



**PLATFORM ON
SUSTAINABLE FINANCE**

**PLATFORM ON
SUSTAINABLE
FINANCE:
TECHNICAL
WORKING GROUP**

**Part A: Methodological report
March 2022**

This is a long report. Please think before printing.

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This document is not an official Commission document nor an official Commission position. Nothing in this document commits the Commission nor does it preclude any policy outcomes.

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About this report

In line with the Article 20 of the Taxonomy Regulation ((EU) 2020/8521), the European Commission has set up a permanent expert group, the Platform on Sustainable Finance. The Platform on Sustainable Finance will assist the Commission in developing its sustainable finance policies, notably the further development of the EU taxonomy. The Platform operates through a plenary in full composition of all 57 members and 10 observers, supported by subgroups where the technical work on its opinions, reports or recommendations takes place.

The Platform on Sustainable Finance is in particular tasked with:

- Advising the Commission on the technical screening criteria on environmental objectives in line with Article 19
- Advising on the possible need to update those criteria
- Analysing the impact of the technical screening criteria in terms of potential costs and benefits
- Assisting the Commission in analysing requests from stakeholders to develop or revise technical screening criteria for a given economic activity (request system will be set up in 2021)

The first of its tasks is the subject of this report. The following sections of this document set out the background and methodology used to develop the criteria, and the draft criteria themselves.

This report (Part A) sets out the platform on sustainable finance’s recommendations to the European Commission. This report principally contains recommendations relating to technical screening criteria for objectives 3 – 6 of the Taxonomy Regulation, as well as recommendations to improve the design of the Taxonomy and the Taxonomy criteria.

¹ [EUR-Lex - 32020R0852 - EN - EUR-Lex \(europa.eu\)](#)

This report is supplemented by a Technical Annex (Part B) containing technical screening criteria for economic activities contributing to all six environmental objectives of the Taxonomy Regulation, including the rationale for those criteria.

These recommendations have been developed over 15 months and with substantial consultation and scientific and technical input. The platform has received input from all parts of the investment chain, industry sector representatives, academia, environmental experts, civil society and public bodies.

This report represents the overall view of the members of the Technical Working Group. However, although it represents such a consensus, it may not necessarily, on all details, represent the individual views of member institutions or experts. The views reflected in this report are the views of the experts only. This report does not reflect the views of the European Commission or its services.

Part A: Methodological approach

1. Purpose of the Taxonomy

The European Union (EU) is committed to meeting the aims of the “European Green Deal” and to transforming the EU into a modern, resource-efficient, and competitive economy. As set out in the European Green Deal², the EU will face and pursue various economic reforms, including the decarbonization of the energy system, the transition to a circular economy, and the reverse of the alarming declines in ecosystems and biodiversity. Addressing the environmental challenges in the EU will help to achieve the broader international environmental objectives, such as those set out in the Paris Agreement; however, it will also require tremendous investments and innovations across sectors.

Just to meet the climate and energy targets set for 2030 and mitigate climate change, the EU faces an investment gap of EUR 350 billion per year. Moreover, further additional investments to achieve the EU’s broader environmental objectives are evaluated to be in the range of EUR 100 – 150 billion per year. In order to close these investment gaps, the financial sector has to play a key role in re-orienting flows to support the transition towards a more sustainable economy. However, such reorientation of capital flows requires a common understanding among all investors, financial institutions, and companies across the EU of what a “sustainable investment” is.

As a result, a unified EU-wide classification system (“the EU taxonomy”) for sustainable economic activities was established to steer green investments towards those activities that are essential to achieving the European Green Deal objectives. The EU taxonomy creates an operational list of economic activities with technical screening criteria, which determine in determining in which cases each economic activity makes a substantial contribution to an environmental objective. In this way, the EU taxonomy inter alia:

² [A European Green Deal | European Commission \(europa.eu\)](https://european-council.europa.eu/media/en/press-room/pages/press-room.aspx?pid=14638)

- creates a uniform and harmonised classification system providing a common language for investors, companies, policymakers, and financial institutions about what is considered an activity which makes substantial contribution to an environmental objective;
- creates transparency as well as security on environmental sustainability for investors and helps to shift investments where they are most needed;
- protects private investors from greenwashing;
- helps companies to become taxonomy-aligned;
- mitigates further market fragmentation and barriers to cross-border capital flows by applying a single, unified taxonomy system instead of different taxonomies across the Member States;
- provides the basis for further policy development in sustainable finance, including standards, labels, and any potential changes to prudential rules.

2. Taxonomy approach explained

The European Commission (EC) will adopt the EU taxonomy as a series of delegated acts under the Taxonomy Regulation, based on advice from external experts from the public and private sectors and on the basis of a transparent process with the involvement of stakeholders, using robust methodologies and scientific evidence. For this purpose, as required by the Taxonomy Regulation, the European Commission has set up a Platform on Sustainable Finance (PSF), which is a new expert group, the Technical Working Group (TWG), which replaces the Technical Expert Group (TEG) and advises the European Commission on further developing the taxonomy.

This section explains the elements applied in the further development of the EU taxonomy. It sets out the requirements and principles used by the PSF to assess which economic activities should be included in the taxonomy and under which conditions. Furthermore, it describes the NACE sector and economic activity-based framework under which criteria were established.

2.1. Requirements for designing taxonomy criteria

The Platform applied the requirements and principles outlined in this section to develop technical screening criteria (TSC) for the economic activities in the EU taxonomy.

The Taxonomy Regulation (Art. 3) defines six environmental objectives:

1. climate change mitigation;
2. climate change adaptation;

3. the sustainable use and protection of water and marine resources;
4. the transition to a circular economy;
5. pollution prevention and control;
6. the protection and restoration of biodiversity and ecosystem.

A [first delegated act on sustainable activities for climate change adaptation and mitigation objectives](#) entered into force on 1 January 2022 . A second delegated act covering mainly the remaining environmental objectives 3-6 (as well as some additional criteria for the environmental objectives 1-2) will be adopted following the recommendations of the platform. As such, the Platform has been mandated to focus on and deliver a recommendation to the EC on TSC for the second draft delegated act on sustainable activities for the environmental objectives 3-6.

This report and its annex follow the Taxo 4 methodology (the preparatory work from the Joint Research Centre of the EU Commission “Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental objectives 3-6³) and the Taxonomy Regulation requirements as its basis.

The core of the EU taxonomy is the TSC, which define when an activity is assessed as environmentally sustainable. As a tool to build confidence in the contribution of economic activities to environmental objectives, it has been crucial for the PSF to build their recommendations upon robust and transparent methodologies and processes to ensure that science-based criteria are developed. Thereby, the preparatory work from the Joint Research Centre of the EU Commission and the Taxonomy Regulation served as a basis to define a methodology and conditions that need to be complied with in setting robust, scientific and evidence-based technical screening criteria.

2.2. Taxonomy sector framework

The taxonomy aims to define economic activities as taxonomy-aligned while intending to be as comprehensive as possible and covering all relevant parts of the economy. As such, it is

³ 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>

necessary to establish the taxonomy criteria within a defined sector framework. Consistent with the first delegated act and the work of the TEG, the PSF applied the NACE industrial classification system in defining technical screening criteria to the environmental objectives 3-6. The NACE classification system is comprehensive in its coverage of the EU economy, used by EU institutions such as Eurostat, and already implemented by some financial institutions. However, in some areas, NACE sectors were supplemented by additional categories, when the current level of granularity within NACE was not considered sufficient.

The PSF recognises that the existing sector frameworks used to classify economic activities also have some boundaries and limitations as the latest NACE Rev.2 classification system was published in 2008. Not all the newest production methods are captured within this framework. Furthermore, there are relevant economic activities that are not directly covered by NACE codes. To fully develop the taxonomy further work may need to be done on a systems approach to economic activities in order to feed into the final PSF report, but this falls outside this report.

2.3. Prioritised economic activities

Due to resources, workload and time available, it was considered that the PSF would only be able to address up to about 20 economic activities per environmental objective in the first phase of the work. The EC presented a proposed methodology and resulting list of priority economic activities for each of the objectives 3-6 to the PSF at the beginning of its mandate. In short, this involved the following steps and considerations, which took place prior to the start of the mandate:

- Analysing data on **environmental impact and improvement potential**. This involved:
 - Ensuring consistency with the approach by the TEG on climate mitigation and adaptation, but necessarily including a wider suite of indicators given the diversity of the four remaining environmental objectives and related impacts;
 - Selecting the sectors in which the expected greatest contributions could be expected by focussing on prioritisation based on impact and potential for improvement;
- Looking at activities as being part of a **value chain** as reduction of impact can sometimes be reduced more effectively by substituting activities, and in line with the Taxonomy Regulation, which requires life cycle considerations to be taken into account in developing technical screening criteria.
- Prioritising further activities notably in the mining sector due to the **commitments taken by the Commission** in the recent Action Plan “Critical Raw Materials

Resilience: Charting a Path towards greater Security and Sustainability” and the “Sustainable and Smart Mobility Strategy’.

- Identifying activities, under each objective, that directly and substantially **improve the state of the environment**. This relied on qualitative assessments and expert judgment.

The following sections explain in more detail the different steps of the methodology for identifying and selecting a first batch of priority activities. The PSF was invited to review and, if needed, refine the methodology and thus the resulting lists and to use the results as starting point for their work. Based on the activities selected for each objective, the PSF was also invited to identify 3-4 relevant **enabling activities**⁴ per objective for which technical screening criteria would need to be developed. These fell outside the prioritisation and ranking methodology developed for identifying the priority ‘own performance’ economic activities. Further enabling activities, including the environmental performance improvement measures that can utilise other enabling activities, may be included in future work of the Platform.

It is important to note that an activity that is not included in this set of activities for the remaining 4 environmental objectives, for which the PSF will develop recommendations for TSC, may still be addressed in future.

Prioritisation for objectives 3-6 vs. approach on climate objectives

The methodology used to prioritise the activities for objective 3-6 was developed and implemented by the EC. It needed to be consistent with the one used by the TEG⁵ and adopted in the drafting of the first Taxonomy Delegated Act and the related Impact Assessment, which involved the following:

- First, the **priority macro-sectors**⁶ were selected based on their aggregate levels of GHG emissions (using Eurostat 2016 data). GHG emissions reflect the impact of those

⁴ In doing so, it should be remembered that enabling activities are defined in Article 16 of the Taxonomy Regulation: “An economic activity shall qualify as contributing substantially to one or more of the environmental objectives set out in Article 9 by directly enabling other activities to make a substantial contribution to one or more of those objectives, provided that such economic activity: (a) does not lead to a lock-in of assets that undermine long-term environmental goals, considering the economic lifetime of those assets; and (b) has a substantial positive environmental impact, on the basis of life-cycle considerations.”

⁵ See p.10 of the TEG’s March 2020 Taxonomy Report: Technical Annex.

⁶ Corresponding to the ‘sections’ in NACE. See next footnote.

macro-sectors with respect to the objective of climate change mitigation. They can be measured using a single indicator (gCO₂e, i.e. grams of carbon dioxide equivalent).

- Second, using expert judgment, 'mitigation opportunities' were identified i.e. sectors and activities within each macro-sector that have the potential to substantially reduce GHG emissions (**improvement potential**).

An equivalent methodology was developed by the EC for objectives 3 to 6, taking into the following specificities:

- **Several impact or pressure indicators** are required for each objective - unlike for climate change mitigation, no single indicator captures and normalises the various types of impacts with respect to that objective. For example, emissions of SO_x, NO_x, PM etc. are all relevant indicators for pollution prevention and control, but there is no commonly accepted way to aggregate them in a single indicator.
- Identifying priority activities within macro-sectors required a harmonised framework. For climate change mitigation, the PSF chose to start with macro-sector-level GHG emissions to identify the priority macro-sectors and then drill down into the economic activities within each macro-sector because GHG emissions data were readily available for macro-sectors and not always for individual economic activities. However, impacts as heterogeneous as pollution or ecosystem damage make it problematic to aggregate at the macro-sector level. So, for objectives 3 to 6, data on impact and improvement potential were required **at the level of economic activities** (NACE group or class)⁷ rather than macro-sectors, and this made it possible to create a ranking directly at that level.

Data on environmental impact and improvement potential

Developing priority lists at the level of economic activities for each of the environmental objectives required a very significant data collection effort (impacts and reduction potentials across a wide range of economic activities and impact indicators). To assist with the task, the Commission contracted out the work on data collection.

⁷ For an explanation of the different levels of NACE, see Eurostat – Methodologies and Working Papers, NACE Rev.2 - statistical classification of economic activities (pp.15-16). Available at: <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-RA-07-015>

Whilst a harmonised methodology was applied across all four objectives, for the collection, assessment and structuring of the data, objectives were treated separately in order to obtain four separate lists and rankings of economic activities. More specifically, for each objective, **the assessment included the following tasks:**

- Collecting data and analysing the impacts and improvement potentials of economic activities;
- Assessing the magnitude of those impacts and their improvement potentials;
- Verifying selected improvement potentials and identifying concrete improvement opportunities (including through enabling activities); and
- Determining of illustrative sequences for the economic activities, by ranking them according to a multi-criteria analysis.

For each activity, the magnitude of its **impact** with respect to the objective was assessed, measured using a set of indicators (e.g., SO_x, NO_x, and PM for pollution prevention and control) was assessed. Then, the **potential for improvement** (i.e., potential to reduce that impact), across the same set of indicators was then subsequently assessed.

For each impact indicator, two scores were attributed to the activity (for impact and for improvement potential). They were multiplied to obtain a **combined score** for that indicator. The higher the impact of an activity, the higher the priority that should be given to it for that objective. However, an activity with a high impact and a low reduction potential should not be prioritised since the opportunity to make a *substantial* contribution to achieving the environmental objective is limited. Hence, the higher the improvement potential, the higher the priority. Using a score that combines both impact and reduction potential (aggregated across each of the indicators for the objective) is therefore appropriate.

It was then possible to **aggregate across indicators** (with specific weighting factors) the different combined scores for each activity. The **total score for each activity reflects the impact and improvement potential** across all relevant impact indicators for the objective considered. Based on this multi-criteria analysis score, a **ranking** (or sequence) of activities for each objective was produced. Illustrative sequences were generated using a range of weighting factors.

This multi-criteria analysis ranking approach made it possible to prioritise activities based on their environmental pressure reduction potential (and the potential to reduce that impact), since quantitative data that could be mapped onto the selected indicators was more readily available.

Additionally, the taxonomy can include economic activities that make a substantial contribution by *directly improving* the state of the environment, by *restoring* the environment or by *directly enabling* other economic activities to achieve their improvement potential. However, quantitative data for these aspects was more difficult to find and the mapping the limited available data onto the indicators was not always straightforward. For this reason, the assessment included an identification of such activities for each objective, but relied on qualitative assessments and expert judgment.

Selection of priority activities

Based on the data collected and assessed by the contractors on environmental impacts and improvement potentials, a first batch of 12 of the most relevant economic activities, for each environmental objective, were identified from the longer list of relevant economic activities using the following steps.

Step 1: Determine the appropriate weighting factors

For each objective, the assessment presented a number of illustrative sequences or rankings. Each of these sequences was generated by attributing different weighting factors to the indicators. Drawing on this, a sensitivity analysis revealed that there are only minor differences between the sequences for an objective using different combinations of weightings. Therefore, the precise attribution of weighting factors has a limited influence on the result. For each objective, the proposed lists contained a short justification for the weighting factors chosen.

Step 2: Use ranking based on impact and improvement potential

As explained in Section 3, in order to prioritise activities, it was appropriate to use a combined score reflecting both the impact and improvement potential of the activity (aggregated across each of the indicators for the objective).

Step 3: Value chain considerations

One of the challenges with the assessment methodology was that the data on improvement potential tended to focus on each activity considered in isolation, rather than as part of value

chain or life cycle. Yet the Taxonomy Regulation requires that life cycle considerations be taken into account in the development of technical screening criteria⁸.

One way to reduce the negative impact from an activity is to **perform the activity differently** (i.e. improving its environmental performance). For example, an installation manufacturing iron with low pollutant emissions would replace other installations manufacturing iron with higher pollutant emissions (for a constant demand for iron). This type of improvement potential is well captured in the data collected by the contractor.

However, another potentially effective way to reduce the negative impact is by **substituting** for the activity by another activity in a different NACE code (at the same or a different stage in the value chain). In such cases, **developing criteria for that activity may not be a priority**, even if it appears high in the ranking. Instead, the activity **could be de-prioritised** and, where relevant, **include the substitution activity instead** (for which criteria would still need to be developed). For example, shifting to renewables in electricity generation will reduce the need for coal mining. Hence, even if coal mining has a high impact (and that impact can be reduced to some extent), it may be decided to prioritise developing criteria for renewables instead (as a low impact activity that can substitute a high impact activity).

In some cases, substitution may be **only partial**. For example, public transport can largely replace individual vehicles in urban areas, but often not in rural areas. In such cases, both the initial and substitute activities could be prioritised.

The set of selected economic activities and environmental objectives was adopted by the PSF and specifically the TWG to form the basis of its work.

2.4. Composition of the Technical Working Group and sector teams

On the 16th of October 2020 the Platform on Sustainable Finance started its work. It operates through a plenary in full composition of 57 members and 11 observers from EU and international bodies, businesses, civil society, academia, think-tanks, and experts appointed in personal capacity. The PSF is currently organized in four operating subgroups where the

⁸ Article 19 (1)(g): “The technical screening criteria [...] shall: take into account the life cycle, including evidence from existing life-cycle assessments, by considering both the environmental impact of the economic activity itself and the environmental impact of the products and services provided by that economic activity, in particular by considering the production, use and end of life of those products and services”

actual technical work takes place. The plenary ensures that the relevant links are created between the operating subgroups and that the work is formally endorsed. (see Figure 1)

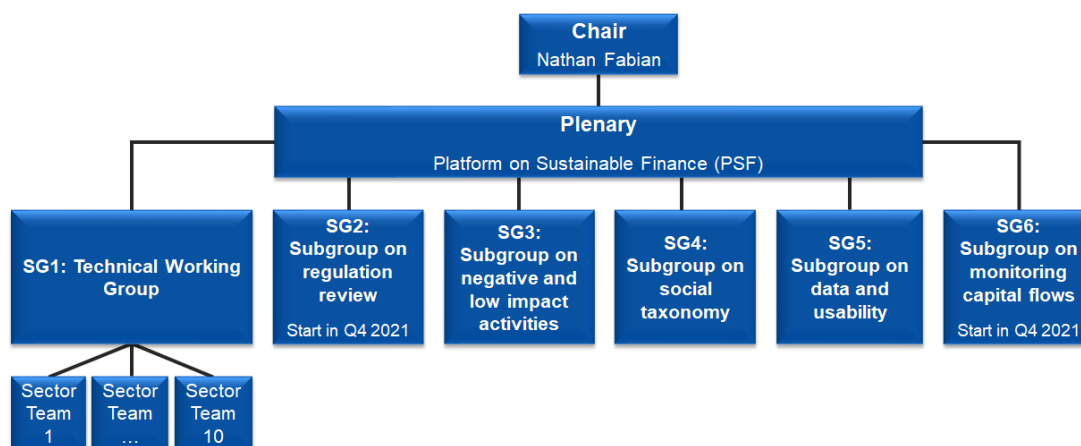


Figure 1: Composition of the Platform

The Technical Working Group (TWG) started its mandate with 32 officially appointed PSF members and 3 observers. However, it could not cover all expertise necessary for all economic activities received in the mandate. This led to call for further expertise in the plenary, which made it possible to build a group of about 100 experts including the rapporteurs who were able to deliver the Technical Screening Criteria, available in Annex B to this report.

In a first instance the TWG mandate was focused on developing technical screening criteria for the environmental objectives 3-6 with only minor additional criteria on the environmental objectives 1-2. The prioritized economic activities of the mandate were allocated across the following eight different sectors:

- Agriculture, forestry and fishing;
- Mining and Processing;
- Manufacturing;
- Energy;
- Construction and buildings + ICT + Emergency Services;
- Transport;
- Restoration and Remediation + Tourism; and
- Water supply, Sewerage, and Waste Management.

Thereby, 10 different sector teams were organized to allow the representativeness of all relevant stakeholders for each sector to be represented and to be able to cover and group consistently the economic activity in sectors.

Table 1: Original prioritised activities (ST1-ST5)

ST1 Agriculture, Forestry and Fishing							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Growing of non-perennial crops	A1.1			X		X	X
Growing of perennial crops	A1.2			X		X	X
Animal production	A1.4					X	X
Marine fishing	A3.11						X
Forestry and logging	A2						X
Forest fire fighting (Forestry and logging)	A2.40						X
ST2 Mining and Processing Sectors							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Mining of metal ores	B7	X		X	X	X	X
Other mining and quarrying	B8	X		X	X	X	X
Mining support service activities	B9	X		X	X	X	X
Manufacture of other non-metallic mineral products	C23	X		X	X	X	X
Manufacture of basic metals	C24	X		X	X	X	X
ST3 Manufacturing 1							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Manufacture of chemicals and chemical products	C20			X	X	X	
Manufacture of rubber and plastic products	C22.1, C22.2			X	X		
Manufacture of basic pharmaceutical products and pharmaceutical preparations	C21					X	
ST4 Manufacturing 2							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Manufacture of fabricated metal products, except machinery and equipment	C25			X		X	
Manufacture of machinery and equipment n.e.c	C28			X			
Manufacture of electrical equipment	C27			X	X	X	
Manufacture of computer, electronic and optical products	C26				X	X	
Manufacture of motor vehicles, trailers and semi-trailers	C29					X	
Manufacture of other transport equipment	C30					X	
Repair of fabricated metal products, machinery and equipment	C33.1				X		
Maintenance and repair of motor vehicles	G45.20				X		
(Sale), maintenance and repair of motorcycles and related parts	G45.40				X		
Repair of computers and personal and household goods	S95				X		
ST5 Manufacturing 3							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Manufacture of textiles	C13				X	X	
Manufacture of wearing apparel	C14				X	X	
Manufacture of leather and related products	C15			X	X		
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	C16				X		
Manufacture of food products	C10				X		X
Manufacture of beverages	C11				X		X

Table 2: Original prioritised activities (ST6-ST10)

ST6 Energy							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Electric power generation, transmission and	D35.1					X	
Hydropower (dams, weirs, run-off-the-river)	D35.1						X
Wind, wave and tidal power	D35.1						X
ST7 Construction and buildings + ICT + Emergency Services							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Construction	F						X
Construction of buildings	F41				X		
Civil engineering	F42		X		X		
Implementation of nature based solutions for flood risk prevention and protection for both inland and coastal waters	F42.91			X			
Construction of flood risk prevention and protection infrastructure for inland and coastal floods	F42.91			X			
Telecommunications infrastructure and solutions, and Information service activities	61-63		X				
Emergency Services	84.25		X				
ST8 Transport							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Water transport	H50	X*		X		X	X
Urban and suburban passenger land transport	H49.31					X	X
Freight transport by road and removal services	H49.4					X	X
Passenger cars (including Taxi Operation)	(inc. 49.32)					X	
Aviation		X*					
ST9 Restoration and Remediation + Tourism							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Conservation of habitats/ecosystems							X
Restoration of ecosystems			X				X
Remediation activities	E39			X	X	X	X
Tourism, sports and leisure activities							X
ST10 Water Supply, Sewerage, and Waste Management							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Water collection, treatment and supply	E36			X	X	X	
Sewerage (including SUDS)	E37			X	X	X	
Waste collection, treatment and disposal activities; materials recovery	E38			X	X	X	
Desalination			X				

Following the selection of priority activities and organisation of the sector teams, the first stage of the work within the platform was to analyse the set of economic activities and identify whether they should be merged, increase the granularity of an activity (making it more specific) or deprioritise the activity according to the scientific evidence available, data availability and expertise in each sector team. As a result of this process, 44 activity/objective criteria were deprioritised or changed from the original priority list ([Final list of activities](#)).

