

For economic activities in the maritime and inland navigation sector, DNSH3 criteria are only set for activity 6.16 Infrastructure for water transport (which contributes only to Objective 2). The criterion is based on the implementation of the Water Framework Directive and in particular on compliance with Article 4.7, offering two options:

> (a) That it can be demonstrated that the project does not lead to deterioration of the good status or good potential of the water body.
> b) That in the event that compliance with (a) is not possible due to the project resulting in new modifications to the physical characteristics of the water body, it can be demonstrated that the conditions of Article 4(7) of the Directive are met, conditions which, broadly speaking, coincide with those expressed in the criterion.

In any case, the criterion specifically establishes certain aspects that must be considered in the impact assessment to ensure compliance with conditions (a) or, failing that, (b) by suggesting, for example, the specific indication of the types of mitigation measures to be considered in the analysis justifying the conditions for exemption or, where appropriate, to re-establish longitudinal or lateral continuity.

It is important to note that the Spanish version of the Water Framework Directive incorrectly translates the expression "overriding public interest" as "*interés general*" (general interest) on one of the two occasions in which this expression is used in the English version. This is important because the term "*interés general*" has a specific consideration in Spanish legislation

(Article 46 of the Texto Refundido de la Ley de Aguas[151]) and case law has made it clear that the two terms are not equivalent.

For activity 4.4. Electricity generation from ocean energy technologies, DNSH3 criterion relates to the implementation of appropriate measures to prevent or mitigate impacts in relation to descriptor 11 (noise/energy), as defined in the Marine Strategy Directive. For compliance, the guidelines given for the DNSH5 criteria can be consulted, as similar criteria have been defined for several economic activities, although they respond to different objectives.

6.3.3.4 Objective 4 Transition to a circular economy

For activity 2.1 Restoration of wetlands, a DNSH4 criterion has been set, stating that peat extraction should be minimised.

For activity 4.4 Electricity generation from ocean energy technologies, a DNSH4 criterion is also established based on assessing the availability of equipment and components that are highly durable and recyclable and that are easy to dismantle and refurbish, and that where feasible, such equipment and components are used. As these indications are directly applicable, it has not been considered necessary to provide compliance guidelines.

The DNSH4 technical criteria established for water-related economic activities in the maritime and inland navigation sector are based on compliance with waste management regulations, as well as with the existing international guidelines and directives in this field, in order to ensure proper management both in the use phase and in the end of life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board ships and ensuring their safe recycling.

Specifically for the two 6.16 activities considered (Annexes I and II of the Climate Delegated Act), reference is made to the management of construction and demolition waste and, in particular, to the best practices available in the EU Construction and Demolition Waste Protocol, and for all activities reference is made to the recycling of batteries. Compliance with this criterion should be framed and based on the general regulatory framework on waste management at both European and national level, as well as on the specific regulations existing for the maritime sector. Likewise, the international guidelines developed by the IMO on this matter should be considered, which were adopted in the MARPOL 1973 Convention, with special reference to its Annex V "Regulations for the prevention of pollution by garbage from ships", as well as those established in different international conventions, such as the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships and the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal.

6.3.3.5 Objective 5 Pollution prevention and control

The technical screening criteria for the DNSH5 principle of water-related activities in the maritime and inland navigation sector, as well as for activity 4.4. Electricity generation from ocean energy technologies, are particularly related to **compliance with regulations on air quality protection** (noise, vibrations and air emissions generated by the activity) both at European and international level (MARPOL Convention).

Annex VI of the MARPOL Convention's Regulations for the Prevention of Air Pollution from Ships sets limits on emissions of sulphur oxides and nitrogen oxides from ships and prohibits deliberate emissions of ozone-depleting substances. For designated emission control areas, stricter emission standards are set for SOx, NOx and particulate matter.

[151] Real Decreto Legislativo 1/2001, de 20 de julio, por el que se aprueba el texto refundido de la Ley de Aguas https://www.boe.es/buscar/act.php?id=BOE-A-2001-14276

In relation to the protection of the marine environment, the criteria are associated with the **control of grey and black water generated on ships**, referring to Annex IV of the MARPOL Convention, "Rules to prevent pollution by sewage from ships". Annex IV sets out requirements to control pollution of the sea by sewage: the discharge of sewage into the sea is prohibited unless the ship uses an approved treatment facility or discharges sewage previously treated by an approved system, at a distance greater than 3 nautical miles from the nearest land, or at a distance greater than 12 nautical miles from the nearest land if it has not been previously treated.

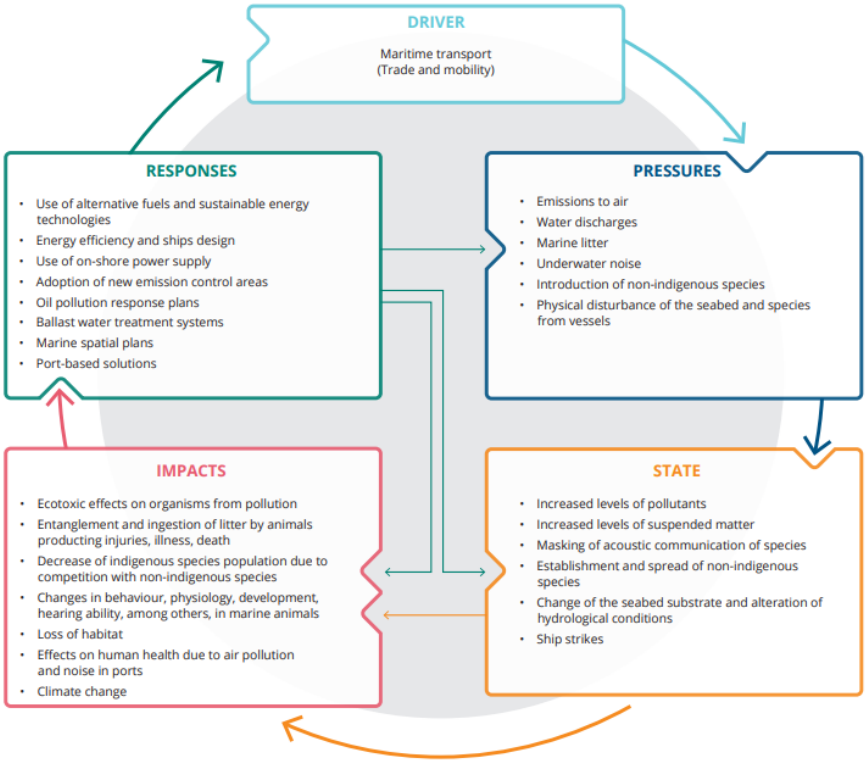
Likewise, and in order to ensure water protection, another criterion is based on **minimising the toxicity of antifouling paints and biocides**, which are necessary to prevent marine organisms, such as algae and molluscs, from adhering to the hull, causing a decrease in speed and an increase in fuel consumption of ships. Finally, and in the specific case of economic activities 6.16 (Annexes I and II of the Climate Delegated Act), the DNSH criteria are similar to those of the rest of the activities, related to the **control of noise, vibrations, dust and emissions but, in this case, those generated during construction and maintenance works**.

Compliance with this criterion should be in line with European legislation, based on available international guidelines and on various studies that can be used as a reference to establish measures to reduce the impact these economic activities may generate.

Among all available studies, the recently published *European Maritime Transport Environmental Report* (EMTER, 2021)[152] jointly prepared by the European Maritime Safety Agency (EMSA) and the European Environment Agency (EEA) and coordinated by the European Commission, provides an analysis of the environmental pressures exerted by the maritime transport sector, presents updated information on international and EU environmental standards and describes current and future actions to reduce the sector's impact on the environment. In order to describe the interactions between shipping and the environment and to analyse the related environmental problems, the report uses the Drivers, pressures, status, impacts, response *(*DPSIR) approach and is structured accordingly.

[152] EEA/EMSA. 2021. European Maritime Transport Environmental Report (EMTER). https://www.eea.europa.eu/publications/maritime-transport/

Figure 36. DPSIR framework for maritime transport.