2.5. Ongoing work on existing criteria

During the development of the technical screening criteria, reflecting the diverse composition of the sector teams and platform in general, and the availability of scientific evidence, there are a number of activities on which we are continuing to work. The intention is that these criteria will be released in May as a supplement to this report. This includes the following activities:

- **Forestry x biodiversity** – the EC has requested that the draft criteria be tested with industry stakeholders.

- **Agriculture x biodiversity (option c)** – which pertains to the development of criteria to address the nutrient balance of a farm holding and which would make the criteria applicable to all farms (including landless farms) but where additional analysis is needed for the final criteria
- **Waterborne transportation x pollution** – which reflects the interplay between the substantial contribution for the pollution objective and the DNSH criteria for pollution present within the current climate delegated act
- **Manufacturing of chemical products x pollution** – where work to calibrate the criteria with existing standards, such as using EU Ecolabel standard criteria, is continuing.
- **Bioenergy x biodiversity** – where the criteria are focussed (rightly) on the main impact of bioenergy on biodiversity, which is through the sourcing and production of biomass. This may necessitate an activity boundary change to the criteria or a cross-check of the methodological framework for biodiversity substantial contribution that has not been possible within the timeframe of this report.
- **Enabling activities** – where the work of the TWG and specifically a task-force on enabling has taken the conceptual development of enabling criteria forwards beyond what can be gleaned from a legal reading of Article 16 TR. A number of enabling criteria are already drafted and ready for inclusion within our recommendations, but the TWG is taking the opportunity to see if the development of this enabling framework would allow a wider set of enabling activities to be considered Taxonomy aligned.
- **Land transportation x pollution** - where the criteria are focussed on the impact created on the pollution objective from emissions excluding the greenhouse gasses (considered in the first DA). The criteria are already drafted but according to the comments received in the consultation need more work.

2.6. Postponement of criteria for future work

Beyond the activities listed above that are undertaking further development work until May, there are other activities and criteria that have proven particularly challenging and where evidence is lacking or the approach to delivering a substantial contribution is not yet clear. These activities are not currently undergoing any further development work, but are being considered for future work under the mandate of this platform.

One such activity is land-based mining and quarrying of minerals (other than coal, lignite, crude oil/petroleum or natural gas). This includes the extraction of solids or liquids by different methods such as underground or surface mining, well operations, etc. and supplementary

activities aimed at preparing the crude materials for marketing, for example, crushing, grinding, cleaning, drying, sorting, and concentrating ores.

The activity is classified under NACE codes B07 & B08 (but excludes B05 & B06) in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. Any crushing, grinding, cleaning, drying, sorting, and concentrating that is exceptionally classified under NACE codes C20 or C23 is also covered here (see Table 3). Given that the state of scientific research on the environmental impacts of mining on the seabed has not yet been considered by the TWG yet, these definitions do not cover deep sea mining or deep seabed mining.

Table 3: Economic activities prioritised for mining sector

ST2 Mining and Processing Sectors							
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity
Mining of metal ores	B7	X		X	X	X	X
Other mining and quarrying	B8	X		X	X	X	X
Mining support service activities	B9	X		X	X	X	X
Manufacture of other non-metallic mineral products	C23	X		X	X	X	X
Manufacture of basic metals	C24	X		X	X	X	X

Below, we provide more details about reflections and evidence on key questions underpinning the criteria setting that the Platform is considering.

Further to the TWG’s initial assessment of the mining sector showed the need to collect further evidence on the following aspects was highlighted in the work done until now:

- Thresholds for climate change mitigation criteria appropriate for mining economic activities consistent with an IPCC ‘1.5°C with no or limited overshoot’ emissions scenario and the net-zero emissions target by 2050 and –55% by 2030.
- Setting criteria that ensure do no significant harm (DNSH) for all environmental objectives in accordance with the taxonomy criteria, in particular for the protection and restoration of biodiversity and ecosystems and the sustainable use and protection of water and marine resources.
- Evidence on the impacts on and contributions of mining and quarrying to all other environmental objectives.

To better understand the current performance distribution profile of mines and quarries across the 6 environmental objectives, we invited stakeholders to provide data via the general feedback section in the August-September 2021 consultation. In particular, we welcomed stakeholders who can provide representative data on:

- the distribution profile of scope 1 and 2 GHG emissions across the lifetime of mines

- the distribution profile of European mine performance across different types of pollutants

On data limitations, there is a need to set baselines and thresholds for different pollutants across a range of mining and processing activities, in particular for emission criteria for NO_x, SO_x, dust and mercury. There is also a need for further review of data under the BAT-AEL's where criteria are not set but where thresholds need to be determined under normal operating conditions.

The activity "Manufacturing of non-metallic mineral products" (C23) and "manufacturing of basic metals" (C24) have very similar issues. Similarly, to better determine circularity, data are needed to determine the percentage of non-metallic waste and by-products as input or output from a wide range of metals processing sub-sectors. These data can also be used to determine the percentage of waste/by-products from a range of metal processing activities that are currently reused/recovered/recycled and made available for use in other economic activities.

Further criteria development work would need to be undertaken on these activities in order to provide complete TSC. This should take account of the work and methodological development already carried out by the PSF.

3. Methodology for developing technical screening criteria explained

The methodology used for developing technical screening criteria follows that developed by the DG Joint Research Centre (JRC) and set out in detail in the report *Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental objectives 3-6*⁹ and is not repeated here. A summary of the methods can be found in Annex A3.

Whilst these methods were followed throughout the criteria development process, the specific nature of some of this work has meant a deepening of our understanding on certain approaches and objectives. The development of headline ambition levels (section 4) and

⁹ 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 (online), doi:10.2760/256390 (online), JRC126045. <https://publications.jrc.ec.europa.eu/repository/handle/JRC126045>

understanding substantial contribution to a given objective (section 5), set out the further conceptual frame to the work of the TWG. One element that is not elaborated further here and is under development, is the platforms understanding and approach taken to ‘enabling’ activities. This is being taken forwards by an enabling task-force to clarify how Article 16 of the Taxonomy Regulation should be used in the context of criteria development and how to ensure that the Taxonomy allows for a sufficiently broad, but accurate, interpretation of enabling activities to support the sustainability transition. Recommendations and the revised conceptual framework for enabling are expected to be presented in the May supplement to this report.

One point of understanding that has arisen during the development of criteria is an understanding the scope of economic activities, which form the basis for criteria development and the link with assets that may be owned or managed by a company or operator. The following clarification is provided.

3.1. Understanding the scope of economic activities and the link with assets

Technical screening criteria are developed for **economic activities**. These are laid out in the Delegated Act(s) using economic activity descriptions which are based on NACE codes

- An **economic activity** can involve operating, installing or using **multiple assets** that are essential components necessary to execute that activity. For example:
 - Example 1: A telecommunications manufacturer may have injection moulding facility, metal plating facility, assembly. The facilities used would be considered as **assets** in the context of executing the economic activity.
 - Example 2: An agricultural operation may have hedgerows (as field boundaries), areas that are not cropped, next to rivers, as well as cropped land. All of these are **assets** in the context of operating the heterogeneous activity of farming.
- These assets may be within scope of the technical screening criteria to ensure a substantial contribution to a given environmental objective depending on the activity boundary. i.e. certain activities (and subsequent TSC) might be limited to (or even exclude) certain processes or assets that companies might actually consider part of the economic activity described through NACE.
- There are however other ‘**assets**’ and ‘**activities**’ which are owned or operated by the **company** which are not material or essential to the execution of the economic activity.

Examples may include other activities such as restoration, afforestation, agriculture, that happen on land owned or operated by a company.

- The **company** could claim taxonomy alignment for some of these other activities and associated assets, but under a different NACE and not part of the main/other activity of the company. These may be on 'non operated land'.
 - Example: Mining as an **activity** may in future be able to claim taxonomy alignment against criteria set for mining.
 - The mining **company** may be able to claim taxonomy alignment with some of their other activities not linked to the mining activity. This could be expenditure related to such other activities, e.g. restoration.
 - The mining **company** could not claim that mining as an **activity** is taxonomy aligned (and as such claim that revenue from its mining activities is partly or fully taxonomy aligned) by virtue of other restoration activities that the company operates.

4. Defining headline ambition levels for environmental objectives

In order to develop TSC, it is important to understand the environmental objectives of the Taxonomy, how a contribution can be made to them. Understanding when a substantial contribution is made to a given environmental objective is one of the central challenges of developing technical screening criteria.

An activity is considered taxonomy-aligned

1. if it makes a substantial contribution to at least one of the following 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;
2. while not causing significant harm to any of the other five objectives.

These two conditions are considered met when an economic activity fulfils a set of activity-specific technical screening criteria. Additionally, an activity needs to meet a set of minimum social safeguards listed in the Taxonomy Regulation. (see Figure 2)

Defining substantial contribution to the Taxonomy environmental objectives requires an understanding of what the objectives are in terms of their end-state targets (**headline ambition levels**), how they interact and what sort of contribution should be expected through an implementing activity. In this context it is useful to describe the environmental objectives in relation to the DPSIR (Driver, Pressure, State, Impact, Response) Framework that is used by the European Environment Agency (EEA) and others to underpin the development of environmental indicators in the context of policy monitoring and development. The framework is particularly useful in the context of the Taxonomy as it describes the causal links between economic or social activities on the environment.

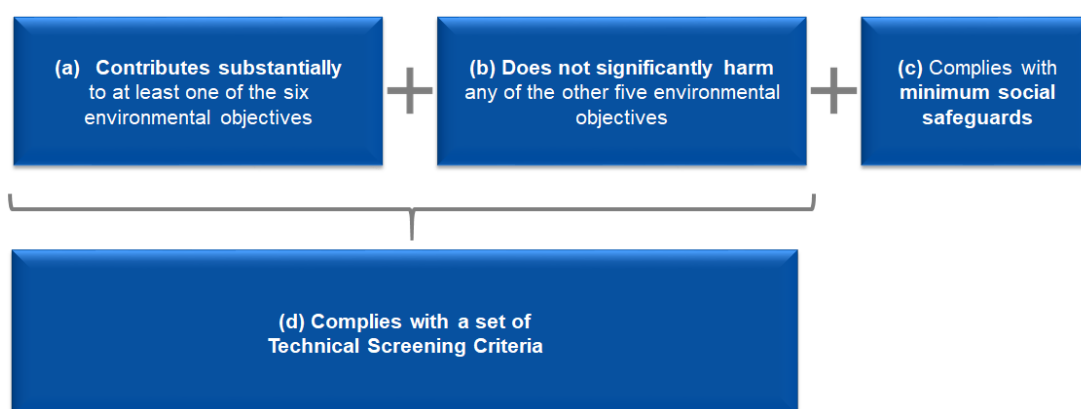


Figure 2: The 4 basic conditions for an activity to be considered taxonomy-aligned

The DPSIR Framework is a systems analysis view of how social and economic developments interact with the environment. According to this systems analysis view, social and economic developments (defined **Drivers**) exert **Pressure** on the environment and, as a consequence, the **State** of the environment changes, such as the provision of adequate conditions for health, resources available and biodiversity. Finally, this leads to **impacts** on human health, ecosystems and materials that may elicit a societal **Response** that feeds back on the **Driving** forces, or on the state of impacts directly, through adaptation or curative action (EEA, 1999).

All environment objectives of the Taxonomy are interrelated, both in terms of the means by which an objective is achieved, and the effect of achieving one objective on another (Figure 2). The interaction of these objectives and the opportunity from an economic activity to deliver a substantial contribution is related in part to where they appear in the DPSIR Framework. For example, Pollution is a *pressure* that affects the *state* of the Biodiversity and Water objectives. Circular Economy can be seen as a *response* that helps to achieve the desired *state* of an objective, or to reduce the *pressure* on an objective. When developing technical screening criteria, the headline ambition levels reflect these positions, with the water and biodiversity headline ambition levels focussed on improving the state of these objectives, the pollution

ambition level focussed on addressing the pollution pressures, and the circular economy ambition level focused on a system change to enable the achievement of other objectives (including climate). (see Figure 3)

This section provides a summary headline level of ambition for objectives 3 – 6 of the Taxonomy Regulation. It is drawn from work of the TWG on environmental ambition levels. This section also benefited from input and comments from staff from the European Commission's Joint Research Centre (JRC) and Directorate General for the Environment (DG ENV) to ensure correct presentation of EU policies and initiatives in the relevant policy areas. It provides the basis for checking on the development of technical screening criteria (TSC) within the sector teams of the platform with respect to their eligibility to provide substantial contribution to the headline level of ambition for objectives 3-6.

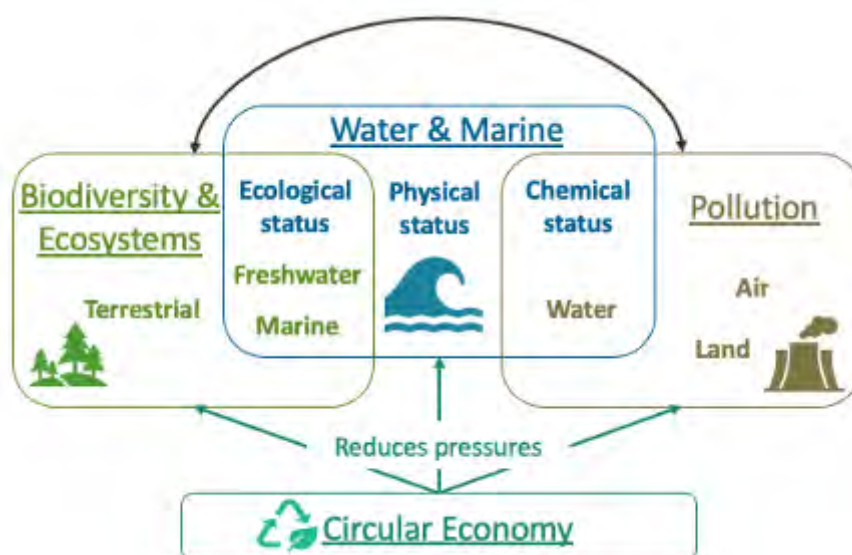


Figure 3: Overlapping among the different environmental objectives of the Taxonomy
 Headline ambition level in this context means the aspirational goal linked to each environmental objective. For example, the goals and targets of the Paris Climate Agreement provide an internationally agreed state for the climate to which countries need to respond. This creates the framework in which the contribution to these targets can be articulated at different geographies (such as through Nationally Determined Contributions (NDCs)) or from different economic activities. This recognises that no one country or sector can achieve the targets on their own, and that only together can we achieve the global level of ambition. The Paris Agreement aims to limit the global average temperature increase to 1.5 °C was translated by the Technical Expert Group in the context of the EU Green Deal into a **climate neutrality target by 2050 and a greenhouse gas reduction target, including emissions and**

removals, to at least 55% by 2030 compared to 1990¹⁰. Thus, the technical screening criteria provided under the 1st Taxonomy DA for the mitigation and adaptation objectives were developed for clear headline ambition level. This note provides those same interpreted targets for objectives 3-6 of the Taxonomy Regulation.

The principles for setting a headline ambition level of the four remaining objectives are:

- Be science-based
- Be based on international agreements that EU supports
- Reflect EU's response to international agreements or EU's leadership on an objective

4.1. Objective 3 – The sustainable use and protection of water and marine resources

To ensure at least good status for all water bodies by 2027, and good environmental status for marine waters as soon as possible¹¹; and to prevent the deterioration of bodies of water that already have good status or marine waters that are already in good environmental status.

Rationale and link to environmental strategies and policies

The protection of water bodies in Europe is primarily regulated by the Water Framework Directive (WFD) covering inland surface waters, transitional waters, coastal waters and groundwater, and its daughter legislation (setting chemical standards for surface water and groundwater), as well as by other more specific directives such as the Urban Waste Water Treatment Directive and the Nitrates Directive, and the Directive on the Reduction of National Emissions of certain Atmospheric Pollutants, as well as the Industrial Emissions Directive among others. It includes the protection and enhancement of the status of aquatic ecosystems, the promoting of sustainable water use based on a long-term protection of available water resources, specific measures for the progressive reduction or cessation of discharges, emissions and losses of priority substances and the prevention of deterioration. The first deadline for achieving at least good status for all water bodies in Europe set out in the WFD was 2015 (with exemptions possible until 2027), less than half of all water bodies

¹⁰ https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf

¹¹ The term as soon as possible is a placeholder for any new deadline. The deadline set by the MSFD is 2020.

are currently in good status (EEA (SOER 2020)) and a follow up deadline was set for **2027**. **It is this latter date which is used in the context of the headline ambition level.**

To distinguish between different qualities of water bodies, their status is defined in the WFD with reference to dimensions such as **good ecological status** and **good chemical status** that cover among others the quality of the biological community, certain supporting elements (such as nutrients, oxygen), river basin specific pollutants (regulated at national level), and hydrological characteristics, as well as the presence of priority substances (regulated at EU level) which determine the chemical status. The latter is expressed in terms of compliance with all the quality standards established for chemical substances at European level. **Good status is used in the headline ambition level to capture these two elements, and as is consistent with the wording of the WFD.**

For Marine waters, maintaining biodiversity and providing diverse and dynamic oceans and seas which are clean, healthy and productive is the ultimate aim of European marine policy and is outlined by the Marine Strategy Framework Directive (MSFD) and its related legislation. In that respect, this Directive should, inter alia, promote the integration of environmental considerations into all relevant policy areas and deliver the environmental pillar of the future maritime policy for the European Union. It is the first EU legislative instrument related to the protection of marine biodiversity, as it contains the explicit regulatory objective that "biodiversity is maintained by 2020", as the cornerstone for achieving **Good Environmental Status**¹². In the headline ambition level, good environmental status is used instead of 'good status' to be aligned with EU legislation in this area. The 2020 objective was not met – as a result of overfishing and unsustainable fishing practices, plastic litter, excess nutrients, underwater noise and other types of pollution as predominant pressures (EEA (SOER 2020)). The MSFD is undergoing review and a new target date is expected. In the absence of such a target, **as soon as possible** is included in the headline ambition level.

In addition to the WFD and MSFD related wording, Art. 12 of the Taxonomy Regulation (TR) states that only activities that can claim to be sustainable under the Regulation are those which can provide substantial contribution to 'achieving the good environmental status of marine

¹² The Commission produced in this context a set of detailed criteria and methodological standards that helps to implement the Marine Strategy Framework Directive. 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 (OJ L 125, 18.5.2017, p. 43. It links -together with the Annex of the Directive- ecosystem components, anthropogenic pressures and impacts on the marine environment.

waters or to preventing the deterioration of marine waters that are already in good environmental status' or to 'achieving the good status of bodies of water, including bodies of surface water and groundwater or to preventing the deterioration of bodies of water that already have good status'.

The EU environmental acquis, and EU legislation more generally includes a series of targets and commitments that seek to ensure the sustainable use and protection of water and marine resources. These have been used to determine the overall ambition level above for both freshwater and marine resources. They can be found in

Annex A2: Relevant targets & reference points for headline objectives of this note.

4.2. Objective 4 – The transition to a circular economy

By 2030 economic growth is decoupled from extraction of non-renewable resources and depletion of the stock of renewable resources is reversed, and by 2050 economic activity is largely decoupled from resource extraction, through environmental design for a circular economy to eliminate waste and pollution, keep materials and products in use at their highest value, and to regenerate ecosystems.

This ambition builds on a reduction of the EU27 material footprint (RME) by 50% by 2030 and by 75% by 2050 (compared to a 2015 baseline of 14t/capita) and raising the circular material use rate of all materials to increase the average to at least 25% by 2030, by increasing the durability, repairability, upgradability, reusability or recyclability of products, and by remanufacturing, preparing for reuse and recycling of used materials and products; and on cultivating 25% of total agricultural land and production forestry by 2030, and 100% by 2050, using regenerative production methods, such as agroecology and silvopasture.

Rationale and link to environmental strategies and policies

Today's linear take-make-waste economy is based on the extraction of resources and depletion of natural capital, i.e. the stock of renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people. If we follow the historical path, global use of materials such as biomass, fossil fuels, metals and minerals is expected to double in the next forty years¹³, while annual waste generation is projected to increase by 70% by 2050¹⁴. Such a linear model relies on resource extraction and unpriced negative externalities, and undermines the ability to transition towards a climate-neutral circular economy. In addition, it amounts to billions of euros of value being wasted in raw materials and energy, underutilised assets, and disposal costs. Alongside leading to significant economic value loss, this system aggravates many global challenges, such as

¹³ OECD (2018), *Global Material Resources Outlook to 2060*.

¹⁴ World Bank (2018), *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*.

climate change, biodiversity loss and pollution¹⁵. In 2019, the circular material use rate in Europe was 12% showcasing the significant gap and potential to transform to a circular economy¹⁶.

Moving past the current linear model, a circular economy aims to redefine growth, focusing on positive society-wide benefits and gradually decoupling economic activity from the extraction of natural resources. The transition to renewable energy sources is an essential requirement for the circular economy, which is based on three principles, driven by environmental design¹⁷: eliminate waste and pollution; keep products and materials in use at their highest value; and regenerate ecosystems. As stated in the Commission's 2020 Circular Economy Action Plan, the EU needs to accelerate the transition towards a regenerative growth model, advance towards keeping its resource consumption within planetary boundaries, and therefore strive to reduce its consumption footprint and double its circular material use rate in the coming decade. The action plan also highlights how scaling up the circular economy will make a decisive contribution to achieving climate neutrality by 2050 and decoupling economic growth from resource use, while ensuring the long-term competitiveness of the EU and leaving no one behind. More broadly, transitioning to a circular economy not only addresses the negative impacts of the linear economy, but more importantly it represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.

As today there is no quantitative overarching EU ambition level for the circular economy, the ambition builds on a range of published strategies and targets. For example, the Commission committed to develop indicators on resource use, including consumption and material

¹⁵ IRP (2019). Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya.