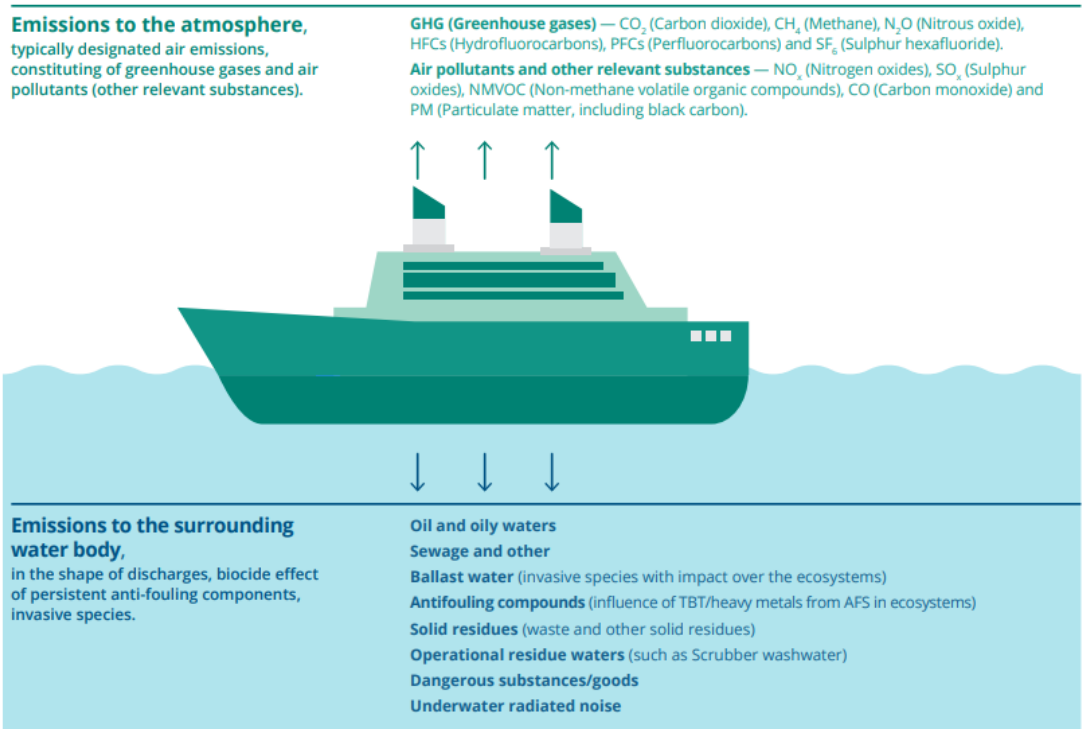


Source: EEA/EMSA, 2021

6.3.3.6 Objective 6 Protection and restoration of biodiversity and ecosystems

The DNSH6 criteria established for economic activities linked to maritime transport and inland navigation, as well as for activity 4.4. Electricity generation from ocean energy technologies, are based on ensuring, in general, that no significant harm is caused to the marine environment. Of all the descriptors defined in the Marine Strategy Framework Directive, specific criteria are established for descriptors 2 (Alien species), relating to avoiding the impacts generated by ballast water when introducing exotic species and 11 (Noise/energy) for the control of underwater noise and vibrations that may be generated by equipment and machinery.

Figure 37. Environmental impacts during maritime transport.



Source: EEA/EMSA, 2021

Again, reference should be made to compliance with European regulations and available international guidelines, as well as studies that facilitate the proposal and characterisation of impact mitigation measures.

In addition, as for the DNSH5 criteria, the recently published *European Maritime Transport Environmental Report* (EMTER, 2021) is highlighted as a reference source.

6.3.4 Technical screening criteria for types C and D water-related activities

As discussed in section 6.2 no specific guidance for compliance with non-climate objectives has been developed for water-related activities type C and D with the exception of activity 1.2 (crop production). However, an identification of criteria relating specifically to water resources management has been carried out and is presented below:

6.3.4.1 Technical screening criteria for Objectives 1 and 2

As already discussed in section 6.2 for **Objectives 1 and 2**, only criteria that make specific reference to water resources management have been identified for the DNSH and for the economic activities listed below:

- In activities related to **forestry** (activities 1.1, 1.2, 1.3 and 1.4), prevention of water and soil contamination and remediation measures in case of pollution must be ensured.
- For **bioenergy generation** activities that may involve biomethanisation facilities treating more than 100 tonnes per day (4.8, 4.13, 4.20, 4.24 and 5.7), emissions to air and water are required to be within or below emission levels associated with the best available techniques.
- For **construction and real estate activities** (7.1 and 7.2), compliance with certain consumption ratios in sanitary installations shall be attested: (a) washbasin taps and kitchen taps have a maximum water flow rate of 6 litres/minute; (b) showers have a

maximum water flow rate of 8 litres/minute; (c) bathrooms, including bathtubs, washbasins, toilets and cisterns, have a maximum full flush volume of 6 litres and a maximum average flush volume of 3.5 litres; (d) urinals use a maximum of 2 litres/cup/hour; flush urinals have a maximum full flush volume of 1 litre. Similar thresholds are also set for the installation of water and energy efficient cooking and sanitary water appliances (7.3).

- For activities in the **chemical manufacturing** industry (3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.16 and 3.17) it is explicitly stated that emissions must be within or below the ranges of emission levels associated with the best available techniques for common waste water and waste gas treatment and management systems in the chemical sector[153]. In the case of the manufacture of anhydrous ammonia (3.15) a substantial contribution criterion to Objective 1 (climate change mitigation) is that the ammonia comes from wastewater reclamation.
- In the case of **professional, scientific and technical activities** (9.1 and 9.2), the potential risks of the technology, product or solution to the good ecological status or potential of water bodies, including surface and groundwater, and to the good ecological status of marine waters must be assessed and, where appropriate, addressed, also ensuring that there is no significant increase in the emission of pollutants to air, water and soil.

6.3.4.2 Technical screening criteria for to Objectives 3-6

Mentions to water are much more frequent in the PFS recommendations report, which justifies the very nature of the non-climatic objectives which, in addition to including the improvement and preservation of aquatic ecosystems, incorporate other elements that condition or contribute to the improvement of the water environment. In the following points, the main criteria incorporated in the recommendations are briefly reviewed.

- In **animal production** activities (1.1) - explicitly excluding the production of aquatic species - that involve water abstraction, a permit must be issued by the competent authority and its water impact conditions must be respected. If the catchment area hosting the farm has a high net water consumption (WEI+[154] ≥ 20), the water must come from a duly authorised on-site rainwater harvesting system. In addition, the following must be avoided: access of livestock to natural water bodies unless it can be proven to be beneficial for the protection of the ecosystem; any physical alteration of water bodies. Finally, conditions are also established to avoid the presence of active pharmaceutical ingredients that put the status of the bodies at risk.
- For **crop production** activities (1.2), similar criteria are established regarding the need for a water abstraction permit, the limitation of abstractions to rainwater harvesting, as well as avoiding any modification of water bodies.

  In the case of irrigation, the following requirements are also established: water must come from the same river basin; priority must be given to the use of reclaimed water in accordance with European regulations; consumption must be measured and recorded; the irrigation system must be highly efficient (60% for furrow irrigation, 75% for sprinkler irrigation and 90% for drip irrigation). Finally, conditions for fertilisation management are established.

  In both cases, a "Sustainable Farm Management Plan" is required to identify management practices or other measures that ensure compliance with these criteria. Moreover, in

[153] Commission Implementing Decision (EU) 2016/902 of 30 May 2016 laying down conclusions on Best Available Techniques (BAT) pursuant to Directive 2010/75/EU of the European Parliament and of the Council for common systems for the treatment and management of waste water and waste gases in the chemical sector, (OJ L 152, 9.6.2016, p. 23). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A32016D0902&from=EN

[154] WEI+ is a measure of total freshwater consumption as a percentage of renewable resources. https://ec.europa.eu/eurostat/web/products-datasets/-/sdg_06_60

addition to setting out these specific criteria to justify compliance with the DNSH principle for Objective 3, it sets out the strategic options that can justify the substantial contribution of these activities - in particular to the protection and restoration of biodiversity and ecosystems - and cites a number of specific conditions, some of which relate to the mitigation of impacts on the water environment, plus some complementary material that would be too lengthy to detail here.