¹⁶ The EU Green Deal emphasizes that only 12% of the raw materials used by the EU's industry come from recycling. This percentage is based on EUROSTAT indicators used to measure progress towards a circular economy. See: https://ec.europa.eu/eurostat/databrowser/view/CEI_SRM030_custom_354994/bookmark/table?lang=en&bookmarkId=c6638243-2f7f-4256-b2fd-6a5159b4b68a

¹⁷ In line with the ISO 14006 (2020) Guidelines for incorporating Ecodesign as part of an environmental management system (EMS) that are applicable to product-related environmental aspects and activities that an organization can control and those it can influence. The term environmental design has been used to avoid confusion with the legally defined term in the context of EU Directive 2009/125/EC establishing a framework for the setting of Ecodesign requirements for energy-related products.

footprints¹⁸. In February 2020, the EU Parliament called for binding targets for 2030 to significantly reduce the EU material and consumption footprints and bring them within planetary boundaries by 2050. Finally, the Council encouraged the Commission to explore how these indicators could set a benchmark for an indicative EU circular economy goal. Globally, policy packages could decrease global material extraction until 2060 by up to 25%¹⁹, and research shows that Germany can reduce its consumption of primary raw materials by up to 70% until 2050²⁰. The Taxonomy Regulation highlights the importance of increasing durability, repairability, upgradability, reusability and recyclability, in particular in designing and manufacturing activities, of prolonging the use of products, including through reuse and remanufacturing, and of recycling²¹. The Farm to Fork strategy contains a target for 25% of EU farmland to be farmed organically by 2030^{22 23}.

4.3. Objective 5 – pollution prevention and control

By 2030, pollution²⁴ sources, sinks and pathways due to human activities have been fully identified and measures have been applied that prevent and eliminate pollution across air, water, soil, living organisms and food resources. By 2030, the production and use of substances, materials and products is safe and taxonomy-aligned.

- ***Substances of concern²⁵ have been substituted and their production and use have been minimized, as far as possible. Where substances of concern are still***

¹⁸ European Commission, *Circular Economy Action Plan*, 2020

¹⁹ IRP (2019). *Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel*. United Nations Environment Programme. Nairobi, Kenya.

²⁰ Resource-Efficient Pathways towards Greenhouse-Gas-Neutrality – RESCUE Summary Report

²¹ Regulation (EU) 2020/852 (Taxonomy) on the establishment of a framework to facilitate sustainable investment

²² https://ec.europa.eu/info/sites/info/files/communication-annex-eu-biodiversity-strategy-2030_en.pdf

²³ The EU Business @ Biodiversity Platform suggested targets to ensure 100% of EU farmland to be organic by 2050.

²⁴ For a definition of “pollution” and “pollutants”, see Article 2 points (10) and (12) of the Taxonomy Regulation (EU) 2020/852.

²⁵ **Substance of concern** cover substances having a chronic effect for human health or the environment (Candidate list in REACH and Annex VI to the CLP Regulation), those which hamper recycling for safe and high quality secondary raw materials and the most harmful substances as listed in the Chemicals Strategy for Sustainability.

being used, their use, presence in products and articles and quantities is being tracked to ensure adequate risk management throughout their life cycle.

- ***The sub-group of the most harmful substances²⁶ (incl. ozone depleting substances) are phased out from products for consumer or professional use, except when their use has been proven to be essential for society²⁷.***

Legacy pollution is safely remediated and pollutants are destroyed or irreversibly transformed into safe materials. By 2030, pollution resulting from heat, noise, light and vibration has been identified and reduced to prevent, or if prevention is not practicable, minimize any adverse impact on human health and the environment.

Rationale and link to environmental strategies and policies

On 12 May 2021, the European Commission adopted the EU Action Plan: "Towards a Zero Pollution for Air, Water and Soil" (ZPAP) as a key deliverable of the EU Green Deal. The zero-pollution vision for 2050 is for air, water and soil pollution to be reduced to levels no longer considered harmful to health and natural ecosystems, that respect the boundaries with which our planet can cope, thereby creating a toxic-free environment. This 2050 vision target is seen in the context of the UN 2030 agenda for Sustainable Development (the SDG targets), and has a series of associated targets for 2030 to help achieve the overall 2050 goal. The **2030** date has been used in the overall headline ambition level to reflect these interim targets, and the urgency to act, as well as provide coherence with other environmental objectives listed in this note.

Pollution of the natural environment results from the introduction of substances, or contaminants into natural systems at levels which would cause harm or adverse change. These can include a wide variety of chemical substances or energy, such as noise, heat, or light into a range of different environmental pathways and systems. The headline ambition level notes this range (under the umbrella of 'pollution' as defined in Article 2 TR) and the

²⁶ **Most harmful substances** (as listed in the chemicals strategy for sustainability) are: carcinogenic, mutagenic or reprotoxic substances (CMRs); persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances (vPvBs); endocrine disrupting substances (EDs); immunotoxicants; neurotoxicants, respiratory sensitisers; substances having specific organ toxicity (STOT) with chronic effects; persistent, mobile and toxic substances (PMTs) and very persistent and very mobile substances (vPvMs).

²⁷ **Essential use** is aimed to be defined within the commitment of the Chemical Strategy for sustainability where it's stated essential use criteria will ensure that the most harmful chemicals are only allowed if their use is necessary for health, safety or is critical for the functioning of society and if there are no alternatives. The basis of this being the Montreal protocol decision IV/25.

importance to identify and reduce them as consistent with the zero-pollution hierarchy, which follows a *prevention, minimize & control, and eliminate and remediate* logic. This places pollution in *pressure* category of the DPSIR framework, and thus activities focus on the reduction of the pressure, rather than achieving a specific state (as is the case for water or biodiversity).

Two specific elements are singled out, substances of concern and most harmful substances. This reflects the most dangerous and most urgent series of pollutants to be addressed when considering action at an economic activity level. Substances of concern have intrinsic hazardous properties and are covered in the EU Chemical Strategy for Sustainability (now within the framework of ZPAP). Most harmful substances are a sub-group of Substances of Concern with the most serious negative effects to the environment, health and wildlife. Both require substantive actions focused on reduction in general, and phasing out from products.

4.4. Objective 6 – The protection and restoration of biodiversity and ecosystems

To ensure that by 2050 all of the world’s ecosystems and their services²⁸ are restored to a good ecological condition²⁹, resilient, and adequately protected. The objectives of the EU Biodiversity Strategy will be achieved at latest by 2030. From today the world’s biodiversity needs to be put on the path to recovery and no deterioration in conservation trends and status of all protected habitats and species by 2030 will be ensured.

Rationale and link to environmental strategies and policies

The EU Biodiversity Strategy for 2030 highlights the EU’s ambition to support the Convention on Biological Diversity (CBD) “...to reverse biodiversity loss, lead the world by example and by action, and help agree and adopt a transformative post-2020 global biodiversity framework at the 15th Conference of the Parties to the Convention on Biological Diversity.” The ambition should be that “by 2050 **all of the world’s ecosystems are restored, resilient, and**

²⁸ See: Guidance document on integrating ecosystems and their services in decision-making (2019) https://ec.europa.eu/environment/nature/ecosystems/pdf/8461_Summary%20EU_Guidance_Draft_02_17.07.2020.pdf

²⁹ Compared to the baseline of 2020

adequately protected. The world should commit to the biodiversity net-gain³⁰ principle to give nature back more than it takes. As part of this, the world should commit to no human-induced extinction of species.”

The EU Strategy for 2030 sets as a milestone, the objective “to ensure that **Europe's biodiversity will be on the path to recovery by 2030** for the benefit of people, the planet, the climate and our economy, in line with the 2030 Agenda for Sustainable Development and with the objectives of the Paris Agreement on Climate Change.” The overall ambition is to ensure **by 2030 no deterioration in conservation trends and status** of all protected habitats and species and to ensure that **at least 30% of species and habitats** not currently in favorable status are in that category or show a strong positive trend. Moreover, the forthcoming EU Nature Restoration Plan³¹ aims to “bring diverse and resilient nature back to all landscapes and ecosystems. This means reducing pressures on habitats and species” and ensuring **all management and use of ecosystems is sustainable and all ecosystems are in a good ecological condition.**

Implementing the EU legal framework for nature restoration requires clear and binding targets and timelines, as well as clear definitions and criteria on restoration and/or the sustainable use of ecosystems. A key concept for this is the mitigation hierarchy and its systematic application is central to the Do No Significant Harm framework. In the mitigation hierarchy, offsets are the last resort set of measures in the series of essential sequential steps that must be taken to limit any negative impacts on biodiversity. In line with this definition, offsets are therefore a criterion in the do no significant harm (DNSH) framework and cannot as such be considered as substantially contributing to biodiversity.

To inform the development of the technical criteria for biodiversity, ambition levels will need to be defined by ecosystem, restoration needs to be defined against a baseline and “sufficient and adequate” levels of biodiversity protection and restoration need to be defined in terms of both quantity and quality. The EU Biodiversity Strategy already provides for a set of qualitative

³⁰ The definition of net gain which the MDB's including the EIB use is as follows: Biodiversity Net Gain is an approach to development that leaves biodiversity in a better state than before. Biodiversity Net Gain relies on the application of the mitigation hierarchy to avoid, mitigate or compensate for biodiversity losses. Biodiversity Net Gain must be defined relative to an appropriate reference scenario.

³¹ The current understanding is that the corresponding legal draft is expected towards the end of this year. The Impact Assessment is currently still under preparation.

and quantitative targets which can inform the definition of *substantial contribution*, *low-impact* and *significant harm* for biodiversity at activity level [or: in the sector teams]. See

Annex A2: Relevant targets & reference points for headline objectives to this note.

While the development of the technical criteria for biodiversity shall be based on the biodiversity strategy, where it provides targets [or: as far as possible; or: as far as it is in line with scientific evidence], it is important to use additional references for aspects not covered or for which no targets are defined in the strategy. One important example is biodiversity restoration. In the context of the UN Decade on Ecosystems Restoration, the UNEP has developed relevant guidance for this and has defined a series of targets (

Annex A2: Relevant targets & reference points for headline objectives).

5. Understanding Environmental Objectives

In developing the technical screening criteria (TSC) for the taxonomy objectives, and following the publication of the Taxonomy Regulation, it has been necessary to clarify specifically what substantial contribution means for those objectives that sit within the 'state' area of the DPSIR framework. Unlike circular economy which is about system change, or pollution which relates to pressure reduction, the water and biodiversity objectives require an understanding of when the desired end state has been reached and how that can be described in the context of different economic activities through TSC. These substantial contributions complement Articles 12 (Water) and 15 (Biodiversity) of the Taxonomy Regulation to provide methodological guidance. They are different in nature, reflecting the different objectives and the content of each article. They have been used to guide and refine criteria development of the criteria that are being presented in this consultation.

The work done in the TWG starts from the Methodology developed by the JRC building on that of the TEG. Our work has led to a further development of the methodology itself with particular attention on the interpretation of environmental objectives 3-6 in the focus of this report. Details on how to ensure a substantial contribution of an activity to an environmental objective was developed during the course of the TWGs activity with oversight of our environmental topic leads and is summarised below.

5.1. Clarifying substantial contribution to Objective 3 - Sustainable use and protection of water and marine resources

The following two closely related questions on the interpretation of Article 12 of the Taxonomy Regulation came up throughout the process of developing technical screening criteria (TSC):

1. Can an activity with pressures³² on a water body that are much lower than the sector average qualifies as making a substantial contribution to the water objective?
2. Does this depend on the status of the water body affected by the activity?

³² These would include pressures on surface waters such as impacts on ecological, chemical and hydro-morphological quality/status; as well as pressures on groundwater, such as impacts on chemical and quantitative quality/status.

Four types of economic activities (hereafter 'activities') can be considered in this context and used to address the questions through examples.

Some economic activities have a direct **positive impact** on the environment ('**Type 1** activities').

Example 1 (1st Delegated Act (DA)): the restoration of wetlands helps to enhance their capacity to act as carbon sinks (i.e. once restored, these wetlands can better capture and store CO₂ from the atmosphere, thus reducing CO₂ concentrations in the atmosphere).

Example 2 (water): renaturation of rivers, including by abolishing barriers in rivers.

The inclusion of such activities, subject to appropriate technical screening criteria, is straightforward and compatible with all environmental objectives of the Taxonomy Regulation.

However, most activities exert some pressures on the environment, thus leading to a negative impact. To achieve our environmental objectives, *these pressures need to be minimised*³³. That is the reason why, in addition to such activities with a direct positive impact, the taxonomy aims to recognise as 'green' (taxonomy-aligned) those **activities that significantly reduce pressures in line with meeting the EU's environmental policy objectives**. There are three cases:

Type 2. An activity leading to an improvement in another activity (improvement measures, upgrades): an activity B leads to an *improvement in the environmental performance* of another activity X. In many cases, such activities would qualify as an enabling activity in the meaning of Article 16 of the taxonomy Regulation.

- Example 1 (1st DA): renovating (activity B) a building, can improve its energy performance (activity X) thus reducing GHG emissions associated with the building's energy use.

³³ Such pressure minimisation can be incentivised by formulating appropriate substantial contribution criteria. At the same time, adding DNSH criteria to the water objective (as to other objectives) are another way to ensure pressures are reduced to an acceptable level (in line with Article 17) for those activities that are addressed through substantial contribution criteria to another environmental objective.

- Example 2 (water): upgrading (activity B) an industrial installation discharging pollutants directly into a water body (activity X) leads to a reduction in the emission of pollutants³⁴.

The implications in terms of disclosure are different for activity B and activity X in this example. They are described in Annex I.

Type 3. An activity dealing with pressures from other activities: an activity C captures pressures from other activities (X, Y, Z...) and mitigates them.

- Example 1 (1st DA): infrastructure for transport and subsequently underground storage (activity C) of CO₂ captured from industrial installations (activities X, Y, Z...), leading to reduced GHG emissions.
- Example 2 (water): a plant (activity C) treating wastewater from other installations in an industrial park and/or from households (activities X, Y, Z...), leading to a reduction in pollutants emitted to the water body.

Type 4. An activity with pressures substantially lower than sector average: an activity X1 is responsible for some pressures, but these are much lower than the average of other activities within the same sector (X2, X3, X4...)

- Example 1 (1st DA): an installation generating electricity from **wind power** (activity X1) is responsible for some pressures (11-15 gCO₂eq/kWh) but these are much lower than the average for the electricity generation sector (EU average carbon intensity: 244 gCO₂eq/kWh) (activities X2, X3, X4...).
- Example 2 (1st DA): a building that qualifies as **near-zero energy building** (activity X1) still uses some energy and is thus responsible for some GHG emissions, but these pressures are much lower than the average of other buildings (activities X2, X3, X4...).
- Example 3 (water): a steel manufacturing installation (activity X1) whose emissions of pollutants to water that are much lower than the average emissions of other steel manufacturing installations (activities X2, X3, X4...).

Recognising type 4 activity as “reducing pressures” would rely on an assumption for the counterfactual: if the activity had not taken place (e.g. wind power), another activity with higher

³⁴ The upgrading could involve in an end-of-pipe solution (e.g. installing a system to treat the waste water) or in an integrated pollution abatement (e.g. the use of different types of chemicals)

pressures (e.g. in the worst case coal) would have taken place instead to respond to the demand for the output (e.g. electricity). While the construction of a new wind farm is not automatically accompanied by the closure of a coal plant (direct replacement), the idea is to encourage a gradual shift in electricity production (replacement from a system's and medium-term perspective).

The working group debated whether and when this assumption is appropriate in the context of the water objective was debated, leading to the question below.

Questions on the compatibility of type 4 activities with Art. 12

Article 12.1 of the Taxonomy Regulation states that an activity makes a **substantial contribution to water** where that activity “contributes substantially to achieving the good status of bodies of water, or to preventing the deterioration of bodies of water that already have good status [...]”³⁵ It is quite straightforward to argue that activities of type 1, 2 and 3 contribute to achieving the good status of water bodies, or to preventing the deterioration of water bodies already in good status³⁶. However, there is a **question as to whether an activity of type 4** (with pressures much lower than sector average) **can be considered to make such a contribution**.

The approach taken in the development of TSC to date

- **For an activity linked to a water body not in good status:**
 - When an activity of type 4 (with lower pressures) does not directly replace another activity with higher pressures on the same water body, it cannot be considered to be making a substantial contribution to achieving good status since the activity is responsible for new pressures (even if lower than sector average) on the affected water body.
 - The assumption that the counterfactual would be another activity with higher pressures is not appropriate.

³⁵ The article continues with an equivalent phrase relating to marine waters: “or contributes substantially to achieving the good environmental status of marine waters or to preventing the deterioration of marine waters that are already in good environmental status”.

³⁶ Whether that contribution is substantial depends on whether the activity considered meets the relevant technical screening criteria.

- Indeed, an activity takes place in a specific water body, and the counterfactual may be an activity in another water body, with a different status.
 - As such, a comparison with the approach taken under the 1st DA for climate mitigation activities, where the counterfactual relied on a systemic perspective and indirect replacement of high-pressure activities was considered a way to demonstrate the substantial contribution to climate mitigation, is not appropriate.
 - When an activity of type 4 **directly replaces** another activity with higher pressures on the same water body (i.e. simultaneous closure of the high-pressure activity), it can be considered to be making a substantial contribution to achieving good status through pressure reduction – providing the difference in pressure reduction is substantial.
- **For an activity linked to a water body having a good status**, even if there is no direct replacement, the activity can only be considered to contribute to *preventing deterioration of bodies of water that already have good status* if the pressure exerted by the activity is at a level that does not lead to the deterioration of that same status. Just having a pressure level lower than the sector average would not be sufficient. This follows from the drafting of the “chapeau text” of Article 12. The practical relevance of this case for the sectors teams may well be limited³⁷.

The following table provides an overview of these cases.

	<i>The water body has good status</i>	<i>The water body does not have good status</i>

³⁷ This is because such a situation may be unlikely to arise in practice, an possible example being a new industrial installation that is constructed according to state-of-the-art technology which avoids deterioration of the status of a water body already in good status.

Activity directly replaces another activity with higher pressures on the same water body	Contributes to preventing deterioration (subject to compliance with TSC)	Contributes to achieving good status ³⁸ (subject to compliance with TSC)
Activity does not directly replace another activity	Contributes to preventing deterioration (subject to compliance with TSC and depending in particular on level of pressure exerted by the activity)	<i>Does not</i> contribute to achieving good status

A final case is the one whereby an activity is linked to a water body not in good status, but where the activity is performed in a way that the water body subsequently reaches good status. This situation would require TSC that follow the impact-based (or ‘environmental-outcome’) approach. Whether or not this is practical way forward would remain to be analysed on a case-by-case basis.

The above guidance rests on the legal interpretation that **activities with the same level of pressures can be treated differently based on the water body they affect (i.e. their location)**³⁹, as the situation of a body of water of good status is not comparable to the situation of a body of water of bad status. Therefore, the same activity may or may not qualify depending on the status of the relevant body of water.

Implications for how TSC have been developed for different activities

The following guidance was used in the development of TSC for activities prioritised for the water objective – this is reflected in the criteria within this consultation report.

³⁸ This could also cover cases of a water body in good *potential*, in view of bringing it to good *status*.

³⁹ The Commission’s Legal Service confirmed this would be appropriate and would not violate Art. 19.1(j), which requires that criteria “ensure that those activities are treated equally if they contribute equally towards the environmental objectives set out in Article 9 of this Regulation, to avoid distorting competition in the market”.

- A new activity potentially affecting the ecological (biological, hydromorphological, physio-chemical) status or the chemical status of a body cannot be considered a substantial contribution to the water objective.
 - Example: Construction of new ports, inland waterways, hydropower plants, or their extension; construction of new industrial facilities not replacing another more polluting one.
 - The promotion of best practices to reduce environmental impacts could be captured by including a retrofit activity that would require mitigation measures to reduce impacts of existing plants (such as being done in ST6 for existing hydropower plants). The other approach is to leave out such activities from the water part of the taxonomy given that some of these are already addressed in the 1st DA with DNSH criteria for water (for example hydropower criteria in the 1st DA). Alternatively, and where GHG emissions are not the most relevant impact, an option would be to develop substantial contribution criteria for another relevant environmental objective, with DNSH criteria for water.
- Where an activity addresses water pollution aspect (rather than water use), consider “re-branding” of the TSC as substantial contribution to the pollution objective (given Art. 14 covers pollution to water)
 - Example from current draft TSCs:
 - Maritime transport defines substantial contribution to pollution.
 - Any industrial activity emitting pollutant effluents into bodies of water and which hence can be addressed under Article 14. Where such processes would also have a material impact in terms of water use, DNSH criteria for water can address this impact.
- Consider that improving water use efficiency could be addressed under the circular economy objective, note Article 13(1)(a) on using natural resources more efficiently.
 - Example from current draft TSCs:
 - Criteria for manufacturing of leather and related products address techniques to reduce the water consumption. Therefore, this could be tackled under the circular economy objective as resource efficiency measures.
- Using the impact-based approach (see step 5 in the template for the development of TSC) instead of previously followed approaches (e.g. best-in-class).
 - A possible criterion could be for manufacturing of paper where it replaces directly the same activity with higher pressures in the same water body - which does not have good status. The impact of the replaced activity must help

achieve the good status the water body, for example by reducing its water use by implementing closed loop systems. Therefore, the criteria could be formulated as “Further to the replacement of an activity with higher pressure on the affected water body, the water abstraction from the paper manufacturing activity result in the water body achieving good status”

- Consider whether the activity could be redefined as an enabling activity, i.e. following a type 2 approach as above
 - Example: growing of (non-)perennial crops: consider developing criteria for the installation of water-efficient irrigation systems and/or safe re-use of reclaimed water when feasible, with safeguards to avoid over-abstraction⁴⁰.

5.2. Clarifying substantial contribution to objective 4 - Transition to Circular economy

This section describes how to develop a converging and coherent set of activity-specific criteria for defining substantial contribution as part of the transition to a circular economy. This is the most challenging environmental objectives because it is a relative new concept in scientific literature.

The starting point and guiding principle for defining these criteria is the overall ambition level for transitioning to a circular economy, which the taxonomy should help to achieve. This definition itself, builds on the related state of science and relevant (EU and international) strategies and policies, which already comprise a set of more concrete criteria, indicators and timelines. These are closer in nature to the TSC and should be able to inform the definition of substantial contribution and DNSH.

In 2015, the first circular economy action plan was adopted by the European Commission. It included measures to help stimulate Europe's transition towards a circular economy, boost global competitiveness, foster sustainable economic growth and generate new jobs. The action plan established concrete and ambitious actions, with measures covering the whole life cycle: from production and consumption to waste management and the market for secondary

⁴⁰ For example the draft delegated act from November 2020 included as part of DNSH criteria to water for crop production activities “*where the activity involves water abstraction, a permit for water abstraction has been granted by the relevant authority for the activity, specifying conditions to avoid significant impact on water bodies*”.

raw materials and a revised legislative proposal on waste. On 4 March 2019, the European Commission adopted a comprehensive report on the implementation of the action plan.

The European Commission adopted a new and more detailed circular economy action plan (CEAP) in March 2020. This more detailed action plan is a fundamental part of the European Green Deal. It includes 35 actions and establishes the pathway for a transition to a circular economy by reducing the pressure on natural resources, creating sustainable growth and jobs, achieving the EU's 2050 climate neutrality target and halting biodiversity loss. It identifies initiatives along the entire life cycle of products: promoting eco-design and circular economic processes, encouraging sustainable consumption, preventing waste and reducing resource consumption.

Defining Substantial Contribution

A clear and robust methodological approach to determine and define how an activity can make a substantial contribution to the transition to a circular economy was developed within the JRC report 'Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental objectives 3-6'⁴¹. The methodological concepts set out in the JRC report have proven to be successfully applicable in the work of the Platform on Sustainable Finance (PSF) and so were implemented in the same way in collaboration with JRC. No further development or modification of the methodological approach had to be undertaken by the PSF.

The concept of JRC's methodological approach to defining substantial contribution to the environmental objective of transition to circular economy is based on the Taxonomy Regulation and presented within this section. Thereby, the Taxonomy Regulation (Art. 2) defines 'circular economy' as:

'an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible,

- *enhancing their efficient use in production and consumption, thereby*
 - *reducing the environmental impact of their use,*

⁴¹ 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>

- *minimising waste and the release of hazardous substances at all stages of their life cycle,*
- *including through the application of the waste hierarchy.'*

Article 13 of the Taxonomy Regulation further specifies a list of means by which an activity can make a substantial contribution to this objective:

'An economic activity shall qualify as contributing substantially to the transition to a circular economy, including waste prevention, re-use and recycling, where that activity:

(a) uses natural resources, including sustainably sourced bio-based and other raw materials, in production more efficiently, including by:

(i) reducing the use of primary raw materials or increasing the use of by-products and secondary raw materials; or

(ii) resource and energy efficiency measures;

(b) increases the durability, reparability, upgradability or reusability of products, in particular in designing and manufacturing activities;

(c) increases the recyclability of products, including the recyclability of individual materials contained in those products, inter alia, by substitution or reduced use of products and materials that are not recyclable, in particular in designing and manufacturing activities;

(d) substantially reduces the content of hazardous substances and substitutes substances of very high concern in materials and products throughout their life cycle, in line with the objectives set out in Union law, including by replacing such substances with safer alternatives and ensuring traceability;

(e) prolongs the use of products, including through reuse, design for longevity, repurposing, disassembly, remanufacturing, upgrades and repair, and sharing products;

(f) increases the use of secondary raw materials and their quality, including by high-quality recycling of waste;

(g) prevents or reduces waste generation, including the generation of waste from the extraction of minerals and waste from the construction and demolition of buildings

(h) increases preparing for the re-use and recycling of waste;

(i) increases the development of the waste management infrastructure needed for prevention, for preparing for re-use and for recycling, while ensuring that the recovered materials are recycled as high-quality secondary raw material input in production, thereby avoiding downcycling;

(j) minimises the incineration of waste and avoids the disposal of waste, including landfilling, in accordance with the principles of the waste hierarchy;

(k) avoids and reduces litter; or

(l) enables any of the activities listed in points (a) to (k) of this paragraph in accordance with Article 16.’

Types of substantial contribution

Based on the Taxonomy Regulation the JRC report⁴² defines four high-level categories to define substantial contribution to the circular economy. From a material life-cycle perspective, the first three categories represent one phase of the circular economy loop (production – use – recovery), while the fourth one applies all along the way. The four categories are:

- Circular design & production: design and produce products and materials with the aim of retaining long-term value and reducing waste; promoting dematerialization by making products redundant or replacing with radically different product or service;
- Circular use: life extension and optimized use of products and assets during use phase with the aim of retaining resource value and reducing waste to help improving usage and supporting service;
- Circular value recovery: capture value from products and materials in the after-use phase; and
- Circular support: develop enabling digital tools and applications, education and awareness raising programmes, and advisory services to support circular economy strategies and business models (see Figure 7).

⁴² 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 (online), doi:10.2760/256390 (online), JRC126045. <https://publications.jrc.ec.europa.eu/repository/handle/JRC126045>

Throughout the life-cycle, operators may reduce pressures on the environment compared to the current baseline by performing their activity in a more environmental-friendly way or by substituting harmful activities. This also involves manufacturing a product with significantly longer lifetime and designing it to help it retain value (especially at the end-of-life) compared to a similar linear product. Operating in this way would make a positive contribution. However, no activity supporting the transition to a circular economy is considered to improve the state of the environment directly because the environmental objective represents a response to reduce the environmental impact of an activity. Indeed, activities are deemed circular by comparison with the linear model and only act relatively to this baseline by reducing the pressure (or enabling such reduction).

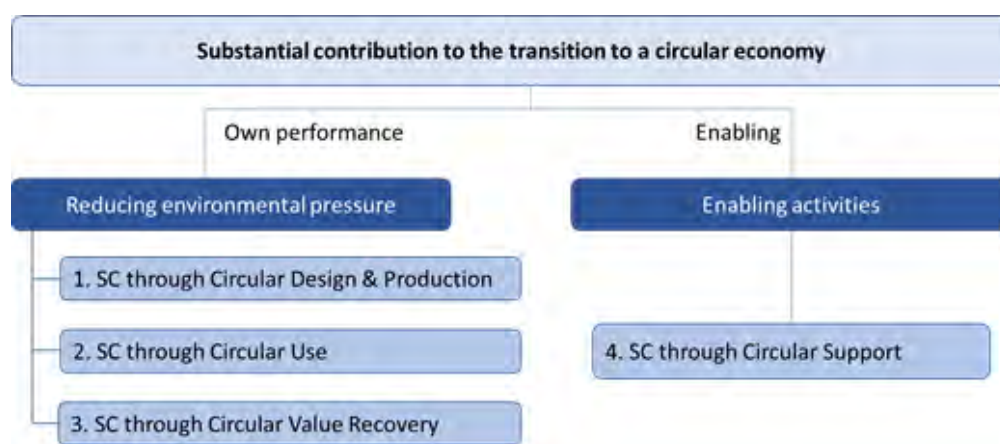


Figure 4: Types of Substantial contribution to the transition to a circular economy

Finally, activities can contribute to the circular economy objective by enabling other circular activities to take place and so reducing the pressure on the environment. Possible examples include advisory services, ICT tools for predictive maintenance, virtual marketplaces for second-hand products, and secondary materials, for instance, represent possible examples.

SC 1 - Circular design & production

Choices made during the design phase will have an impact throughout the life cycle of the product. The EU policy on the circular economy in general, and the Taxonomy Regulation specifically insists on the potential of the design and manufacture phases to enhance durability, reparability, upgradability, reusability, recyclability, and the use of non-hazardous, reusable, recyclable, traceable bio-sourced and secondary raw materials.

As such, the technical working group identified four types of issues that may be relevant depending on the activity:

- Expected lifetime of the product of the activity and its parts and materials (how long can products and materials be kept in use, through measures such as resource efficiency, durability, functionality, modularity, upgradability, easy disassembly, and repair).
- Materials used by the economic activity (designing out substances of concern; increasing the share of reusable, recyclable, traceable bio-sourced, compostable, and secondary raw materials; reducing the use of primary raw materials).
- Ensuring the products of the activity can be remanufactured, prepared for re-use, or recycled when reaching their end of life (through measures such as design for recyclability, traceability of materials contained in products).
- Production processes (and enabling technology) that reduce waste by closing material loops and introducing production residues and by-products of other processes (e.g. through industrial symbiosis) in a manner that goes beyond standard industry practice. Pooling resources and optimised logistics also contribute in that direction.

SC 2 - Circular use

Once products or services enter their use phase, several actions can be carried to optimize their lifetime and use. The substantial contribution to improving circular use can be split into two (not necessarily mutually-exclusive) categories:

- Life extension: Prolong the product or component lifetime (through maintenance, repair; reuse, refurbishment, remanufacture, and repurpose activities). The attention should be on the environmental cost of such a life extension compared to a product replacement (quantity of energy and resource needed, waste and pollution generated).
- Intensive use: Make the product's use more intensive, notably through innovative business models (e.g., through product-as-a-Service, pay-per-use, subscription, reuse and, sharing models, etc.). Attention should be paid to measuring offset effects on lifetime (e.g. increase intensity may lead to shortened lifetime, e.g.).

Longer and more intensive use of products both contribute to reducing the need for new products: if not one but two people can use one product instead of one, or if the product lasts twice longer, the need for a second similar product disappears, together with the associated environmental impact. Life-cycle considerations are key here.

SC 3 - Circular Value Recovery

Activities related to end-of-life, waste management, and waste valorisation ultimately reduce the pressure on the environment. First, they reduce the amount (and sometimes toxicity) of waste disposal. Second, by contributing to restoring with secondary raw materials the stock of

materials available for human activities, they help reduce the pressure on virgin materials and the impacts associated with extraction. The Waste Framework Directive⁴³ establishes the waste hierarchy (i.e., a priority order in waste prevention and management): 1/ Prevention, 2/ Preparation for re-use, 3/ Recycling, 4/ Recovery, 5/ Disposal.

SC 4 - Circular Support

Activities reducing the environmental pressures through circular means can be fostered by enabling activities. There are two categories of enabling activities can be distinguished:

- Enablers that act on individual activities listed above (own performance activities for substantial contribution types 1, 2 and 3) to improve their impact. Examples include advisory services, activities providing (digital) tools for eco-conception, predictive maintenance, resource efficiency, development and manufacturing of equipment and machinery intended to enable circular production and waste management.
- Enablers that intervene at the interface between different activities. Indeed, as a material-stream-oriented objective, the circular economy requires to better handling the transfer of material between different operators, particularly when the waste of one operator can be a resource for another. Examples may include digital marketplaces for second-hand products or materials and activities involved in setting up industrial symbiosis strategy (e.g. installing of pipelines to transfer waste heat).

5.3. Clarifying substantial contribution to objective 5 - pollution prevention and control

This section describes how to develop a converging and coherent set of activity-specific criteria for defining substantial contribution to pollution Prevention and Control. This reduces the pressure in a DPSIR model and refers to the reduction of all emissions.

The starting point and guiding principle for the definition of these criteria is the overall ambition level for transition to a zero-pollution continent by 2050 which the taxonomy must aim to help

⁴³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098>

achieve. This definition itself, builds on the related state of science and relevant (EU and international) strategies and policies, which already comprise a set of more concrete criteria, indicators and timelines. These are closer in nature to the TSC and should feed into the definition of substantial contribution and DNSH.

On 12 May 2021, the European Commission adopted the EU Action Plan: 'Towards a Zero Pollution for Air, Water and Soil (and annexes)'⁴⁴ - a key deliverable of the European Green Deal. The **zero-pollution vision for 2050** is for air, water and soil pollution to be reduced to levels no longer considered harmful to health and natural ecosystems, that respect the boundaries with which our planet can cope, thereby creating a toxic-free environment.

This is translated into key 2030 targets to speed up reducing pollution at source. These targets include:

- improving air quality to reduce the number of premature deaths caused by air pollution by 55%;
- improving water quality by reducing waste, plastic litter at sea (by 50%) and microplastics released into the environment (by 30%);
- improving soil quality by reducing nutrient losses and chemical pesticides' use by 50%;
- reducing by 25% the EU ecosystems where air pollution threatens biodiversity;
- reducing the share of people chronically disturbed by transport noise by 30%, and
- significantly reducing waste generation and by 50% residual municipal waste.

Defining substantial contribution

In the same way as for the environmental objective of circular economy, the TWG applied the methodological approach to determine and define a substantial contribution to pollution prevention and control was applied based on the concepts presented in the JRC report 'Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental objectives 3-6'⁴⁵. These concepts have proven to be successfully applicable in the work of the PSF and

⁴⁴ https://ec.europa.eu/environment/strategy/zero-pollution-action-plan_de

⁴⁵ 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 (online), doi:10.2760/256390 (online), JRC126045. <https://publications.jrc.ec.europa.eu/repository/handle/JRC126045>

so were implemented identically without further developing or modifying the methodological approach.

In general terms, the impact of pollution on the environment can be classified according to the source of pollution or the type of pollution generated. The main sources of pollution are industrial activities, transport, agriculture, municipal waste, and other decentralised sources of pollution (e.g. small combustion).

The concept of JRC's methodological approach to defining substantial contribution to the environmental objective pollution prevention and control is based on the Taxonomy Regulation and presented within this section. The Taxonomy Regulation (Article 2(10)) defines a pollutant as *'a substance, vibration, heat, noise, light or other contaminant present in air, water or land which may be harmful to human health or the environment, which may result in damage to material property, or which may impair or interfere with amenities and other legitimate uses of the environment.'*

Moreover, Article 14 of the Taxonomy Regulation specifies a list of means by which an activity can make a substantial contribution to this objective:

'An economic activity shall qualify as contributing substantially to pollution prevention and control where that activity contributes substantially to environmental protection from pollution by:

- a) preventing or, where that is not practicable, reducing pollutant emissions into air, water or land, other than greenhouse gasses;*
- b) improving levels of air, water or soil quality in the areas in which the economic activity takes place whilst minimising any adverse impact on, human health and the environment or the risk thereof;*
- c) preventing or minimising any adverse impact on human health and the environment of the production, use or disposal of chemicals;*
- d) cleaning up litter and other pollution; or*
- e) enabling any of the activities listed in points (a) to (d) of this paragraph in accordance with Article 16.'*

Types of substantial contribution

The JRC methodology identified four types of substantial contribution for an activity to substantially contribute to the environmental objective of pollution prevention and control (See Figure 4):

1. **SC 1A: preventing or, where that is not practicable, reducing direct emissions of pollutants** to air, water and land. Activities with high direct pollution emissions (in sectors such as agriculture, transport, manufacturing, etc.) can reduce the pressure they directly exert on the environment compared to the baseline.
2. **SC 1B: designing out indirect pollution.** Activities manufacturing products or providing services with high emissions over their life-cycle can reduce the overall pressure exerted on the environment by designing the product or service in such a way that reduces or eliminates these emissions. This includes:
 - emission from the use phase (for instance, considering a car manufacturing activity tackling and minimizing the emissions of its cars during use phase);
 - emissions from the end-of-life phase (for instance, a battery manufacturer reducing potential environmental impacts of the end-of-life product or ensuring safe recovery)
 - upstream emissions if relevant (an activity selecting materials or components that have lower emissions during the extraction or production phase).
3. **SC 2: cleaning up pollution.** Activities performing remediation may directly improve the state of the environment. For instance, the remediation of a former industrial site where land is polluted with chemicals or technologies cleaning litter pollution from the ocean.
4. **SC 3: enabling any of the activities above.** An activity, for instance, providing solutions to measure or abate pollutants' emissions (e.g. manufacturing of NOx filters).

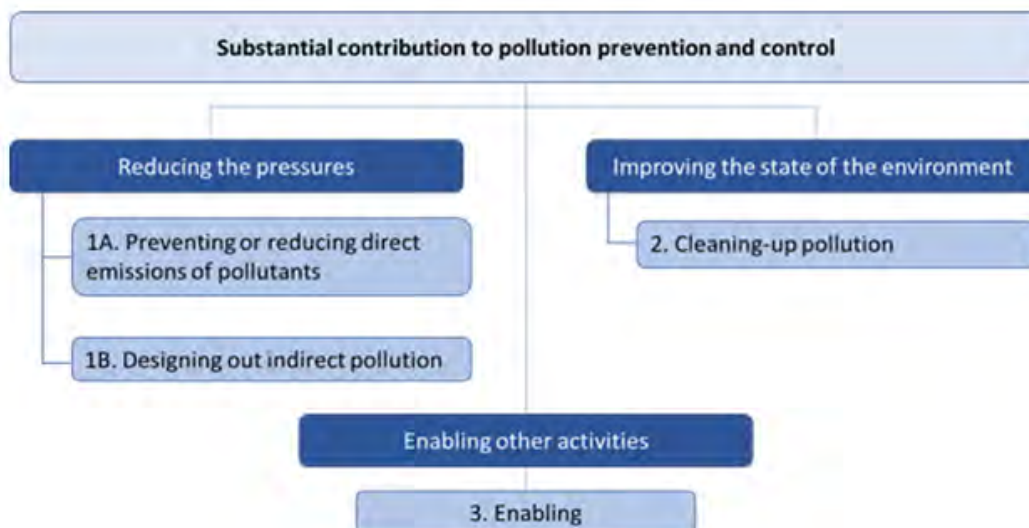


Figure 5: Types of substantial contribution to pollution prevention and control

SC 1A - Reducing direct emissions of pollutants

Some activities are directly responsible for emitting of large amounts of pollutants into the air, land or, water. This can either be point pollution (e.g. plants emitting SO_x into the atmosphere) or diffuse pollution (e.g., agriculture responsible for the deposition of NH₃ emissions in the soil across the fields, as well as water pollution due to nitrogen runoff). Those direct emissions can be reduced with incremental improvements (for instance, improving the processes to reduce or better filter the pollutant emissions), or transformational change (removing the pollutions with paradigm change, for instance, switching from a diesel car to an electric vehicle for a transport operator).

SC 1B – Designing out indirect pollution

Choices made during the design phase will impact the life cycle of the product. This type of substantial contribution recognizes some activities' ability to limit/avoid pollution caused during the upstream and downstream life cycle stages. This type of substantial contribution covers activities that can limit/avoid pollution generated in the upstream phase of their operation (e.g., by selecting components that have lower emissions during the extraction or production phase or by reducing the amount of feedstock materials used) and in the downstream phase (e.g. resource-efficient end-of-life treatment of the products manufactured) are covered under this type of substantial contribution.

SC 2 - Cleaning up pollution

Activities remediating polluted water bodies (also refer to the Water objective – Section D), land and air have a positive impact and contribute to the pollution prevention and control objective by directly improving the state of the environment.

SC 3 – Enabling activities

Several activities may contribute to the pollution objective by enabling a reduction in the pressure on the environment or by improving the state of the environment. Examples of such activities include:

- Providing equipment or technologies to prevent or reduce the emissions of other activities (e.g. installation of a piece of depollution equipment), traceability solutions or solutions for remediation, as well as managing of take-back schemes for products at their end-of-life.
- Activities providing information or advice: for instance, consultancy services for environmental-friendly product design, information or training to users for proper management of products during their use-phase and end-of-life

5.4. Clarifying substantial contribution to Objective 6 – The protection and restoration of Biodiversity and Ecosystems

This section describes how to develop a converging and coherent set of activity-specific criteria for defining substantial contribution and do no significant harm to biodiversity and ecosystems

For the ambition statement to become operational and to inform the development of the technical criteria for biodiversity, some terms need to be elaborated. Ambition levels may need to be defined by ecosystem (for example drawing on ecosystem specific targets), the terms “sufficient and adequate” levels of biodiversity protection and restoration as well as “good ecological condition” need to be defined in terms of both quantity and quality; and (for restoration in particular), will need to be defined against a baseline.

The EU Biodiversity Strategy for 2030 highlights the EU’s ambition to support the Convention on Biological Diversity (CBD) “...to reverse biodiversity loss, lead the world by example and by action, and help agree and adopt a transformative post-2020 global biodiversity framework at the 15th Conference of the Parties to the Convention on Biological Diversity.” The ambition should be that, “by 2050 **all of the world’s ecosystems are restored, resilient, and adequately protected**. The world should commit to the biodiversity net-gain⁴⁶ principle to give nature back more than it takes. As part of this, the world should commit to no human-induced extinction of species.”

The EU Strategy for 2030 sets as a milestone, the objective “to ensure that **Europe’s biodiversity will be on the path to recovery by 2030** for the benefit of people, the planet, the climate and our economy, in line with the 2030 Agenda for Sustainable Development and with the objectives of the Paris Agreement on Climate Change.” The overall ambition is to ensure **by 2030 no deterioration in conservation trends and status** of all protected habitats and species and to ensure that **at least 30% of species and habitats** not currently in favorable status are in that category or show a strong positive trend. Moreover, the

⁴⁶ The definition of net gain which the MDB’s including the EIB use is as follows: Biodiversity Net Gain is an approach to development that leaves biodiversity in a better state than before. Biodiversity Net Gain relies on the application of the mitigation hierarchy to avoid, mitigate or compensate for biodiversity losses. Biodiversity Net Gain must be defined relative to an appropriate reference scenario.

forthcoming EU Nature Restoration Plan⁴⁷ aims to “bring diverse and resilient nature back to all landscapes and ecosystems. This means reducing pressures on habitats and species” and ensuring **all management and use of ecosystems is environmentally sustainable and all ecosystems are in a good ecological condition.**

Defining Substantial Contribution

Implementing the EU legal framework for nature restoration requires clear and binding targets and timelines, as well as clear definitions and criteria on restoration and/or the sustainable use⁴⁸ of ecosystem services.

The starting point for the definition is Art.15 of the Taxonomy Regulation (TR) which states that “an economic activity shall qualify as contributing substantially to the protection and restoration of biodiversity and ecosystems where that activity

- contributes substantially to protecting, conserving or restoring biodiversity; or
- to achieving the good condition of ecosystems, or
- to protecting ecosystems that are already in good condition.” (see Article 15 of the Taxonomy Regulation for the full text)

General consideration for breaking down the headline ambition level

To inform the development of the technical criteria for biodiversity:

- ambition levels at an economic activity level may need to be defined by ecosystem, ensure terrestrial, marine and freshwater systems are mentioned and differences between them defined where appropriate;
- restoration needs to be defined against a baseline and/or end-state; and

⁴⁷ The current understanding is that the corresponding legal draft is expected towards the end of this year. The Impact Assessment is currently still under preparation.

⁴⁸ "Sustainable use" means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

- the term “adequate” levels of biodiversity protection and restoration as well as the “good conditions of ecosystems” referred to in Art.15, need to be defined in terms of quantity and quality

For the purpose of providing additional guidance on these concepts and definitions, the team working on environmental objective 6 are currently preparing an informal glossary, which could serve as a “living” reference document for sector teams.

The EU Biodiversity Strategy already provides for a set of qualitative and quantitative targets, which can inform the definition of *significant contribution and do no significant harm*⁴⁹ to biodiversity at activity level (

⁴⁹ as well as, for the further development of the taxonomy currently discussed in SG3, low-impact and significant harm to

Annex A2: Relevant targets & reference points for headline objectives).