- In the **fishing** activity (1.3), substantial contribution criteria are established for the protection of biodiversity (Objective 6), two of which relate to avoiding damage to seabed or freshwater habitats during the activity, as well as not using bait that could increase the entry of invasive species. Furthermore, criteria are established to ensure the protection of the water environment (DNSH3), based on ensuring compliance with the European Marine Strategies Directive as well as Appendix A of the Climate Delegated Act.
- The **manufacture of chemicals** (2.1) is subject to: wastewater treatment conditions based on detection limits according to current scientific standards for substances of acute toxicity to humans and the environment, and on compliance with EU legislation so as to avoid any further deterioration of inland and marine waters; the inclusion of appropriate measures to prevent emissions to soil and regular monitoring to prevent leaks, spills, incidents or accidents occurring during the use of equipment and during storage; an assessment of the water footprint of the operations according to ISO 14046 to ensure that it does not contribute to water scarcity.
- The **recycled furniture industry** (2.4) must identify the risks of environmental degradation and address them within the framework of a water use and protection management plan, developed through consultation with relevant stakeholders. In addition, in the case that the activity involves water abstraction, it must have a permit issued by the competent authority and, in any case, the increased use of pesticides shall be avoided in line with EU regulations.
- In the case of the **manufacture of food products and beverages** (2.5) industry, conditions are set for the raw materials of agricultural origin which supply this industry and which must therefore be transferred to animal and plant production activities within the framework of sustainable farm management plans. These conditions are generally the same as those laid down for primary food production, although stricter criteria are introduced for irrigation.
- In the **finishing of textiles** (2.6) industry, substantial contribution requires an environmental management system that incorporates, among other elements: objectives, best practices and performance indicators in relation to the safe and efficient use of water and chemicals in manufacturing processes; description of processes and measures implemented to prevent, eliminate or reduce waste water and pollution. It also sets out conditions for the optimisation of water use, including the reuse and recycling of water used in the process and for the management of waste water. In addition, criteria are set for compliance with the DNSH on water resources protection: specific management plan and audits; water use metering; storm water management; wastewater quality within direct discharge limits according to BAT documents.
- The substantial contribution to its environmental objectives for the **manufacture of footwear and leather goods** and the **tanning of leather** (2.8 and 2.9), is subject to water consumption limits for the tanning of leather, from raw hides to finished leather: 25 m^3 /t for cattle, 45 m^3 /t for calf and goat skins, 80 m^3/t for pig skins and 180 l/hide for sheep skins. These levels refer to the whole tanning process, so if intermediate products are processed, consumption figures should be requested from the suppliers. To justify compliance with the DNSH, a specific management plan or environmental impact assessment is also required and water use must be measured through a verifiable self-assessment mechanism. Finally, it is stipulated that waste water parameters must be within the minimum limits for direct discharge of water according to BAT documents.

Wearing apparel, except articles of fur and leather: manufacturing, repairing/refurbishing/remanufacturing and sale of spare parts, sale of second-hand, product-as-a-service and other circular use- and result-oriented service models (2.7) has similar conditions for the justification of DNSH.

- In the **construction of new or existing buildings** (7.1 and 7.2), consumption levels are required to be attested for the following water appliances: basin and kitchen taps with a maximum flow rate of 6 litres/min; showers with a maximum water flow rate of 8 litres/min; toilets with a maximum full flush volume of 6 litres and a maximum average flush volume of 3.5 litres; urinals with a maximum of 2 litres/cup/hour and a maximum full flush volume of 1 litre.
- Although they do not include genuine specific conditions related to water resources management for **emergency services** related to disaster risk management (6.1 to 6.6), climate change mitigation and environmental protection plans that incorporate any relevant consideration, in particular, the use of efficient technologies that ensure that emissions to water and land are avoided or minimised, are required to be drafted.
- **Air transportation ground handling operations** (7.5) must ensure that, with regard to de-icing activities, discharge control measures are in place to reduce the impact on watercourses (e.g. through the use of more sustainable chemicals, glycol recovery and surface water treatment).
- Key activities for the protection and restoration of biodiversity and aquatic ecosystems are included in the rehabilitation and remediation group.
  - **Conservation of habitats and ecosystems** (8.1) to maintain or improve the status and trends of terrestrial, freshwater and marine habitats, ecosystems and populations of the associated species of fauna and flora.
  - **Restoration of biodiversity and ecosystems** (8.2) understood as a process or activity that, passively or actively, contributes to the restoration of a terrestrial, freshwater or marine ecosystem to a good condition.