Substantial contribution types

The methodology initially and for lack of more elaborate guidance followed to develop TSC for biodiversity was that from the JRC report on substantial contribution to objectives 3 to 6 (“Taxo4 report”). The Taxo 4 report defines three types of SC to Biodiversity (excluding enabling activities) as follows:

- SC 1: Activities that actively or passively improve the condition of ecosystems or maintaining it in good condition.
- SC 2A: Activities that are undertaken in such a way that the pressure they are responsible for are kept to a sustainable level, i.e. a level below which there is no harmful effect on the ecosystem.
- SC 2B: Activities that are undertaken in such a way that the pressure on the environment is much lower than the baseline (i.e. if a similar activity was taking place instead), but are higher than the sustainable level and thus have a harmful effect on the ecosystems compared to no activity taking place (reduction of biodiversity or ecosystem services).

The SC types have now been developed further, based on a substantial review of relevant practices and references frameworks and reflecting initial discussions from sector teams. ‘This has led to the development of a new and updated classification system for types of substantial contribution to the biodiversity objective, as described in Table 1 below’.

To facilitate a clear understanding of how SC types can be applied to a given environmental objective for specific economic activities, we have interpreted them to cover semi-natural or natural ecosystems (SC1) and managed ecosystems (SC2), and have provided greater disaggregation in terms of the types of contribution that can be made. In Table 1 we summarise in a stepwise approach, how an economic activity can deliver a substantial contribution to the biodiversity and ecosystem objective. In the following sections we show how and why these definitions have been adjusted to become more fit for the purpose of informing the development of SC (and DNSH) criteria using four questions:

1. Does the type of activity comply with the Art.15 definition of SC?
2. Can we associate the type of activity with (any of) the categories defined below (SC1-3)?
3. Can we apply existing targets (

Annex A2: Relevant targets & reference points for headline objectives)?

4. Can we provide the required break-down definitions for ecosystem specific ambition, restoration baseline and the desired state of protection and ecosystem condition?

Table 4: Stepwise approach to determine if an activity can make a substantial contribution to the biodiversity objective

SC 1A Does the economic activity in its own right <u>directly</u> maintain or protect the good ecological condition of specific ecosystem(s)	yes	SC 1A	CONSERVE STATE of (semi-) natural ecosystems
	no	Economic activity cannot make a SC under SC 1A, go to SC 1B	
SC 1B Does the economic activity in its own right <u>directly</u> and substantially improve the condition of an ecosystem compared to its current condition? Progress needs to be assessed against the baseline condition and reference reporting period ⁵⁰ .	yes	SC 1B	IMPROVE STATE of (semi-) natural ecosystems
	no	Economic activity cannot make a SC under SC 1B, go to SC 2A	
SC 2A Does the economic activity in its own right allow for a sustainable use of a managed ecosystems? This should include robust scientific information and recognised national/EU/international references indicating a quantitative threshold within which the existing economic activity is able to achieve a sustainable use of the ecosystem(s), as defined in the CBD ⁵¹ . The existing activity ⁵² shall also: <ul style="list-style-type: none"> - not result in net increase of pressure on natural resource; - prove through third party verification that it can respect this threshold over time. - have reached compliance with best-in-class sector standards 	yes	SC 2A	MAINTAIN SUSTAINABLE USE of managed ecosystems
	no	Economic activity cannot make a SC under SC 2A, go to SC2B	
SC 2B Does the economic activity or measure lead in its own right to a reduction of the existing pressure on the managed ecosystem, contributing to reach the sustainable use level and complying with requirements under SC 2A? The activity or measure shall also: <ul style="list-style-type: none"> - Be commensurate in level and time to the relevant environmental objective; and - be accompanied by a credible and time-bound plan to reach the sustainable use level; 	yes	SC2B*	REDUCE PRESSURE on managed ecosystems
	no	Economic activity cannot make a SC under SC 2B, go to SC3	

⁵⁰ CBD “Comment on Baselines for SBSTTA 24 Item 3”

⁵¹ CBD, Art. 2 defines “sustainable use” as follows: Art 2: “‘Sustainable use’ means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.”

⁵² Existing Activities are intended as those where land use change and/or morphological modification of water body has already occurred in the past.

Progress needs to be assessed against the baseline condition and reference reporting period^{53,54}.

SC 3

Does an economic activity or measure significantly contribute to mitigating⁵⁵ the damage/impact caused by a previous activity/measure (“legacy impact”)

This is only applicable if:

- a) The economic activity or measure has an effect of net reduction of the pressure already exerted by an existing activity.
- b) An adaptive management system based on a monitoring plan is in place to verify reduction of pressure over time.
- c) Impact/damage that is being mediated happened before the remediation activity (with a clear reference to the baseline period and baseline condition)⁵⁶ and is not directly related to it
- d) The mitigation activity is not required by law

yes	SC 3**	REDUCE PRESSURE Mitigation of a previous impact
no	Economic activity cannot make a SC.	

Note: * Only the expenditure related to the transition to the sustainable use level can count as SC. ** Only the expenditure related to the mitigation activity or measure can count as SC.

The logic for the above table, and thus the elaboration of the Taxo 4 methodology is based on the following key factors.

1. There is a material difference between (semi-) natural ecosystems (such as a native forest) and those which are subject to a high degree of modification (such as grazed land). Both have important biodiversity, but the desired end state for the ecosystem requires a nuance in approach when developing TSC.
2. Maintaining state (where already good) and improving state (where poor) are important in both (semi-) natural and managed ecosystems
3. Reducing pressures on ecosystems is an important activity that should be supported through the Taxonomy, but only where a substantial and genuine state change is realised, rather than small, incremental changes that do not deliver on the headline ambition level.

⁵³ CBD “Comment on Baselines for SBSTTA 24 Item 3”

⁵⁴ CBD “Comment on Baselines for SBSTTA 24 Item 3”

⁵⁵ The EU Guidance on Integrating Ecosystems and their Services into Decision-Making Summary for Policymakers in Government and Industry adopted by the European Commission also explicitly discusses the mitigation hierarchy and conditions applicable to mitigation activities.
https://ec.europa.eu/environment/nature/ecosystems/pdf/8461_Summary%20EU_Guidance_Draft_02_17.07.2020.pdf

⁵⁶ For guidance on baseline condition and period, please refer to the “Comment on Baselines for SBSTTA 24 Item 3”

4. There are cases where one economic activity may be addressing and mitigating the legacy harmful impact of another. These activities should be supported by the Taxonomy, but are specific in nature and different from an activity improving its own performance.

In the stepwise approach, SC 1A and B focus on (semi-) natural systems to maintain state (1A) and improve state (1B). SC 2A and B focus on managed systems where the ecosystem is not natural, and relies on management for its maintenance (such as high nature value farmland). The distinction here is to maintain the sustainable management of these ecosystems where their state is good (2A); or to improve the state of these ecosystems by ensuring that management activities are such that pressures on the ecosystem are reduced to a sustainable use level (2B). SC3 allows for those activities that may be remediating or addressing a legacy impact caused by a previous economic activity, with a focus on addressing the legacy pressures caused.

In theory, the SC 2 type activities are more or less straight forward, as there is indeed a level of pressure acceptable to the ecosystem that matches its regeneration capacity. **In practice**, however, identifying this level of sustainable use for each economic activity is not a minor task. The MAES⁵⁷ has made substantial progress in describing the state of ecosystem services in Europe but is not geared to provide a specific threshold of acceptable impact for each ecosystem type and for each type of economic activity⁵⁸. The state of knowledge in this regard differs between types of ecosystems: for the marine environment very little is known compared to terrestrial ecosystems. Some activities like fisheries have been subject to years of research that allowed the identification of maximum levels of fishing effort for specific populations of commercial species. Despite all the effort in deriving these thresholds they require constant monitoring and update and they are difficult to apply to regulate fishing activities in practice. Identifying these thresholds of sustainable use for all kinds of economic

⁵⁷ The Biodiversity Strategy called on Member States to map and assess the state of ecosystems and their services in their national territory with the assistance of the European Commission. This ongoing work is part of the EU methodology to map, assess and achieve good condition of ecosystems so they can deliver benefits such as climate regulation, water regulation, soil health, pollination and disaster prevention and protection. The final assessment has to be adopted by the end of 2021 to support the legally-binding biodiversity restoration targets. [Mapping and Assessment of Ecosystems and their Services - MAES - Environment - European Commission \(europa.eu\)](#).

⁵⁸ In addition, the pressure on the ecosystem can come from several activities (whether these are part of the same sector / category of activities or from different sectors), while taxonomy criteria in principle define a maximum level of pressure for a single activity / installation / asset.

activities is extremely complex. We are simply unable to understand and measure the level of acceptable pressure in all conditions for all ecosystems and their complicated connections.

As a result, this SC Type should be treated with caution and **applied only where sufficient research and data has allowed the identification of a sustainable level of pressure, i.e. a level that matches the regeneration capacity of the affected ecosystem.**

Regarding SC 3, any intervention/measure that can reduce the operational impacts on biodiversity of an existing infrastructure (e.g. wildlife passages on a road etc.) would reduce the pressure and could be considered as a SC, if measurable conservation outcomes with that activity can be demonstrated. Only the expenditure (be in OPEX or CAPEX) related to the interventions/measures that directly contribute to reducing the pressure would be counted as taxonomy aligned.

The specific case of offsetting

Offsetting is the process or practice of compensating for an impact incurred by a particular activity, by implementing another activity that helps to mitigate that same impact. It is not the process of substitution with a cleaner activity. It is an add-on as compensation to an activity that is not providing a direct substantial contribution to an environmental objective.

- Compensation takes place in the same area/ecosystem where the activity is causing a pressure;
- Offsetting can take place in another location, which, from a biodiversity point of view is problematic as ecosystems have different tipping points and pressures cannot be compensated or “exchanged” across ecosystems (unlike climate).

In the biodiversity context, the Business and Biodiversity Offsets Programme (BBOP), an international collaboration for the development of offset methodologies, defines biodiversity offsets as *‘the measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the*

*ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity*⁵⁹.

Two examples:

- In the context of climate mitigation where emissions caused by one activity are offset by paying for the implementation of an activity which reduces GHG emissions (the purchasing of offsets).
- In the context of biodiversity and ecosystem management where the degradation, loss or destruction of a habitat or ecosystem is offset by the restoration of habitat or an ecosystem in another location.

Offsetting is relatively common practice in a number of economic sectors, particularly those where there is limited (or economically limited) potential to mediate a given impact, such as construction on greenfield sites, mining, etc. However, the Taxonomy does not seek to mimic industry standards, but instead, aims to define, on a scientific basis, the steps and activities necessary to ensure the EU's environmental objectives are met and supported (not undermined) by green finance.

There are various reasons that make the use offsetting inappropriate as a means to deliver substantial contribution to an environmental objective in the Taxonomy.

1. Offsetting was not considered suitable for the climate mitigation objective, which sets precedence for consistency in the Taxonomy. For Climate Mitigation and Adaptation, the Technical Expert Group (TEG) who supported the Commission in the development of the first Delegated Act of the Taxonomy, considered that offsetting was not an appropriate means by which an activity could contribute substantially to the stabilisation of greenhouse gas emissions. Equally offsetting would not enable the economic activity to be consistent with the long-term temperature goal of the Paris Agreement unless compensated emissions were higher than those caused by the activity and were achieved within the same year/short term time period of the activity – i.e. no lag-

⁵⁹ Business and Biodiversity Offsets Programme (BBOP): Biodiversity Offset Design Handbook | BES-Net (besnet.world)

time. This sets a clear precedent for the relevance of offsets in the definition of substantial contribution to the other environmental objectives of the Taxonomy.

- 2. Offsetting as an approach is the last step of the mitigation hierarchy, after harm has taken place.** The mitigation hierarchy is a corner stone of impact assessment and is routinely applied in the context of Environmental Impact Assessment (EIA) to reduce the potential impact of projects. The practice is embedded and clearly mentioned in the EIA Directive⁶⁰ and the Habitats Directive. In addition, it is widely applied in financial institutions (not least because observing the hierarchy is required by IFC performance standard 6, EIB Standard 3, EBRD PR 6, WB ESS)⁶¹. In the mitigation hierarchy, offsets are the last resort set of measures in the series of essential sequential steps that must be taken **to limit any negative impacts** on biodiversity. Therefore, it seems obvious to associate the application of the mitigation hierarchy to a DNSH requirement and, as such, not sufficient to determine a SC⁶².
- 3. Offsetting activities are separate and distinct from impacting activities and are separated in the Taxonomy NACE structure.** Offsetting is, by its very nature, the recognition that an impact will occur through the implementation or operation of that activity, and cannot be avoided. Thus, in order for the impact to 'net out', it needs to be countered by another activity that takes place elsewhere (i.e. the offset). In the context of the Taxonomy, this creates a separation between an activity that causes the impact and an activity that causes the improvement⁶³. The Taxonomy technical screening criteria are developed at the economic activity level. The Taxonomy avoids taking any stance on aggregate performance whether at company, objective or sector level, even if in practice

⁶⁰ Directive 2014/52/EU, Art.5, para 1: *'Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least: (c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment'*.

⁶¹ International Finance Corporation's Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. January 1, 2021 (updated June 27, 2019), p.10-11.

⁶² More recently, an EU Guidance on Integrating Ecosystems and their Services into Decision-Making Summary for Policymakers in Government and Industry has been adopted by the European Commission. https://ec.europa.eu/environment/nature/ecosystems/pdf/8461_Summary%20EU_Guidance_Draft_02_17.07.2020.pdf

⁶³ For example the generation of coal-fired power releasing significant GHG emissions being offset through the planting of trees. The two activities are (impacting) coal fired power generation, and (offsetting) the planting of trees – afforestation.

the implementation of multiple economic activities may be carried out by a single entity. In Taxonomy terms then **the impacting economic activity cannot provide a substantial contribution to an objective through the activities of another offsetting economic activity**. While a company may well choose to or be obliged by law to invest in offsets and may wish to include that in their sustainability reporting or communications, the taxonomy definition of the companies' other activities is not affected by this. For the offsets to be “taxonomy compliant”, they in and of themselves need to be in compliance with the taxonomy for the offsetting activity. The other economic activities of the company are evaluated against their own criteria.

- 4. Offsetting processes are not guaranteed to remediate residual impacts caused by harmful activities⁶⁴.** Specific limitations on the adoption of offsets to achieving no net loss or net gain of biodiversity and ecosystem services are spelled out in the OECD report on offsetting⁶⁵. Compared to other instruments for biodiversity conservation and sustainable use, most biodiversity offset schemes are still fairly nascent in their application, and there is much to be learned from existing experience. The evidence available to date points to somewhat mixed results in terms of the environmental effectiveness of existing biodiversity offset schemes⁶⁶.

It is important to note that conservation or restoration activities have a rightful place in the Taxonomy as economic activities that, subject to specific TSC, make a SC to biodiversity. In some cases, conservation and /or restoration are financed by companies or investors as a means of offsetting an impact on biodiversity occurring as a result of another economic activity. As the Taxonomy Regulation supports the flow of green finance, it is appropriate to consider the relationship between the funder and the biodiversity enhancing activity – i.e. whether the conservation or restoration activity is taking place in isolation, or whether it is being financed as a result of a company seeking to offset their impact. In the latter case, the company causing the impact can still not claim SC for the impacting activity through offsetting, for the afore-

⁶⁴ <https://zslpublications.onlinelibrary.wiley.com/doi/full/10.1111/acv.12173>

⁶⁵ This information is from the “Policy highlights paper”, which draws on this full report: OECD (2016), Biodiversity Offsets: Effective Design and Implementation, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264222519-en>

⁶⁶ Tucker, G.M., Qu tier, F. & Wende, W. (2020) Guidance on achieving no net loss or net gain of biodiversity and ecosystem services. Report to the European Commission, DG Environment on Contract ENV.B.2/SER/2016/0018, IEEP, Brussels. <https://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/NNL%20Guidance%20-%20July%202020%20-%20Final.pdf>

mentioned reasons. But the context in which the activity is taking place remains important in deciding whether or not an SC is being delivered compared to the counterfactual.

In conclusion, the following practical considerations can be made for the development of TSC:

1. If an economic activity causes significant harm, it cannot be considered Taxonomy aligned (Art. 3b TR), or seek alignment through offsetting. Because a) significant harm has occurred; b) the offsetting activity is almost always different from the economic activity which has caused harm⁶⁷. In this case, reference to offsetting should be limited to the scope of DNSH technical criteria, when embedded in the existing legal framework.

2. Activities like conservation or restoration of ecosystems have a rightful place in the Taxonomy as economic activities that, subject to specific TSC, make a SC to biodiversity. Nevertheless, when conservation and /or restoration are implemented with the purpose of offsetting they can **only** be counted as DNSH and have to fulfil the following conditions, which should form part of the TSC for DNSH:

The offsetting activity has explicitly committed to, and includes the practices necessary to obtain **net gain** of biodiversity in areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species⁶⁸; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes⁶⁹.

⁶⁷ As an example, mining as an activity cannot deliver an SC to biodiversity as it is directly impactful. Nevertheless, a 'mining company' may own land, assets, or invest in another economic activity which can deliver SC to biodiversity, such as a restoration activity somewhere else on their site, or at the end of the life of the mine. This does not make the economic activity of mining taxonomy aligned by extension.

⁶⁸ As listed on the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species. [IUCN Red List of Threatened Species](#)

⁶⁹ These criteria are adopted in the IFC Performance Standards (PS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources- 2012 version) and commonly used for biodiversity impact assessment.

- The offsetting activity has explicitly committed to, and includes the practices necessary to obtain **no net loss** of biodiversity in all other areas, unless the specific national legislation requires ‘net gain’.
- The offsetting activity has to lead to ecological equivalence and be additional, permanent, verifiable, enforceable and transaction costs need to be reasonable⁷⁰.

What is the impact of excluding offsetting as “substantial contribution” from the Taxonomy?

Some particularly harmful economic activities will not be able to claim SC to Biodiversity, as the application of the mitigation hierarchy at any level (including offsetting) can only lead to compliance with DNSH criteria. This should be acknowledged and explained on an activity-by-activity basis.

This does not preclude companies, which are investing in or generating their turnover from offsetting activities to be recognised under the Taxonomy, but they may also find that some parts of their investments cannot be taxonomy aligned as they cause significant harm. Reporting at the economic activity level ensures that both good and harmful activities can be identified.

How that translates into actual decision making in relation to the rating and financing of, or investment in, a company, is in no way precluded by the taxonomy and its differentiated (rather than aggregated net approach, as suggested by an application of offsets to the definition of “substantial contribution”) consideration of individual activities. As a transparency instrument, the taxonomy merely provides the basis for defining the share of a company’s activities considered significantly harmful (i.e. as per the current definition of the taxonomy as falling below the DNSH threshold), significantly contributing and “in-between” (notwithstanding further developments of the taxonomy in terms of the ongoing work of subgroup 3 exploring the scope for developing a “significantly harmful” and a “no significant impact” taxonomy).

Conclusion

Figure 9 provides an illustrative description that encompasses all the different elements of potential SC to biodiversity in the context of the Taxonomy. It distinguishes the point between DNSH, and SC with a necessary space in-between. It should be used in the context of understanding how and where the Taxonomy supports the protection and restoration of

⁷⁰ OECD (2016): Biodiversity Offsets Effective design and implementation <https://www.oecd.org/environment/resources/Policy-Highlights-Biodiversity-Offsets-web.pdf>

biodiversity and ecosystems, and where it does not. It acts as a guide to determine where an activity may fall within the biodiversity Taxonomy logic, and complements the stepwise process set out in Table 4 when assessing if and how an economic activity can deliver an SC to the biodiversity objective.

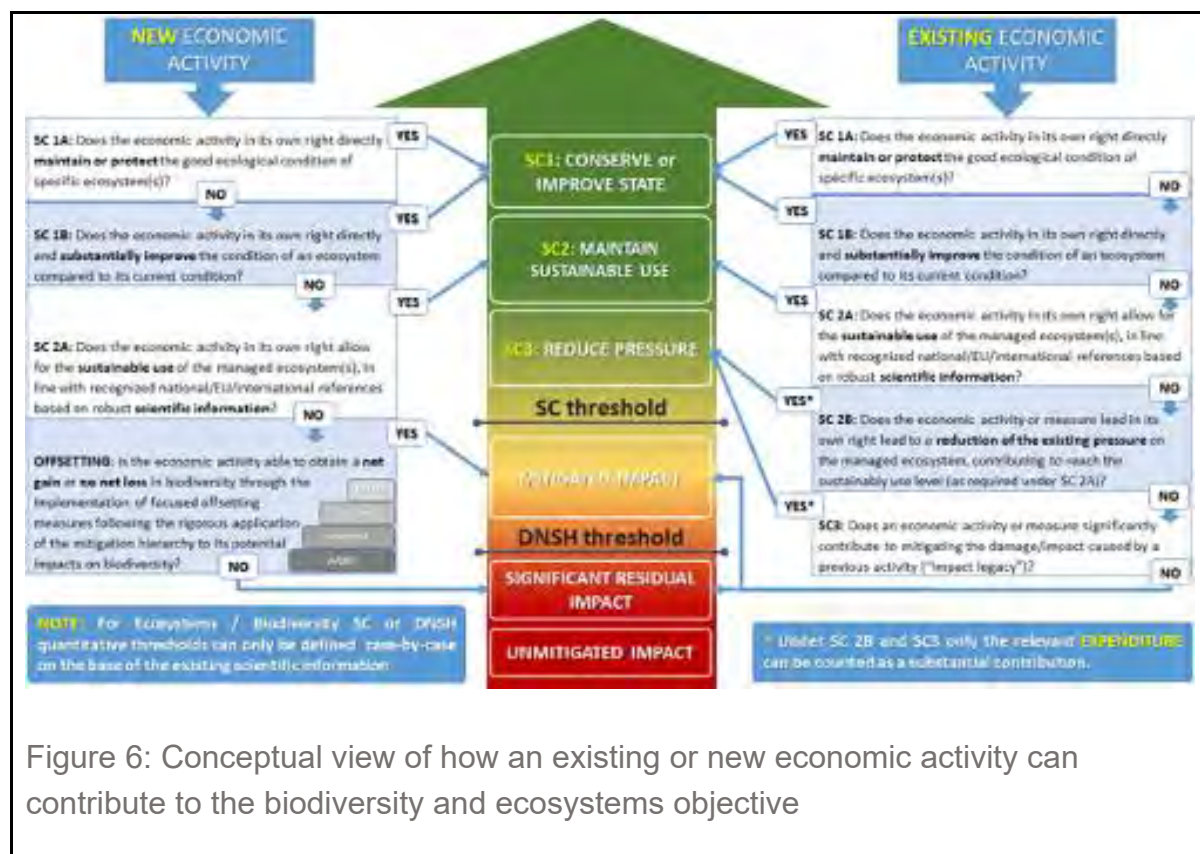


Figure 6: Conceptual view of how an existing or new economic activity can contribute to the biodiversity and ecosystems objective

6. Consultation process

6.1. Consistent engagement and feedback

The development of the criteria has taken place through sector teams. These teams represent a group of similar or related economic activities and are chaired by a sector team secretary responsible for the oversight and development of the individual criteria. These teams include members and observers of the platform, and colleagues from their organisations who provide specific expertise from platform member organisations. Each sector team is followed by observing members of the European Commission DGs, who are invited to be present at all sector team meetings, and supported by Commission platform secretariat. There have been more than 100 individuals contributing to the development of criteria from the platform members and observers alone.