  Although no specific criteria are established for the application of the DNSH to Objective 3 of this group of activities - except for the obligation to identify and address risks of environmental degradation for the preservation of the marine environment - a condition to ensure the minimum use of pesticides and fertilisers is established.
- Finally, for the **treatment of hazardous waste** (11.3) additional conditions to those set out in the BAT documents for the treatment and incineration of waste are set out. In particular, conditions are set out for the treatment of water-based liquid waste and other waste treatment processes, where there is an indirect discharge of waste water. Finally, in the case of the **remediation of legally non-conforming landfills and abandoned or illegal waste dumps** (11.5) the installation, operation and maintenance of drainage systems and selective collection and treatment of leachate and run-off water prior to discharge is required.

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8 Glossary

- **Adaptation to climate change.** The process of adjusting to current and projected climate change and its impacts.
- **Aligned economic activity/Alignment.** As set out in Article 3 of the Taxonomy Regulation, an activity that makes a substantial contribution to at least one of the EU's climate and environmental objectives, without significantly harming either of these objectives and in compliance with minimum social safeguards. For this to be the case, the substantial contribution criteria set out in the delegated acts, and the DNSH criteria set out for that activity, must be met for at least one objective. It is important to clarify that not all activities that can make a substantial contribution to environmental objectives are yet covered by delegated acts and are not necessarily environmentally damaging or unsustainable. The delegated acts will be living documents that will be updated over time, including a range of other activities not currently present.
- **CapEx. Capital expenditures** or capital investment. These are the expenditures a company makes for the acquisition or maintenance of physical assets in order to invest in the growth of the company.
- **Climate change mitigation.** The process of keeping the global average temperature increase well below 2°C and continuing efforts to limit it to 1.5°C above pre-industrial levels, in line with the Paris Agreement.
- **Climate Delegated Act.** Delegated Act of the Regulation on the taxonomy establishing the technical screening criteria for climate change mitigation and adaptation objectives. Only Delegated Act developed to date.
- **Delegated act.** A type of provision that the Commission adopts by virtue of a delegation granted through an EU act, in this case a legislative act. Delegated acts are prepared and adopted by the Commission after consultation with expert groups, composed of representatives from each EU country, which may meet regularly or occasionally. In the case of the Taxonomy Regulation, the Commission drew up a list of environmentally sustainable activities by defining a set of technical screening criteria for each environmental objective through delegated acts, and which determine which economic activities "contribute significantly" to one environmental objective and do not cause "significant harm" to any of the other five environmental objectives.
- **Do No Significant Harm (DNSH**) **principle.** This is the founding principle of the European Green Pact and the cornerstone of the EU Taxonomy Regulation. The substantial contribution of an economic activity to a given objective cannot not be made at the expense of the other objectives defined in the Taxonomy Regulation. In application of this principle, the taxonomy includes specific requirements to ensure that the economic activity does not have a significant negative impact on the other objectives.

  Moreover, the DNSH Principle has been established as a mandatory condition for accessing funding from the Recovery and Resilience Fund, so that all measures and reforms included under this fund in the National Plans must justify their compliance.
- **Economic sector:** referring to the section level of the CNAE classification system.
- **Economic subsector:** referring to the division, group or class level of the CNAE classification system, according to context.
- **Eligible Economic Activity/Eligibility.** Economic activity that is described and has technical screening criteria set out in the taxonomy.
- **Enabling economic activity** (Article 16 of the TR). Activity that enables other eligible activities to make a substantial contribution to one or more of the objectives, provided that it does not involve the retention of assets that undermine long-term environmental objectives and has a substantial positive environmental effect, taking into account the life cycle. For example, this could include the manufacture of renewable energy technologies, the installation of energy-efficient equipment in buildings, materials research, or the use of cover crops that reduce flood risk.
- **Environmental objectives.** Objective established in Article 9 of the Taxonomy Regulation, to which the economic activity of the delegated acts should contribute, without causing harm to the rest. There are six environmental objectives that have been used as inclusion criteria and they are: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.
- **EU Taxonomy Compass**. European Commission tool, available both online and for download in Excel or JSON format, which organises the content of the delegated acts of the taxonomy, including the correspondence between activities and NACE codes. Currently, it contains information on climate objectives (mitigation and adaptation) but will be continuously updated to include new objectives and activities.
- **European Green Deal.** A roadmap that brings together economic and environmental policies, making sustainability an integral part of financial policy. It is a new growth strategy aimed at transforming the EU into an equitable and prosperous society, with a modern, resource-efficient and competitive

economy, where there will be no net greenhouse gas emissions by 2050 and economic growth will be decoupled from resource use.