To ensure that there is consistency in approach and to develop the conceptual and methodological elements of the Taxo4 work, each sector team includes an environmental expert lead (as appropriate for the prioritised objectives of the activities within the team), who are coordinated across the TWG by an environmental expert lead.

The complement of individuals described above have been involved in the process of criteria development throughout, and for the past 17 months of work leading to the production of the criteria recommendations.

6.2. Reflection points within the platform

In addition to the ongoing review and development process within the TWG, members and observers of the platform have had 3 formal points of reflection and feedback. These have taken the form of structured feedback during:

- The public call for feedback from August to September 2021 (described below). Platform members and observers were encouraged to provide feedback in the same form as those of the public, and in response to the questions set out.
- A consistency check at the end of Summer done by the JRC and the environmental experts of the TWG to cross check criteria in terms of definition of ambition level of the environmental objectives, terminology used, referenced norms and so on, throughout the technical screening criteria.
- A fatal flaw review of the revised criteria following the public call for feedback and provision of feedback from the Commission (see below). Here members and observers were invited to identify any legal or operational reasons why the criteria could not be implemented in practice and thus constitute a fatal flaw in the criteria. This took place over a period of 2 weeks in February 2022
- A 5-day viewing period prior to the adoption of the final criteria set out in the Annex to this report. This is a platform process step, and took place in March 2022

During these reflection points, all of the feedback from members and observers was reviewed by the sector teams and the rapporteurs of the TWG in order to assess if and to what extent changes were needed to the criteria for their improvement or whether there should be any delays to criteria development where there were more fundamental issues that could not have been resolved within the timeline for this report.

The European Commission and all DGs which are involved in the sector analysed in this first work of the PSF have been involved already at the beginning of the work of the Platform.

Indeed they have been deliver technical inputs directly to the Sector Teams when it was necessary.

6.3. Call for public feedback

During the summer of 2021 (August – September) a seven-week public call for feedback was launched on the draft criteria in order to gather input from a wider range of stakeholders and experts than could have been provided within the platform. This feedback process was open to members and observers of the platform, and was mirrored with feedback provided from Commission DGs.

The consultation was organized in relative small set of structured questions to get feedback on Substantial Contribution criteria (5 questions), DNSH criteria (3 questions), Horizontal considerations with respect to the proposed TCSs (2 questions) and a question on general feedback.

Question of interest (Dependent variable)
Q1: On which aspect(s) of this activity would you like to comment?
Q2: What does your comment about the description/boundary of the activity of concern?
Q4: Do you consider the ambition level set by the proposed substantial contribution criteria to be appropriate?
Q6: Are there key factors which have been omitted from the draft proposed substantial contribution criteria or that need better defining that should be addressed?
Q8: Do you have any major concerns with respect to the ability to implement (e.g., technical feasibility) the proposed substantial contribution criteria?
Q10: Do you consider that the rationale and scientific evidence on which the proposed criteria are based is sufficient and robust?
Q12: Do the criteria for the activity represent the state-of-the-art in technological and/or practice terms?
Q14: Does the proposed DNSH criteria ensure no significant harm to the environmental objective?
Q16: Are there any key factors which have been omitted from the draft proposed DNSH criteria or that need better defining?
Q18: Do you have any major concerns with respect to the ability to implement (e.g., technical feasibility) the proposed DNSH criteria?

The feedback was collected and analysed in October and November and resulted in more than 2000 individual comments on the criteria, leading to their improvement. Business associations revealed to be the most responsive group to the consultation (38% of respondents), while trade unions and non-EU citizens are the least prevalent (respectively 0.6% and 1%). In terms of organisations' size, respondents were divided between large (250

employees or more) and micro (9 employees or less) organisations (respectively, 32% and 30%).

From a geographic perspective, respondents were mostly based in Belgium (28%), Germany (13%), France (10%) and Sweden (8%). As the report shows, this geographic repartition largely varies across sectors. By contrast, respondents based in Southern (Portugal, Greece), Central and Eastern countries (Latvia, Poland, Estonia, Romania, Croatia) represent the least prevalent stakeholders (less than 1% of responses each). The high prevalence of respondents based in the EU reflects in the fact that 63% of respondents operate in the EU. However, it must be noted that a quarter of them operate globally.

Turning to the sectoral repartition of respondents, Sector 2 ‘Manufacturing’ (15%), Sector 1 ‘Agriculture, forestry and fishing’ (12%) and Sector 3 ‘Electricity, gas, steam and air conditioning supply’ (10%) appear as the most prevalent sectors. We must also highlight that the sector Manufacturing encompasses more economic activities in this first work of the PSF.

An overview of the responses per sector is reported in Figure 10

Number	Sector name	Number of subsectors and open-ended questions		Selection sector Technical Screening Criteria Interest			
		Subsectors	Questions	Responses	Description	SC	DNSH
1	Agriculture, forestry & fishing	4	36	237	119	151	145
2	Manufacturing	23	207	785	179	386	265
3	Energy	16	144	339	160	252	108
4	Civil engineering	4	36	70	14	33	10
5	Buildings	4	36	146	45	99	36
6	ICT	7	63	43	22	11	15
7	Disaster risk management	9	81	36	11	15	6
8	Transport	11	99	266	110	143	75
9	Restoration, remediation	7	63	119	45	62	36
10	Tourism	1	9	14	3	7	2
11	Water supply	2	18	35	17	23	9
12	Sewerage	4	36	84	46	58	36
13	Waste management	9	81	236	139	145	71
14	Services	2	18	37	10	21	16
		103	927	2447	920	1406	830

The feedback received have been elaborated and grouped for each sector teams. In the months from October 2021 – January 2022 the sector teams after having analysed the comments received, further developed the TSC and made necessary changes that improved the criteria. Changes were made as a result of comments, only where those changes and comments were inline with the methodology for criteria development, that were consistent with the Taxonomy Regulation and inline with environmental ambition levels consistent with that Regulation.

7. Recommendations and reflections for future work

This section sets out the recommendations and preliminary lessons learned from the process of developing criteria for the remaining four objectives of the Taxonomy, how these have

added to the knowledge and understanding of the Taxonomy framework beyond the climate objective, and the work that would be needed to improve and evolve the Taxonomy over time.

These recommendations are not exhaustive, but include:

- Ensuring synergy and consistency between criteria as the Taxonomy evolves
- The proposal to review the existing do no significant harm criteria in the climate delegated act
- Undertaking a horizontal analysis of adaptation approaches to climate
- Clarifying for the using audience and future taxonomy developers understanding around the scope of economic activities and the link with assets
- The development of measures to allow Taxonomy alignment below the level of an activity

7.1. Ensuring consistency between criteria in the Taxonomy

The inclusion of the remaining 4 objectives into the Taxonomy framework and the development of criteria to address them has advanced thinking on what constitutes a substantial contribution for these objectives as well as the relationship to the climate mitigation and adaptation objectives. One example here is the potential overlap between the climate mitigation objective thresholds, and the pollution prevention and control thresholds – both of which can address gaseous pollutants. This is true for other objectives, such as biodiversity and ecosystems where pressure reduction as a mechanism for substantial contribution requires a delineation of how much the pressure should be reduced to ensure no significant harm to the objective and how much it should be reduced to ensure a substantial contribution to the same objective. With the inclusion of the full set of environmental objectives into the Taxonomy, though noting not all objectives for all activities, the Commission should consider a cross-activity and cross-objective review to ensure consistency of approach, improving the usability of the Taxonomy. In so doing it is important to recognise that technical screening criteria are developed only for the environmental objectives that are material to the activity.

In addition to the consistency of approach for a given environmental objective, there are a number of activities that are linked through supply or value chains. For example, the manufacturing of furniture products, or the construction of buildings using wood and wood products both include reference to the sustainable and responsible sourcing of materials from forests. As criteria have been developed in parallel, it has been challenging to align all criteria in the process. The technical screening criteria developed in the Taxonomy work in the context of the Taxonomy Regulation and as such go beyond existing legal and Regulatory

requirements, sometimes for DNSH but particularly for substantial contribution. It would therefore be appropriate that where possible, the technical screening criteria cross-refer to other activities within the Taxonomy as it evolves. In the example given above, the responsible sourcing of wood and wood products should refer to the criteria proposed for the forestry activity. The same will be true of other activities linked in a given supply chain.

7.2. Do No Significant Harm Criteria

New insights about DNSH criteria

The development of criteria relating to environmental objectives 3-6 of the Taxonomy, and the conceptual development work undertaken in sub-group 3 of the PSF, have advanced our understanding of the DNSH requirements necessary for a given objective. One example is the appropriate approach to developing DNSH criteria for the circular economy objective (described below), that is one of reason why we think it therefore appropriate to undertake a review of the DNSH criteria from the climate delegated act to improve consistency and usability of the Taxonomy.

Addressing do no significant harm criteria for the circular economy

The work to develop technical screening criteria for the circular economy objective has highlighted potential limitations in the treatment of this objective in the technical work undertaken on the Taxonomy to date. In many cases 'not applicable' is listed against the circular economy DNSH requirement in existing criteria, and there is no 'generic' DNSH articulation present in the appendixes of the annexes to the climate delegated act. As such we have not been able to include a consistent cross reference to circular economy DNSH where it was felt there was a potential material risk to the objective for a given activity, or where the risk was unclear, but needed to be assessed.

We think that the risk of harm to the circular economy objective is likely to be widely applicable across the economy. We recognise that material impact and risk is relevant when considering the inclusion of DNSH criteria, therefore it would be necessary to include a process-based approach to identifying if there is a risk to the circular economy objective and the response to mitigate that risk. This would need to be tested against relevant activities to ensure its applicability in practice.

The process should follow the same/similar approach to that of other 'generic' DNSH requirements already established in the Taxonomy, which in principle: assess the context of the activity and risk; identify the impacts, and then those that are material to the activity and

the objective; identify a mitigation plan or approach to address the risk. In the mitigation plan or approach, the following principles should be considered:

- Reuse and preparation for reuse of products and components, and use of secondary raw materials, including through high-quality recycling;
- Design for longevity, sharing, reuse, repair, refurbishment, remanufacturing, repurposing, and recycling of products;
- Waste management that prioritises prevention and preparing for reuse and for recycling over incineration and disposal of waste;
- Regeneration of nature by replenishing renewable resources at a rate which is at least as large as the depletion rate linked to the activity;
- Information on and traceability of material content and product composition throughout the lifecycle of materials and products.

7.3. Future horizontal analysis of adaptation

The first Delegated Act of the Taxonomy Regulation establishes technical screening criteria for the objectives of Climate Change Mitigation (CCM) and Climate Change Adaptation (CCA). The criteria included for adaptation are largely generic in nature, reflecting the work and recommendations of the Technical Expert Group and the resultant adoption into legislation by the Commission.

During the work of the platform and the TWG, we have had the opportunity to reflect on the way in which adaptation has been addressed so far through the Taxonomy and in the context of the developing methodological framework surrounding the other four objectives of the Taxonomy. Some of the activities listed in Part B of this report are prioritised to deliver substantial contribution to the Climate Change Adaptation objective, and all others will have DNSH criteria for Adaptation. These are presented in line with those that appear in the climate Delegated Act in order to provide consistency, continuing to build knowledge and understanding of the Adaptation Taxonomy within financial markets. Since the original in-depth work of the TEG was carried out, and since the public consultations were held on the first technical screening criteria for Adaptation, a new EU Adaptation Strategy has been finalised and a new EU Climate Law has been adopted. To reflect on these and to improve the usability of the criteria for adaptation, it will be important to develop good guidance on the use of adaptation criteria for SC and DNSH.

Building a future headline ambition framework for climate change adaptation

Methodologically it may also be useful to establish more clearly the headline ambition level of the adaptation objective, to improve the understanding and usability of the Adaptation Taxonomy. This would build on the recommendations and approach followed by the TEG and as set out in section 2.3.3 of the recommendations provided to the EC in March 2020⁷¹. The following text describes the linked Taxonomy, Union and National adaptation laws that might inform the development of such a headline ambition document in line with what has been done for the Taxo 4 objectives. Such a document can also clarify the approach to the important issue of maladaptation. The following information could be included into a headline ambition document in the future, pulling together the 1st DA adaptation approach and that used in the preparation of adaptation criteria by the TWG. It could then form part of the methodological framework for future adaptation criteria.

Alignment with Taxonomy Regulation

The [Taxonomy Regulation](#) states that “an economic activity that pursues the environmental objective of climate change adaptation should **contribute substantially to reducing or preventing the adverse impact of the current or expected future climate, or the risks of such adverse impact**, whether **on that activity itself or on people, nature or assets**. That environmental objective should be interpreted **in accordance with relevant Union law and [the Sendai Framework for Disaster Risk Reduction 2015–2030](#)** (Recital 25). It furthermore specifies, that an activity shall qualify as contributing substantially to climate change adaptation where that activity includes adaptation solutions that reduce either the risk of the adverse impact and the actual adverse impact of the current climate and the expected future climate without increasing the risk if an adverse impact on people, nature or assets. (Article 11).

Most relevant elements of Union law (as of July 2021) are the [Communication ‘Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change’](#) and the [European Climate Law](#) (Article 4.)⁷².

⁷¹ Taxonomy: Final report of the Technical Expert Group on Sustainable Finance. TEG. March 2020

⁷² Note: European Union strives to mainstream adaptation in all relevant sector (and other) policies, therefore where available more specific sector goals on adaptation should be taken into account when developing the taxonomy, however, these specific targets align with the key Union Law goals and are not included in the headline ambition definition in detail

On the international level, the [Paris Agreement](#) includes the global goal on adaptation to enhance adaptive capacity and resilience and to reduce vulnerability, with a view to contributing to sustainable development. Likewise, the [Sendai Framework for Disaster Risk Reduction 2015–2030](#), explicitly mentioned in Recital 25 sets global goals towards preventing and reducing disaster risks, including those arising due to climate change.

The adaptation headline ambition should align the [Taxonomy Regulation](#) objective on adaptation with the goals of the relevant EU and international policies as detailed below, as well as translate those goals to the economic activity context. It builds on the previous methodological work carried out by the Technical Expert Group and would add the alignment with the recently updated or adopted EU policies.

Alignment with relevant Union Law

The [European Climate Law](#) Article 4 on adaptation objective aims to ensure **continuous progress in enhancing adaptive capacity, strengthening resilience and reducing vulnerability** to climate change in accordance with Article 7 of the Paris Agreement.

[The EU Strategy on adaptation to climate change](#), which is a non-mandatory strategic level policy and sets out the direction of action on adaptation on the EU level. It has been revised in 2021 in alignment with the EU Green Deal call for more ambitious EU adaptation action. The long-term vision set by the strategy is: **“the EU will be a climate-resilient society, fully adapted to the unavoidable impacts of climate change.** This means that **by 2050 (..) we will have reinforced adaptive capacity and minimised vulnerability to climate impacts,** in line with the Paris Agreement and the European Climate Law.” (Ch. 2). In practice it means that we will have to adapt faster, smarter and in a more systemic way. When applied to the economic activity context, this vision implies the achievement of a climate-resilient functioning of the economic activities and full adaptation to those climate change impacts, which cannot/will not be avoided through ambitious mitigation action because of the level of historical GHG emissions, which have already locked in climate change impacts for decades to come.

Alignment with the international frameworks

Article 7 of the [Paris Agreement](#) is the basis for the adaptation goals defined in the EU policies and defines the overarching global goal as **“enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change,** with a view to contributing to sustainable development and ensuring an adequate adaptation response (..”).

Furthermore, the Taxonomy Regulation specifically refers to [The Sendai Framework for Disaster Risk Reduction 2015–2030](#) as the guiding international policy. The overarching

goal of the Sendai Framework is to “**prevent new and reduce existing disaster risk** through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional **measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.**” It further sets out seven global targets on reducing disaster mortality, reduction of population affected, reduction of economic losses and impacts on GDP, limiting damage to infrastructure and provision of essential services, improved access to early warning systems and disaster risk data, as well as enhancing the national and international action on disaster risk reduction.

In the spirit of the Paris Agreement and Sendai Framework, the Taxonomy is to include activities and Substantial Contribution criteria in support of the implementation of adaptation measures, which unequivocally contribute to and enable the prevention and reduction of exposure and vulnerability to climate-related hazards and help achieve high level of resilience and adaptive capacity of people, of nature, of cultural heritage, of assets and of economic activities.

Alignment with national and sub-national adaptation action

The [European Climate Law](#) mandates the Member States to “**develop and implement adaptation strategies and plans** that include comprehensive risk management frameworks, based on robust climate and vulnerability baselines and progress assessments” (Art. 4.1). [The EU Strategy on adaptation to climate change](#) further states that **adaptation is a “whole-society endeavour”** and therefore “**it is vital for the private and public sectors to work together more closely, in particular on financing adaptation.**”

The adaptation efforts by economic actors operating the activities included in the Taxonomy shall align with the national (and relevant subsidiary e.g. regional and local) adaptation strategies and plans to eliminate miscoordination, misalignment and at worst counterproductive adaptation actions, as well as to avoid maladaptation. Instead, high alignment should be promoted to help accelerate the achievement of the national (and relevant subsidiary e.g. regional and local) adaptation strategies and plans, while increasing the resilience of the economic activities at the same time.

Avoiding maladaptation

In addition, the [EU Strategy on adaptation to climate change](#) calls for the avoidance of maladaptation: “support the private sector to **identify risks and steer investment towards action on adaptation and resilience (and avoid maladaptation)**”. In Taxonomy context, **maladaptation is to be avoided in all its forms** and is defined as: “Actions that may lead to

increased *risk* of adverse climate-related outcomes, including via increased *GHG* emissions, increased *vulnerability to climate change*, or diminished welfare, now or in the future” (IPCC AR5 and Special Report: Global Warming of 1.5 °C) and includes 12 broad types of maladaptation as defined by IPCC:

Table 5: A selection of examples of actual or potential maladaptive actions from this report⁷³

Broad type of maladaptive action	Examples in AR5
Failure to anticipate future climates. Large engineering projects that are inadequate for future climates. Intensive use of non-renewable resources (e.g., groundwater) to solve immediate adaptation problem	22.3, 22.4.8.5
Engineered defenses that preclude alternative approaches such as EBA	Box CC-EA; 15.2.2
Adaptation actions not taking wider impacts into account	22.4.5.8, 25.4.2, and 26.9.4
Awaiting more information, or not doing so, and eventually acting either too early or too late. Awaiting better “projections” rather than using scenario planning and adaptive management approaches	7.5.1.2.2, 8.5.2, and 16.5.2
Forgoing longer term benefits in favor of immediate adaptive actions; depletion of natural capital leading to greater vulnerability	13.2.1.3; 22.4.5.8; 25.9.1
Locking into a path dependence, making path correction difficult and often too late	16.3.2; FAQ 25.1
Unavoidable ex post maladaptation, e.g., expanding irrigation that eventually will have to be replaced in the distant future	17.5; see also 5 and 6 above
Moral hazard, i.e., encouraging inappropriate risk taking based, e.g., on insurance, social security net, or aid backup	17.5 and 29.8
Adopting actions that ignore local relationships, traditions, traditional knowledge, or property rights, leading to eventual failure	12.3, 12.5.2; 26.9.4
Adopting actions that favor directly or indirectly one group over others leading to breakdown and possibly conflict	13.1.1 and 13.1.4
Retaining traditional responses that are no longer appropriate	21.3.2 and 22.4.5.8
Migration may be adaptive or maladaptive or both depending on context and the individuals involved	26.2.1, 26.8.3, 29.3.3, 29.6.2.4

Note: These examples of maladaptation represent a set of cases found in the report that might help the readers to understand the rich range of circumstances in which maladaptive actions might arise. They do not represent a formal categorization of type of maladaptation.

The avoidance of all maladaptation is an important element of the taxonomy headline ambition for adaptation.

7.4. The development of ‘measures’ as activities

One of the specific challenges of developing criteria at the activity level is that it does not allow for a more fine-scaled description of individual practices that could be subject to green finance and thus taxonomy aligned. A number of our proposed criteria include such ‘practices’ but as sets to be executed in order to deliver an activity-level substantial contribution. In this work we have not developed any additional ‘measures’ to deliver against environmental objectives 3-6.

Inclusion of these more granular measures (along the lines of building renovation energy efficiency components, electric vehicles in company fleets etc.) was highlighted as an

⁷³ Source: IPCC AR5 Impacts, Adaptation and Vulnerability

essential and important next step in the Taxonomy development and usability, not only by the TEG in 2020 but also by the Platform in its March 2021 Transition Report. In both cases, it was highlighted that these are particularly necessary to support a Green Transition across the whole economy, and vital for the green debt market.

The inclusion of fundable measures within the taxonomy framework would allow access to green finance from a wider range of sectors and provide a better enabling framework in the transition to a greener economy, than only allowing full activity criteria. Such measures may also allow the inclusion of some sectors within the Taxonomy Delegated Acts that have so far been challenging as a result of political and organisational opposition, such as Agriculture. They may also help in finding more more flexible solutions to several methodological issues, including:

- The difficulty in defining a suitable level of ambition for some combinations of economic activities at the 'activity' level, rather than in relation to the investment measure level;
- The difficulty in capturing the potential for substantial incremental improvement based on specific investments on the transition to sustainability, because of the need to define a single set of criteria at 'activity' level.

The Commission should consider the further development of activities which are “measures” that may support or enable the economic activities already covered in this report or the Climate Delegated Act, and for new priority activities beyond those that are already included in the existing Delegated Acts. This is an essential piece of future work to allow the broader applicability of the taxonomy.

7.5. Horizontal recommendations on transition to circular economy for manufacturing to inform future alignment

As we mentioned already at the beginning the objective transition to circular economy was one of the most challenging because until today a standard set of indicators or measurements have not been defined yet. The sector teams involved in manufacturing and the experts on CE have been worked together to develop a consistent approach.

As results of the work the following recommendations for a future alignment can be summarized:

Next steps and recommendations

The Commission's Circular Economy Action Plan 2020 presents several key product value chains: Electronics and ICT; Batteries and vehicles; Packaging; Plastics; Textiles; Construction and buildings; Food, water and nutrients. The current recommendations cover most of these sectors, apart from batteries and vehicles. A further iteration of this exercise should investigate in priority if and how these should be addressed.

Some activities having a material impact on the environment - and thus able to make a substantial contribution to the environmental objectives - are not included in the list of activities due to methodological concerns and/or uncertainties as to the interpretation of legal provisions of the Taxonomy Regulation. This is for example the case with activities manufacturing an open/undefined list of enabling technologies, pending legal and methodological guidance. These manufacturing activities should also be dealt with in priority once more specific guidance is available to the Platform.

Recommendations

- Develop a consistent approach and provide guidance for DNSH. At the moment, often DNSH are missing. Referring back to the first DA is not a solution, as some of the generic versions fail to define a specific reference in several sectors.
- Moving forward, the Platform should be able to propose amendments to existing DNSH provisions where needed. Indeed, in some cases even, the full activity had to be deprioritised in order not to create inconsistencies on the level of ambition with the first delegated act (see explanations provided under the manufacture of land transport equipment and the risk of criteria shopping).
- Support the development of TSC through a systemic approach. Environmental objectives such as the circular economy and biodiversity require a systemic approach that allows addressing the entire value chain, rather than an activity-oriented structure. In line with the comments above, this implies changing the way economic activities are currently considered (e.g. moving away from the NACE code structure, considering activities in silos). This would allow additional considerations, such as identification of hotspots for resource efficiency across a value chain.

8. List of Activities

ST1 Agriculture, Forestry and Fishing								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Animal production	A 1.4						X	March 2022
Growing of non-perennial crops	A1.1						X	March 2022
Growing of perennial crops	A1.2						X	March 2022
Fishing	A3.11						X	March 2022
	A3.12						X	March 2022
	A10.20						X	March 2022
	A84/24						X	March 2022
	A10.11						X	March 2022
Forestry	A2						X	May 2022
Agriculture option c (ongoing work)							X	May 2022
ST3 Manufacturing 1								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Manufacture of chemicals	C20					X		March 2022
Manufacture of plastic packaging goods	C22.2			X				March 2022
					X			March 2022
Manufacture of basic pharmaceutical products and pharmaceutical preparations	C21					X		May 2022

Manufacture of chemical products						X		May 2022
ST4 Manufacturing 2								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Manufacture of electrical and electronic equipment	C27				X			March 2022
	C26				X			March 2022
Manufacture of low pollution transport equipment	C 30.1					X		May 2022
	C 30.2					X		May 2022
	C 30.9					X		May 2022
ST5 Manufacturing 3								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Finishing of textiles	C13.30					X		March 2022
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	C14.1				X			March 2022
	C14.3				X			March 2022
	S95.29				X			March 2022
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	C14.11				X			March 2022
	C14.19				X			March 2022
	C15.20				X			March 2022
	S95.23				X			March 2022
	C14.11				X			March 2022

	C14.19				X			March 2022
	C15.12				X			March 2022
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	C31				X			March 2022
Tanning of leather	C15.11					X		March 2022
Repair, refurbishment and remanufacturing, and sale of spare parts	C13-C16				X			March 2022
	C22				X			March 2022
	C23.3, C23.4				X			March 2022
	C25.1, C25.2, C25.7, C25.9				X			March 2022
	C26				X			March 2022
	C27				X			March 2022
	C28.22, C28.23, C28.24, C28.25, C28.93, C28.94, C28.95, C28.96				X			March 2022

	C31				X			March 2022
	C32				X			March 2022
Preparation for re-use of end-of-life products and product components	C13-C16				X			March 2022
	C18				X			March 2022
	C22				X			March 2022
	C23.3, C23.4				X			March 2022
	C25.1, C25.2, C25.7, C25.9				X			March 2022
	C26				X			March 2022
	C27				X			March 2022
	C28.22, C28.23, C28.24, C28.25, C28.93, C28.94, C28.95, C28.96				X			March 2022
	C29				X			March 2022
	C30.1, C30.2,				X			March 2022

	C30.3, C30.9							
	C31				X			March 2022
	C32				X			March 2022
Sale of second-hand goods	G46				X			March 2022
	G47				X			March 2022
Product-as-a-service and other circular use- and result-oriented service models	77				X			March 2022
The transition to a circular economy	C10				X			March 2022
	C11				X			March 2022
ST6 Energy								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Environmental refurbishment of facilities that produce electricity from hydropower	D35.1						X	March 2022
	F42.9.1						X	March 2022
Bioenergy (ongoing work)							X	May 2022
ST7 Construction and buildings + ICT + Emergency Services								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Construction of new buildings	F41				X			March 2022

Renovation of existing buildings	F41				X			March 2022
	F43				X			March 2022
Civil engineering	F42		X					March 2022
Maintenance of roads and motorways	F42.11				X			March 2022
Flood risk prevention and protection infrastructure for inland river, coastal and urban floods	F42.91		X					March 2022
Telecommunications infrastructure and solutions, and Information service activities	61-63		X					March 2022
Emergency services – emergency health services	86.10		X					March 2022
	86.90		X					March 2022
Emergency services – disaster response coordination	No NACE directly associated		X					March 2022
Emergency services – disaster relief	88.99		X					March 2022
Emergency services – search and rescue	84.25		X					March 2022
Emergency services – hazardous materials response	39.00		X					March 2022
Emergency services – firefighting	84.25		X					March 2022
	02.40		X					March 2022
	80.20		X					March 2022

	52.23		X					March 2022
	09.10		X					March 2022
Emergency services – Technical protection response and assistance	84.25		X					March 2022
Nature based solutions (Nbs) for flood and drought risk prevention and protection for both inland and coastal waters	F42.91			X				March 2022
ST8 Transport								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Urban and suburban passenger land public transport	H49.31, H49.32, H49.39					X		March 2022
	N77.39, N77.11					X		March 2022
Manufacturing of aircraft	C30.3	X						March 2022
Leasing of aircraft	N77.35	X						March 2022
Passenger and freight air transport	H51.1, H51.21	X						March 2022
Air transportation ground handling operations	H52.2.3, H52.2.4	X						March 2022
	H49.3.9	X						March 2022
Waterborne transportation (ongoing work)						X		May 2022
ST9 Restoration and Remediation + Tourism								

Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Conservation of habitats/ecosystems	91.04						X	March 2022
Restoration of biodiversity and ecosystems	91.04						X	March 2022
Restoration of ecosystems	91.04		X					March 2022
Remediation activities								March 2022
<i>The sustainable use and protection of water and marine resources</i>	E39			X				March 2022
	33.20			X				March 2022
	43.11, 43.12			X				March 2022
	71.12, 71.20			X				March 2022
	74.90			X				March 2022
	81.30			X				March 2022
<i>The transition to a circular economy</i>	E39				X			March 2022
	33.20				X			March 2022
	43.11, 43.12				X			March 2022
	71.12, 71.20				X			March 2022
	74.90				X			March 2022

	81.30				X			March 2022
<i>Pollution prevention and control</i>	E39					X		March 2022
	33.20					X		March 2022
	43.11, 43.12					X		March 2022
	71.12, 71.20					X		March 2022
	74.90					X		March 2022
	81.30					X		March 2022
<i>The protection and restoration of biodiversity and ecosystems</i>	E39						X	March 2022
	33.20						X	March 2022
	43.11, 43.12						X	March 2022
	71.12, 71.20						X	March 2022
	74.90						X	March 2022
	81.30						X	March 2022
ST10 Water Supply, Sewerage, and Waste Management								
Economic Activities	NACE codes	Mitigation	Adaptation	Water	Circular economy	Pollution	Biodiversity	Publication
Water supply	E36.00			X				March 2022

	<i>F42.99</i>			X				March 2022
Desalination	<i>E36.00</i>		X					March 2022
	<i>F42.9</i>		X					March 2022
Urban wastewater treatment	<i>E37.00</i>			X				March 2022
	<i>F42.9</i>			X				March 2022
Phosphorus recovery from waste water	<i>E37.00</i>				X			March 2022
	<i>F42.99</i>				X			March 2022
Production of alternative water resources	<i>E37.00</i>				X			March 2022
	<i>F42.9</i>				X			March 2022
Sustainable urban drainage systems (SUDS)	<i>E37.00</i>			X				March 2022
	<i>F42.9</i>			X				March 2022
Collection and transport of non-hazardous and hazardous waste as a means for material recovery	<i>E38.11, E38.12</i>				X			March 2022
	<i>F42.9</i>				X			March 2022
Collection and transport of hazardous waste	<i>E38.12</i>					X		March 2022
	<i>F42.9</i>					X		March 2022
Treatment of hazardous waste								March 2022

<i>Pollution prevention and control</i>	<i>E38.22</i>					X		March 2022
<i>The transition to a circular economy</i>	<i>E38.22, E38.32</i>				X			March 2022
	<i>F42.9</i>				X			March 2022
Recovery of bio-waste by anaerobic digestion and/or composting	<i>E38.21</i>				X			March 2022
	<i>F42.9</i>				X			March 2022
Remediation of legally non-conforming landfills and abandoned or illegal waste dumps	<i>E39</i>					X		March 2022
	<i>E38.2, E38.32</i>					X		March 2022
	<i>F42.9</i>					X		

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All members, observers and sherpas in this group have worked in their personal capacity for this report which does not necessarily reflect the position of their organisations.

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Part A – Annex

Annex A1 - Application of the methodology to identify priority activities

This annex outlines the application of the methodology used to prioritise and select activities for inclusion within the work of the Technical Working Group.

Sustainable use and protection of water and marine resources

Indicators used to establish priority activities

Indicators	
Chemical pressures / Pollution	Oxygen demanding pollutants and nutrients (bio-degradable organic compounds in suspended, colloidal, or dissolved form)
	Synthetic organic compounds (pesticides, detergents, food additives, pharmaceuticals, insecticides, paints, fibres, P CBs, solvents, PAHs, and VOCs,)
	Oil
	Pathogens (viruses, bacteria)
	Inorganic pollutants (heavy metals, mineral acids, inorganic salts, other metals, complexes of metals with organic compounds, cyanides, sulphates, etc.)
Physical pressures	Water Footprint (life cycle approach)
	Groundwater (drinking water, agriculture, mining activities, ...)
	Surface water
	Hydro-morphological elements of water bodies (river continuity, morphological conditions, seafloor integrity)
	Other physical pollutants (thermal pollution, radioactive pollutants, light pollution, and noise/vibration, suspended solids and sediments)
	Microplastics and marine litter
Biodiversity & ecosystems	Marine habitats
	Marine plants
	Marine animals (except birds)
	Freshwater habitats
	Freshwater fishes

Note: the impact indicators used in the assessment did not address explicitly the aspect of “contributing to mitigating the effects of floods and droughts”, which is one of the means to protect water resources listed in the taxonomy regulation.

Value chain considerations

From the 12 activities selected value chain considerations were particularly relevant to the following two activities:

1. Extraction of crude petroleum
2. Extraction of natural gas

Given the possibility to shift to low-impact sources of energy, the best way to reduce environmental impacts from those activities is to substitute for them. On this basis, it was proposed to **de-prioritise** them.

Electricity generation was included as priority under other objectives (and TEG recommendations on climate mitigation), so the Taxonomy will provide a clear incentive for the shift. Electricity generation did not necessarily need to be prioritised under the water objective.

Resulting list

The table below presents the proposed list of priority activities identified applying the methodology for this environmental objective.

1	Growing of non-perennial crops
2	Growing of perennial crops
3	Manufacture of chemicals and chemical products
4	Inland passenger water transport
5	Inland freight water transport
6	Sea and coastal passenger water transport
7	Sea and coastal freight water transport
8	Manufacture of rubber and plastic products
9	Manufacture of fabricated metal products + machinery and (electrical) equipment
10	Manufacture of leather and leather related products

Transition to a circular economy

Indicators used to establish priority activities

Indicators
Raw Material Consumption (RMC) impact
Production impact
Use phase impact
Hazardous waste generation impact
Non-hazardous waste generation impact
Landfilling impact

Value chain considerations

From the 12 activities considered, value chain considerations were particularly relevant to the following two activities:

1. Manufacture of coke and refined petroleum products
2. Manufacture of rubber and plastic products

Manufacture of coke and refined petroleum products

Given the possibility to shift to low-impact sources of energy, the greatest impact reduction can be achieved by substituting this activity. While it is possible that some further impact reductions could be achievable by performing the manufacture of coke and refined petroleum products differently, this is not sufficient to justify its prioritisation. On this basis, it was proposed to de-prioritise it.

Coke and refined petroleum products are used in manufacturing processes and many manufacturing activities were already included in the list. Criteria in the manufacturing sector could encourage a shift away from those raw materials towards renewable feedstock and/or hydrogen from renewable sources (instead of coke). So, the reduction of pressure can be achieved by having criteria for other manufacturing activities and, possibly, by including enabling activities.

Manufacture of rubber and plastic products

Plastics can be substituted out to a large extent, depending on the use. Still, it is likely that some plastic will remain necessary, and there is an improvement opportunity 'within' the activity – renewable feedstock. In any case, rubber is still relevant, so the activity was not de-prioritised.

Resulting list

The table below presents the list of priority activities identified applying the methodology for this environmental objective.

1	Manufacture of rubber and plastic products
2	Manufacture of computer, electronic and optical products
3	Manufacture of electrical equipment
4	Manufacture of textiles
5	Manufacture of wearing apparel
6	Construction of buildings
7	Manufacture of leather and related products
8	Manufacture of food products
9	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
10	Civil engineering
11	Manufacture of chemicals and chemical products

Pollution prevention and control

Indicators used to establish priority activities

Indicators	
Pollution of air	SOx (sulphur oxides)
	NOx (nitrogen oxides)
	CO (carbon monoxide)
	PM (particulate matter)
	Heavy metals
	POPs (persistent organic pollutants)
	VOCs (volatile organic compounds)
	ODS (ozone depleting substances)
	NH3 (ammonia)
	Other (hazardous) chemicals regulated by REACH and CLP and their compounds (e.g. SVHC, chlorine, fluorine, bromine, iodine, asbestos, cyanides, other CMRs, PBTs, EDCs)
	Other physical pollutants (heat, noise, light, radiation, odour)

Pollution of water	Oxygen demanding pollutants and nutrients (bio-degradable organic compounds in suspended, colloidal, or dissolved form)
	Synthetic organic compounds (pesticides, detergents, food additives, pharmaceuticals, insecticides, paints, fibres, PCBs, solvents, PAHs, and VOCs,)
	Oil
	Pathogens (viruses, bacteria)
	Inorganic pollutants (heavy metals, mineral acids, inorganic salts, other metals, complexes of metals with organic compounds, cyanides, sulphates, etc.)
	Microplastics and plastic particles
	Other physical pollutants (heat, radiation, light, noise/vibration, suspended solids and sediments)
Pollution of soil	Inorganic pollutants
	Organic compounds, including POPs, pesticides, pharmaceuticals and antibiotics
	Nitrogen and phosphorous compounds
	Other (physical) pollutants (vibrations, microplastics and plastic particles)

Value chain considerations

From the 12 activities selected, value chain considerations were particularly relevant for the following two activities:

1. Extraction of crude petroleum and natural gas
2. Manufacture of pesticides and other agrochemical products

Extraction of crude petroleum and natural gas

Shift to low-impact sources of energy: the most effective way of reducing polluting impacts associated with the extraction of crude petroleum and natural gas is to substitute for them. While it is possible that some further impact reductions could be achievable by performing these activities differently, the improvement potentials are much smaller than those offered by viable substitution options (e.g., renewable energy activities) and thus the case for prioritising them was difficult to justify. Extraction of crude petroleum and natural gas **were thus de-prioritised.**

Electricity generation as well as other fossil fuel using economic activities (e.g., road transport activities) were already included in the list.

Manufacture of pesticides and other agrochemical products

Many of the concrete improvement opportunities identified by the assessment (under the water, pollution and ecosystems objectives) concerned the reduction in the use of pesticides⁷⁴. The replacement activity (growing of crops, if done using low footprint practices) was already included in the list. Manufacture of pesticides and other agrochemical products **could thus be de-prioritised**.

The two slots freed up in the list by the de-prioritisation of the above-mentioned two activities could be filled by two of the four following activities:

1. Water transport
2. Animal production
3. Manufacture of leather and leather related products
4. Manufacture of glass and glass products

It was proposed to include **water transport** and **animal production**.

Resulting list

The table below presents the list of priority activities identified applying the methodology for this environmental objective.

“Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms” was not included because part of “Manufacture of chemicals and chemical products” that was already included.

1	Crop production (including support activities for crop production)
2	Manufacture of chemicals and chemical products
3	Other passenger land transport; freight transport by road and removal services; individual traffic
4	Manufacture of fabricated metal products + electrical and electronic equipment + motor vehicles and transport equipment
5	Manufacture of basic pharmaceutical products and pharmaceutical preparations

⁷⁴ E.g. “Adapting agricultural practices can go a long way in reducing those pollutants. This includes minimizing the use of fertilizers and pesticides (which, if done strictly, could even be considered as transformative change), better regulation of when fertilizers and pesticides may be applied, sufficiently large buffer stripes next to water bodies, contour planting and contour ploughing, and other measures.” (p.52, table 17)

6	Electric power generation ⁷⁵ , transmission and distribution
7	Manufacture of textiles + Manufacture of wearing apparel
8	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
9	Manufacture of cement, lime and plaster
10	Water transport
11	Animal production

Protection and restoration of biodiversity and ecosystems

Indicators used to establish priority activities

Indicators
Marine habitats
Marine plants
Marine animals (except birds)
Freshwater habitats
Freshwater fishes
Terrestrial habitats
Terrestrial plants (including freshwater plants)
Terrestrial animals (including freshwater animals except fishes and birds)

Value chain considerations

Among the activities prioritised, there was no activity that need specific attention for its value chain considerations and the possibility to be de-prioritised and substituted. Resulting list

The table below presents the list of priority activities identified applying the methodology for this environmental objective.

1	Crop production
2	Animal production
3	Tourism, sports and leisure activities

⁷⁵ Including electricity generation from renewables

4	Forestry and logging
5	Construction including conversion from other land uses
6	Passenger or freight land transport
7	Hydropower (dams, weirs, run-off-the-river)
8	Marine fishing
9	Water transport
10	Wind, wave and tidal power
11	Manufacture of food and beverage products

Activities directly improving the state of the environment / healing the environment

The activities selected with the methodology above need to be complemented by activities that do not have significant impact but significantly contribute to directly improving the state of the environment (activities “healing the environment”). Quantitative data was more difficult to find for them and the mapping onto the indicators was not always be straightforward. For this reason, the consultant’s assessment included an identification of such activities for each objective, but relied on qualitative assessments and expert judgement. The following sections provide an indication of the types of activities and/or related NACE codes identified, but no ranking was provided for them. The PSF was invited to select up to 4 activities that directly improve the state of the environment.

Sustainable use and protection of water and marine resources

E36: Water collection, treatment and supply⁷⁶

E37: Sewerage

E38: Waste collection, treatment and disposal activities; materials recovery

E39: Remediation activities and other waste management services

⁷⁶ Including sustainable urban drainage systems.

Implementation of nature-based solutions for flood risk prevention and protection for both inland and coastal waters

Construction of flood risk prevention and protection infrastructure for inland and coastal floods

Transition to a circular economy

E36: Water collection, treatment and supply

E37: Sewerage

E38: Waste collection, treatment and disposal activities; materials recovery

E39: Remediation activities and other waste management services

C33.1: Repair of fabricated metal products, machinery and equipment

E39.00: Remediation activities and other waste management services

G45.20: Maintenance and repair of motor vehicles

G45.40: (Sale), maintenance and repair of motorcycles and related parts and accessories

S95: Repair of computers and personal and household goods

Pollution prevention and control

E36: Water collection, treatment and supply

E37: Sewerage

E38: Waste collection, treatment and disposal activities; materials recovery

E38.1: Waste Collection

E38.3: Materials recovery

E39: Remediation activities and other waste management services

Protection and restoration of biodiversity and ecosystems

O, I, R: Conservation or restoration of habitats (sometimes in connection with low impact tourism)

02.40: Forest fire fighting

39: Remediation activities

Annex A2: Relevant targets & reference points for headline objectives

The following lists describe the relevant targets and reference points that support the definition of the headline objectives for the Taxo 4 objectives. They draw on the Taxonomy Regulation and other EU and international commitments.

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

Selection of water related targets in Europe (legally binding or commitments)

- Achieve and maintain good status of all water bodies in Europe, in particularly good ecological, hydro-morphological and chemical status (Water Framework Directive (2000/60/EC))
- Protect, conserve, enhance and restoring all forms of water (inland surface, ground, coastal and transitional) as well as the ecosystems and the biodiversity in and around this bodies of water to support this natural capital (7th EAP, PO 1 (EC, 2013); 8th EAP (draft))
- Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes (SDG 6.6 (UN, 2016))
- Collecting and treatment of urban waste water to protect the environment in the EU from the adverse effects of urban waste water (Urban Waste Water Treatment Directive (91/271/EEC))
- Substantially decrease the leakage level across the extent of water supply (distribution) network -water supply zone level, district metered area(s) (DMAs) or pressure managed area(s) (PMAs)- to a threshold that is well below 1.5.⁷⁷
- Assess and manage flood risks, aiming to reduce the adverse consequences for human health, environment and cultural heritage (Floods Directive (2007/60/EC))
- Prevent or significantly reduce water stress (7th EAP, PO 2 (EC, 2013))
- Keep water abstraction below 20% of available renewable water resources (Roadmap to a resource efficient Europe (EC, 2011))

⁷⁷ The leakage level is either calculated using the Infrastructure Leakage Index (ILI) rating method and the threshold value equals to or is lower than 1.5 or is calculated using another appropriate method in accordance with Article 4 of Directive (EU) 2020/2184 of the European Parliament and of the Council.