- **EU Taxonomy**. A "green" classification system that translates EU climate and environmental objectives into criteria for specific economic activities for investment purposes. This classification aims to determine whether an activity is sustainable or not. The ultimate goal is to establish a framework for investors to better identify which companies are responding favourably to the challenges of the ecological and energy transition, thus assisting investment decisions by identifying the activities that contribute most to this end. Companies, if they wish, can reliably use the taxonomy to plan their climate and environmental transition and raise funds for this transition. Financial companies, if they wish, can use the taxonomy to design credible green financial products. Ultimately, it is not a mandatory list of economic activities in which investors invest, nor does it set mandatory requirements on the environmental performance of companies or financial products. However, it is expected that, over time, it will become an enabler of change and encourage a transition towards sustainability.
- **Good status**. For surface waters, good status, which is one of the environmental objectives included in Article 4 of the WFD for 2015, will be determined by the combination of "good ecological status" (achieved when the aquatic ecosystem does not show significant imbalances) or "good ecological potential" (in the case of heavily modified water bodies and artificial water bodies), and "good surface water chemical status" (which is achieved when the environmental quality standards set for priority substances in the current legislation are met).

  For groundwater, good status is defined as the combination of "good groundwater chemical status" and "good quantitative status".
- **Greenwashing**. A marketing practice or strategy employed by some companies to gain an unfair or misleading competitive advantage by marketing a product as environmentally friendly when in fact basic environmental standards have not been met. A company's score in the taxonomy is related to the share of revenues, operating expenses and capital expenditures that result from activities that meet the technical screening criteria. This helps combat greenwashing, as companies that have only a small share of their revenues from sustainable activities will score correspondingly low.
- **Ineligible economic activity**. An activity that is not described in the delegated acts adopted to date. Ineligibility does not imply that the activity is not sustainable or may become sustainable in the future development of the Taxonomy.
- **Large undertaking or large company**. An undertaking which, on its balance sheet date, exceeds at least two of the following three criteria: (a) balance sheet total: EUR 20 000 000; (b) net turnover: EUR 40 000 000; (c) average number of employees during the financial year: 250.
- **Minimum social safeguards.** For an activity to be sustainable, it must be conducted in line with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the International Labour Organisation (ILO) Declaration on Fundamental Principles and Rights at Work, the eight ILO core conventions and the International Bill of Human Rights. This means that any company must demonstrate compliance with minimum standards on human rights, social responsibility, labour rights and anti-corruption procedures.
- **National Classification of Economic Activities (CNAE).** National system of classification and grouping of production units according to the activity they carry out for the compilation of statistics. The latest update of the CNAE dates from 2009. The system assigns a 5-digit code to each economic activity, which is broken down into different levels:

  Section, one-digit alphabetical code (A-U). For example: A- Agriculture, forestry and fishing.

  Division, two-digit numerical code (01-99). For example: 01- Crop and animal production, hunting and related service activities.

  Group, three-digit numerical code. For example: 011- Growing of non-perennial crops

  Class, four-digit numerical code. For example: 0111- Growing of cereals (except rice), leguminous crops and oil seeds.
- **OPEx (Operating Expenses).** This refers to all the expenses that a company incurs to carry out its main functions: paying rent, payroll, purchasing raw materials, among others.
- **Platform on Sustainable Finance (PSF)**. It is an advisory body subject to the Commission's horizontal rules for expert groups, constituted by a standing group of experts, established under Article 20 of the Taxonomy Regulation. Its main objective is to advise the European Commission on various tasks and issues related to the development of the taxonomy and to support the Commission in the technical preparation of delegated acts, in order to implement the EU taxonomy. The Platform has six subgroups, including the Technical Working Group, the Subgroup on Data and Usability and the Subgroup on Social Taxonomy.
- **Public-interest entity.** According to Article 2.1 of the NFRD Directive, an undertaking that a) governed by the law of a Member State and whose transferable securities are admitted to trading on a regulated market; b) is a credit institution; c) is an insurance undertaking; d) has been designated by Member States as a public-interest entity.