- Long-term protection of available water resources by re-use of water in agricultural irrigation (Water Reuse Regulation (2020/741))
- Substantially contributing to a zero-pollution ambition (EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil') for a toxic free-environment, including for water, and protecting the health and well-being of citizens from environment-related risks and impacts (8th EAP (draft)) and (Bathing Water Directive (2006/7/EC))
- Reducing and further preventing water pollution by nitrates from agricultural sources (Nitrates Directive (91/676/EEC))
- Keeping well below set concentration thresholds of certain chemical substances that pose a significant risk to the environment or to human health in waters or biota in the EU, including cadmium, lead, mercury and nickel, and their compounds; benzene, polyaromatic hydrocarbons (PAH) and several pesticides. (33 substances are identified as priority substances plus recently identified substances of concern) (Environmental Quality Standards Directive (2008/105/EC))
- Phasing out of hazardous substances as initially agreed at the Fourth International North Sea Conference in Esbjerg, 1995
- Preventing and limiting indirect discharges (after percolation through soil or subsoil) of pollutants into groundwater (Groundwater Directive (Directive 2006/118/EC))
- Protect water for human consumption from contamination (Drinking Water Directive (98/83/EC)) and toxic material (7th EAP, PO3 (EC, 2013))
- Substantially increase water use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater (SDG 6.4 (UN, 2016))
- Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate (SDG 6.5 (UN, 2016))
- Substantially contributing to the targets of the EU Biodiversity Strategy inter alia to restore at least 25,000 km of free-flowing rivers (EU Biodiversity Strategy, 2030)
- Substantially contributing to sustainable development and growth of aquaculture (EU Strategic Guidelines on Aquaculture)

Selection of marine related targets in Europe (legally binding or commitments)

- Protection and restoration of marine ecosystems and the services they provide (EU Biodiversity strategy - COM/2020/380 final)
- Substantial contribute to necessary measures to achieve or maintain good environmental status in the marine environment (Directive 2008/56/EC as amended by 2017/845 and Decision 2017/848; Directive 2000/60/EC)

- Conservation of natural habitats and of wild flora and fauna (Council Directive 92/43/EEC; Directive 2009/147/EC)
- Keep quality, their functions and occurrence of habitats and the distribution and abundance of species in line with prevailing physiographical, geographical and climatic conditions (Directive 2008/56/EC as amended by 2017/845 and Decision 2017/848)
- Minimise the impacts of ocean acidification (SDG 14.3 (UN, 2016))
- Prevention of the pollution of the (North) Sea by continuously reducing discharges, emissions and losses of hazardous substances thereby moving towards the target of their cessation within one generation (25 years) with the ultimate aim of concentrations in the environment near background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances. The Esbjerg Declaration of the 4th International North Sea Conference in June 1994 allowed time for achieving this goal of cessation of discharges, emissions and losses of certain hazardous substances until 2020; and Cessation of discharges, emissions and losses of hazardous substances by 2020 (Fourth North Sea Ministerial Declaration 1995)
- Keep concentrations in the marine environment near background values for naturally occurring hazardous substances and close to zero for man-made synthetic substances (Directive 2000/60/EC; SDG 14.1 (UN, 2016))
- Do not contribute to rising pollution effects of concentrations of contaminants, and ensure that contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards (Directive 2008/56/EC; Commission Decision 2017/848; SDG 14.1)
- Minimize human-induced eutrophication and its adverse effects (Directive 2008/56/EC as amended by 2017/845 and Decision 2017/848; Directive 2000/60/EC)
- Keep the level of marine litter to a level that does not cause harm to the environment (Directive 2008/56/EC, Commission Decision 2017/848; 7th EAP; SDG 14.1 (UN, 2016))
- By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. (SDG 14 (UN, 2016))
- Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment – footnote as proposed above (Directive 2008/56/EC; Commission Decision 2017/848)
- Keep the level of non-indigenous introduced species below a level that adversely affects the ecosystems (Directive 2008/56/EC, Commission Decision 2017/848; EU biodiversity strategy to 2020.)

- Keep populations of all commercially exploited fish and shellfish within safe biological limits (EU common fishery policy 2013; 7th EAP)
- Substantially reduce any negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities (COM/2020/380 final)
- By-catch of species is eliminated or reduced to a level that allows species recovery and conservation (COM/2020/380 final and SDG 14)
- 10% of coastal and marine areas are conserved through systems of protected areas⁷⁸ and by 2030, 30% of EU land and EU seas areas is primarily managed for nature and biodiversity⁷⁹
- Safeguarding the seabed (Directive 2008/56/EC)
- Negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities, are substantially reduced to achieve good environmental status (SDG 14 (UN, 2016))
- Apply an ecosystem-based approach to the management of maritime activities (Directive 2008/56/EC; Directive 2014/89/EU)
- Highly diversified and sustainable coastal and maritime tourism in Europe (EU integrated maritime policy -Limassol Declaration)

Objective 4: Transition to a Circular Economy

Selection of circular economy related targets in Europe (legally binding or commitments)

There is today no official EU commitment to reach a given level of material footprint. As part of the CE action plan released March 2020⁸⁰, the Commission committed to develop further the indicator and integrate in the CE framework monitoring: *“Indicators on resource use, including consumption and material footprints to account for material consumption and environmental impacts associated to our production and consumption patterns will also be further developed and will be linked to monitoring and assessing the progress towards decoupling economic growth from resource use and its impacts in the EU and beyond”*.

⁷⁸ CBD Aichi biodiversity target 11; SDG 14.5

⁷⁹ SDG 14 (UN, 2016)

⁸⁰ http://ec.europa.eu/environment/circular-economy/index_en.htm

In the annex, listing future action, the Commission engages to “Updating the Circular Economy Monitoring Framework to reflect new policy priorities and develop further indicators on resource use, including consumption and material footprints” by 2021.

In the own initiative report by the EU Parliament of February 2021 on circular economy⁸¹, the setting of targets is suggested in art 6 & 7:

6. Underlines the need for an absolute decoupling of growth from resource use; calls on the Commission to propose science-based binding EU mid-term and long-term targets for the reduction in the use of primary raw materials and environmental impacts; calls for setting the EU targets through a back-casting approach to ensure that policy objectives are on a credible path to achieve a carbon-neutral, environmentally sustainable, toxic-free and fully circular economy within planetary boundaries by 2050 at the latest;
7. Calls on the Commission to propose binding EU targets for 2030 to significantly reduce the EU material and consumption footprints and bring them within planetary boundaries by 2050, using the indicators to be adopted by end of 2021 as part of the updated monitoring framework; calls on the Commission to build on the examples set by the most ambitious Member States while taking due account of differences in starting points and capabilities between the Member States;

The Council conclusions of Dec 2020 on Making the recovery circular and green, state in their point 89: “Recalls the need to further improve the indicators or consider developing new ones in order to better cover, along the full value-chain, the life cycle of products and services, and the uptake of new and circular business models and approaches to manage resource consumption; in this regard encourages the Commission, in close cooperation with the Member States, to explore how these indicators could set a benchmark for an indicative EU circular economy goal;”

Input for target setting on material footprint and rebuilding natural capital – linked to the circular economy:

- [German Env agency UBA research](#) giving RMC limits of 7.8 Mt by 2030, 5.8 Mt by 2040 and 4.1 Mt by 2050 (see p.68-70). The Green-scenarios show that Germany can reduce its consumption of primary raw materials by up to **70% (versus 2010)** until

⁸¹ https://www.europarl.europa.eu/doceo/document/TA-9-2021-0040_EN.html

2050 through a combination of energy and material-efficiency measures, sustainable life-style changes, and the transformation to a renewable energy system without fossil energy carriers.

- [2020 Human Development Report by UNDP](#) gives around 10 tonnes per capita limit (see figure 5 p7)
- In [a paper developed in 2019](#), the EEB-FoEE-WU calls for halving the EU material footprint by 2030, using 2015 as a baseline. The paper also shares how one of the headlines aims of the Dutch government's their circular economy strategy is to half the use of abiotic resources in the Netherlands by 2030 (using 2014 as a baseline). The Material footprint headline reduction target aiming to halve the EU material footprint by 2030, considering 13.7 tonnes per capita in 2015 as the baseline. The 50% reduction in material footprint can be further broken-down into the following targets starting with slower reductions in the early years 11.0 tonnes per capita by 2025 and 6.8 tonnes per capita by 2030 + a waste prevention target to cap total waste generation per capita of both commercial and municipal waste with setting specific sectoral prevention targets for priority product categories
- [PBL Netherlands Environmental Assessment Agency Policy Report](#)¹⁹ The preliminary government target for 2030 is a 50% decrease in the use of primary abiotic resources (minerals, metals and fossil fuels), while the target for 2050 is a fully circular economy in the Netherlands.
- [EU Biodiversity Strategy for 2030](#): at least 25% of the EU's agricultural land must be organically farmed by 2030. https://ec.europa.eu/info/sites/info/files/communication-annex-eu-biodiversity-strategy-2030_en.pdf
- [EU B@B Platform & the Farm to Fork Code of Conduct](#): The sector transforms its sourcing practices to ensure at least 25% of EU's agricultural land is organically farmed by 2030 and 100% by 2050. Reflecting the objectives of the EU Biodiversity Strategy for 2030.
- The Landfill Directive (2018 amendment) states '*Member States shall take the necessary measures to ensure that by 2035 the amount of municipal waste landfilled is reduced to 10% or less of the total amount of municipal waste generated (by weight)*'

Objective 5: Pollution prevention and control

Selection of pollution related targets in Europe (legally binding or commitments)

The EU's zero pollution action plan (COM(2021) 400 final) includes the following 'vision' for 2050

- Air, water and soil pollution is reduced to levels no longer considered harmful to health and natural ecosystems and that respect the boundaries our planet can cope with, thus creating a toxic-free environment.

This vision is enacted in part through the following targets for 2030:

Under EU law, Green Deal ambitions and in synergy with other initiatives, by 2030 the EU should reduce:

1. by more than 55% the health impacts (premature deaths) of air pollution;
2. by 30% the share of people chronically disturbed by transport noise;
3. by 25% the EU ecosystems where air pollution threatens biodiversity;
4. by 50% nutrient losses, the use and risk of chemical pesticides, the use of the more hazardous ones, and the sale of antimicrobials for farmed animals and in aquaculture
5. by 50% plastic litter at sea and by 30% microplastics released into the environment;
6. 6.significantly total waste generation and by 50% residual municipal waste.

The Sustainable Development Goals cover the following pollution targets with deadlines⁸²:

- By 2030, ensure sustainable food production systems and implement resilient agricultural practices.
- By 2030, substantially reduce the number of deaths and illnesses caused by hazardous chemicals, as well as due to the pollution and contamination of air, water and soil.
- By 2030, achieve universal and equitable access to safe and affordable drinking water.
- By 2025, prevent and significantly reduce marine pollution of all kinds.

Other EU frameworks in which pollution reduction is embedded:

- 8th EAP proposal COM(2020) 652
- Biodiversity strategy 2030 COM(2020)380 final
- Sustainable Use of Pesticides Directive (2009/128/EC)
- European Strategy for Plastics in a Circular Economy (COM(2018) 28)
- Chemical Strategy for Sustainability COM(2020)667
- Strategic Approach to Pharmaceuticals in the Environment COM(2019)128

⁸² <https://www.pureearth.org/wp-content/uploads/2018/10/SDGPollutionLinks2018Final.pdf>

- Circular Economy Action Plan COM(2020)98 final

Objective 6: Protection and restoration of biodiversity and ecosystems

Selection of Biodiversity and Ecosystem related targets in Europe (legally binding or commitments)

UNEP targets set out in the context of the UN Decade on Ecosystems Restoration⁸³:

- Restoring 350 million hectares (3.5 million square kilometres) of degraded landscapes by 2030;
- Save 1 million animal and plant species currently threatened with extinction;
- Restoring wetlands to offer 14 percent of the mitigation potential needed to limit global warming by 2 degrees.

Targets as set out in the EU Biodiversity strategy to 2030 COM/2020/380 final):

- To reach land degradation neutrality by 2030, at least 30% of species and habitats not currently in favourable status are in that category or show a strong positive trend, and significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trends and status;
- The decline in pollinators is reversed
- The risk and use of chemical pesticides is reduced by 50% and the use of more hazardous pesticides is reduced by 50%.
- At least 10% of agricultural area is under high-diversity landscape features.
- At least 25% of agricultural land is under organic farming management, and the uptake of agro-ecological practices is significantly increased.
- Three billion new trees are planted in the EU, in full respect of ecological principles.
- Prevent and respond to major forest fires and promote afforestation and reforestation.
- Significant progress has been made in the remediation of contaminated soil sites.
- At least 25,000 km of free-flowing rivers are restored
- There is a 50% reduction in the number of Red List species threatened by invasive alien species.
- The losses of nutrients from fertilisers are reduced by 50%, resulting in the reduction of the use of fertilisers by at least 20%.
- Cities with at least 20,000 inhabitants have an ambitious Urban Greening Plan.

⁸³ <https://wedocs.unep.org/bitstream/handle/20.500.11822/30919/UNDecade.pdf?sequence=11>

- No chemical pesticides are used in sensitive areas such as EU urban green areas.
- The negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities, are substantially reduced to achieve good environmental status.
- The by-catch of species is eliminated or reduced to a level that allows species recovery and conservation

Protected areas targets of the EU biodiversity strategy:

- Legally protect a minimum of 30% of the EU's land area and 30% of the EU's sea area and integrate ecological corridors, as part of a true Trans-European Nature Network.
- Strictly protect at least a third of the EU's protected areas, including all remaining EU primary and old-growth forests.
- Effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately.

Relevant SDG Targets

Goal 14 “Life Below Water” “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”

- by 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
- Minimise and address the impacts of ocean acidification

Goal 15 “Life on Land”: “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”

- By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, droughts and floods, and strive to achieve a land-degradation-neutral world – (indicator – proportion of land that is degraded over total land area)
- By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development – (Mountain Green Cover Index & coverage by protected areas of important sites for mountain biodiversity)

Annex A3: Methodology for developing technical screening criteria explained

The JRC report “Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental objectives 3-6” provides a methodology for the further developing the EU Taxonomy. In particular, it focuses on how to define the **substantial contribution** (SC) that an activity has to make to be taxonomy-aligned for the four non-climate environmental objectives. It also defines seven **possible approaches** that can be used to assess the contribution of an economic activity. In order to assess which is the most suitable approach, it outlines a series of considerations that **cut across all environmental objectives**, regardless of the sector and type of substantial contribution. These considerations help to ensure alignment with the requirements defined in Article 19 of the Taxonomy Regulation.

The report also proposes an eight-step process (see Figure 4) to ensure application of these concepts and consistency among the Technical Screening Criteria. These steps are outlined in Figure 4. Further detail is then provided on the key concepts included in these steps. The methodological concepts and steps set out in the JRC report have been implemented accordingly by the PSF in collaboration with the JRC.

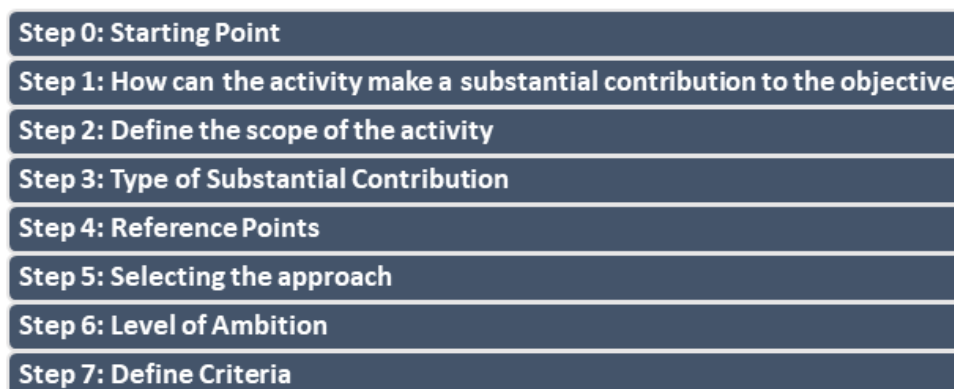


Figure 7: Step-by-step methodology to define technical screening criteria

Substantial contribution types

The report identifies **three main ways** in which an activity can **make a substantial contribution (SC) to an environmental objective**. **The first two main types of substantial contribution are related to the own performance of the economic activity, while the third type is about enabling the own performance activities (see Figure 5)**. It is worth noting

that these types of substantial contribution vary in their applicability to the different environmental objectives.

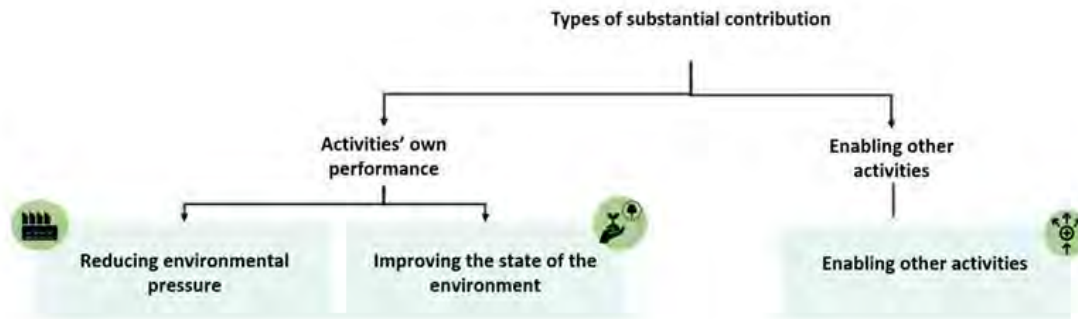


Figure 8: Types of substantial contribution

Reducing pressure on the environment

Three different types of activities that substantially contribute to reducing the pressure on the environment are considered

- Economic activities that generally are responsible for a significant pressure on the environment vis-à-vis the relevant environmental objective, but **with high improvement potential**. They make a substantial contribution if performed in a way that reduces the pressure on the environment compared to the baseline (i.e., the likely alternative scenario). Undertaking of the activity compared to a no activity taking place scenario would be a negative impact on the environment. However, the impact will be significantly lower compared to the activity that would likely be carried out instead. As a result, by substituting activities exerting higher environmental pressures there is a **substantial reduction of the environmental pressure**. This must be considered in the context of each environmental objective, and applicability may vary as detailed in section 6.
- Activities that have a **low environmental impact**:
 - And have the potential to **substitute high-impact activities**, therefore, significantly reducing the overall pressure that is exerted on the environment. This needs to be justified based on the life cycle consideration. A contribution in this context cannot be considered substantial if it shifts the environmental burden to another life cycle stage. While many activities across the economy have a low environmental impact (education for example), not all of them replace high impact activities. An example is electric vehicles that can make a substantial contribution by replacing more polluting vehicles internal combustion engines vehicles.
 - And are **helping to substantially reduce the pressure that other activities are exerting on the environment**. The environmental benefits achieved from reducing the environmental impact of other activities must substantially

outweigh the impact the activities themselves exert on the environment. Urban wastewater treatment is an example of such activities as this is an activity that substantially reduces the impact of activities discharging wastewater by removing pollutants from the wastewater effluent before it is further discharged back into the environment.

Directly improving the state of the environment (activities 'healing the environment')

The aim of this type of activities is to **enhance the environment and contribute to achieving a good environmental status**. These economic activities make a net positive contribution to the environment, therefore leading to a positive environmental impact.

Enabling activities

These are economic activities that **directly enable** other activities to make a substantial contribution. These are important to the broader application of the taxonomy beyond specific activities that make a direct substantial contribution. In line with Article 16 of the Taxonomy Regulation, these activities must not lead to lock in in assets that undermine long-term environmental goals and their environmental impact must be positive over the life cycle (i.e. the benefit that is enabled must be larger than the impact of the enabling activity).

Possible approaches

The term approach in this context refers to one of the ways to set **criteria**. The approach covers the way in which (1) the environmental performance of an activity is **measured or assessed** (e.g. quantitative vs. qualitative, units used) and (2) how the required level of environmental performance can be **defined** (e.g. implementation of certain practices, baseline or comparison group).

The seven approaches defined in the JRC methodology are:

- 1. Impact-based approach:** Criteria set using this approach require an activity to demonstrate a certain level of impact regarding the environmental objective considered. The impact is defined as the result of certain pressures (e.g. GHG emissions, water abstraction, etc.) that the activity exerts on the state of the environment (e.g. local water availability of the activity area, atmospheric GHG concentration, etc.). Hence, the impact will depend on the environmental performance of the activity (i.e. the pressures it exerts) but also on the context in which the activity takes place. Activities qualify if they operate above or below a given threshold.
- 2. Performance in relation to the environmental target:** criteria set using this approach require an activity to demonstrate a certain level of performance. Performance is

usually defined in terms of a *pressure* that the activity exerts on the environment (e.g. GHG emissions, water abstraction, etc.), although it could refer both to a positive or a negative pressure (i.e. a pressure leading to a worsening or to an improvement of the state of the environment). The performance is measured with a specific performance metric (direct or proxy) relating to the environmental objective considered. Activities qualify if they achieve a certain level of performance (such as meeting a threshold for CO₂e/km), derived from environmental considerations (e.g. with reference to scientific literature or EU policy that is based on scientific evidence). In contrast to the first approach, this performance-based approach is independent of the context in which the activity takes place and only relies on the intrinsic performance of the activity.

3. **Best-in-class performance:** Like for the previous approach, criteria set using this approach require an activity to demonstrate a certain level of environmental performance of the activity, defined as a pressure on the environment (which may be negative or positive), and measured under a relevant metric. Activities qualify if they operate above a threshold that is based on the performance currently achieved by the best performers (e.g. the level of performance achieved by the top 10% best activity operators in the EU).
4. **Relative improvement:** In this approach, the criteria require a minimum evolution of a given metric over time. This can be the performance improvement of an underlying activity or asset (e.g. improving the energy performance of a building for a renovation activity), the improvement in the state of the environment (e.g. reducing the amount of water pollutants by X% for a cleaning activity), etc. Activities qualify if they can demonstrate an improvement by at least a defined relative threshold (e.g. an energy efficiency improvement of at least 20% compared to a previous point in time).
5. **Practice-based:** Criteria set using this approach require an activity to demonstrate implementation of or compliance with a set of defined practices or a list of qualitative requirements that are likely to substantially reduce the pressure on the environment or to substantially improve the state of the environment. These criteria describe *how* the activity must be performed. Activities qualify if they follow those practices.
6. **Process-based:** Criteria set according to this approach define a number of qualitative process-based steps to determine how to reduce the pressure or enhance the state of the environment in the case of the specific activity. This approach makes it possible to cater for activities for which both a quantitative threshold or a defined list of qualitative requirements do not work well because the current thresholds or qualitative criteria need to be defined an ad-hoc basis and the criteria determine how to define them. Activities qualify if they follow the process steps detailed in the criteria and implement or achieve the requirements stemming for them.

7. **Nature of the activity:** Criteria set using this approach define the exact scope and description of the activity. Activities qualify if they fall within such scope/description. The activities are then taxonomy-aligned without being subject to quantitative or qualitative requirements.



Figure 9: The seven possible approaches

In order to ensure that the approach used for defining the technical screening criteria is suitable, it must meet the conditions set out in the article 19 of the Taxonomy Regulation. The four broad requirements are:

- policy coherence: where appropriate, the approach makes it possible to build on EU legislation, approaches and policy goals;
- environmental ambition and integrity: the approach makes it possible to follow scientific evidence and take into account life cycle considerations;
- level playing field: the approach allows fair treatment of activities within the same sector;
- usability of the criteria: the approach makes it possible to develop criteria that are of easy and unambiguous to implement and verify.

However, the degree of compliance of each approach with each requirement depends on the environmental objective, on the type of substantial contribution and on the sector and activity considered

Part B – Annex: Technical Screening Criteria (separate document)

The Annex with the full list of Technical Screening Criteria is available as a separate document.

Example Technical Screening Criteria Template

The following is an example of a technical screening criteria template to help you navigate the Annex to this report. The criteria themselves can be found in Part B of this report as a supplementary Annex.

Description of the activity

The activity is classified under NACE code XXX in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Substantial contribution to X	
xxxx	
Do no significant harm ('DNSH')	
(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	
Rationale	
xxx	