- **Recommendations Report on technical screening criteria for the remaining four environmental objectives of the EU Taxonomy**. Methodological report published on 30 March 2022 by the PSF Technical Expert Group containing recommendations related to the non-climate technical screening criteria, that is, for TR objectives c) to f): transition to a circular economy; pollution prevention and control; sustainable use and protection of water and marine resources; protection and restoration of biodiversity and ecosystems. The PSF also developed in this Report criteria for 14 new economic activities on climate mitigation and adaptation objectives. Following the publication of this Recommendations Report, the second delegated act is due for publication and was scheduled to be implemented by 31 December 2022.
- **Regulatory technical standards**. Standards developed by a European Supervisory Authority. Their purpose is to develop and specify the rules of the basic legislative act. Regulatory Technical Standards are usually adopted by the European Commission as a delegated act or regulation.
- **Statistical classification of economic activities in the European Community (NACE).** A system of classification of products and economic activities, providing a framework for compiling and presenting a wide range of statistics in economic fields, according to the economic activity. The system uses a four-level code, whose national transposition may include some additional levels, the first four being common to all Member States. The delegated acts of the taxonomy assign the different economic activities to one or more NACE codes, however, these references should be taken as indicative.
- **Substantial contribution criterion.** A criterion used to determine whether an economic activity makes a substantial contribution to any environmental or environmental sustainability objectives or substantially reduces negative impacts on the environment, e.g. substantially reduced levels of greenhouse gas emissions.
- **Sustainable investment**. A technical term applied to an investment that meets three characteristics: a) it must invest in an economic activity that contributes to an environmental or social objective, and b) it must not significantly harm any environmental or social objectives (no significant harm or DNSH), and c) it must adhere to good governance practices.
- **Taxonomy Regulation (TR).** Central piece of the taxonomy regulatory framework and key element of the Sustainable Finance Action Plan. It establishes a unified and legally binding classification system to classify economic activities as environmentally sustainable or aligned with the taxonomy. The Regulation requires the Commission to adopt delegated acts containing technical screening criteria to determine the conditions under which a specific economic activity can be considered to contribute substantially to the achievement of the six environmental objectives, and to establish technical screening criteria to ensure that it does not cause significant harm to one or more of those objectives.
- **Technical Expert Group on Sustainable Finance**. A group set up by the European Commission comprising members from civil society, academia, business and the financial sector, as well as other members and observers from the EU and international public bodies, which is responsible for advising the Commission on technical screening criteria for environmental objectives, advising on the updating of technical screening criteria, and assisting the Commission in analysing stakeholder applications for specific economic activities. Its work on the technical screening criteria is divided into sectoral teams.
- **Technical screening criteria**. These set out the requirements and thresholds that an economic activity must meet to qualify as contributing substantially to an environmental objective (substantial contribution criterion) while not causing significant harm to any of the other five environmental objectives (no significant harm criterion, DNSH). The first set of technical screening criteria has been published in the Climate Delegated Act. A draft of the technical screening criteria for the remaining four environmental objectives was submitted to the Commission by the Sustainable Finance Platform in March.
- **Transitional economic activity** (Article 10.2 of the TR). An economic activity for which there is no technologically and economically feasible low-carbon alternative, but which supports the transition to a climate-neutral economy, contributing substantially to climate change mitigation. This is the case of nuclear energy and gas, whose inclusion is limited in time and must meet specific transparency criteria.
- **Water cycle.** The general process that covers supply and sanitation services, that is, the process that starts with obtaining water as a resource, ensuring that it reaches users and ends with the return of treated water to nature. The water cycle, starting with the collection of the resource until, once used, it is returned to nature or reused, can be divided into three phases: supply, treatment and reuse. A third phase can be added to the cycle that includes all the services related to the treatment of reclaimed water, its transport, storage or distribution to end users.

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