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Taxonomy for non-financial
undertakings:
summary reporting criteria
and extension to SMEs**

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EU Sustainability Taxonomy for non-financial undertakings: summary reporting criteria and extension to SMEs

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Abstract

The European Taxonomy defines in a technically robust way the system of sustainability objectives at the level of the European Union and the technical criteria for verifying which economic activities contribute to achieve the system of objectives. Compared to the current practices on sustainability, the EU Taxonomy introduces new and articulated principles for assessing the environmental sustainability of undertakings and new operational challenges, which are complex to implement. Indeed, the contents of the Taxonomy have a strong impact and therefore require in-depth analysis on many fronts.

The paper aims to contribute to shed light on the above issues, focusing on non-financial undertakings and pursuing 3 main objectives. The first objective of the paper is to disseminate the main contents of the Taxonomy. The second objective is to introduce general criteria to satisfy in order to represent the articulated contents required by the Taxonomy in an exhaustive and easy-to-consult summary reporting. The third objective concerns some preliminary reflections on possible ways of extending the Taxonomy to Small and Medium Enterprises (SMEs), which play a very significant role in the European economic system.

Keywords

EU sustainability taxonomy, environmental sustainability, sustainability plan, sustainable investment, ESG risk, climate change risk, transition risk, ESG sustainability report

JEL Codes

D81, K32, O21, Q50, Q51, Q56

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1. Introduction

1.1 Importance of the Taxonomy

The European Taxonomy defines in a technically robust way:

- The system of sustainability objectives at the European Union level.
- The technical criteria for verifying which economic activities make it possible to achieve the system of objectives and can therefore be considered "*environmentally sustainable*".

With respect to the 3 pillars of ESG sustainability (Environmental, Social, Governance), the Taxonomy currently focuses on the E (Environmental) pillar. The coverage of the other two pillars S and G are under discussion.

The adoption of the Taxonomy is relevant as it allows to pursue the following different objectives:

- To provide appropriate and homogeneous indications to undertakings and investors on which economic activities can be considered sustainable from an environmental point of view.
- To constitute an enabling factor for achieving the objectives set in the *European Green Deal*, as a strategy for transforming climate problems and environmental challenges into growth opportunities in all economic sectors. In this context, the *NextGenerationEU* constitutes an accelerating factor for the pursuit of the EU sustainability objectives.
- To limit the risk of *greenwashing*.
- To help undertakings to plan their transition process towards business models in line with a low-carbon economy.
- To constitute an important enabling factor for increasing sustainable investment of undertakings.
- To allow the adaptation of the financial system to support a sustainable economy, providing specific references to new European financial regulation (for banks, insurance firms and investment funds) on:
 - Credit processes;
 - Investment processes;
 - Financial products explicitly aimed at pursuing environmentally sustainable objectives as defined by the Taxonomy.
- To support the financial system in the process of reallocating capital flows (both debt and equity) in the EU internal market towards sustainable investments as defined by the Taxonomy.

1.2 Sources of regulation

The most significant sources of regulation related to European Taxonomy for sustainable investments are summarized below.

European Parliament and Council regulation

- *Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 (the so-called “Taxonomy Regulation”)*: this regulation establishes the criteria for determining whether an economic activity qualifies as environmentally sustainable for the purposes of establishing the degree to which an investment is environmentally sustainable. Doing so, it builds the basis for the EU Taxonomy.

European Commission delegated acts

- *Commission delegated regulation (EU) .../... of 4.6.2021 supplementing Regulation (EU) 2020/852 (the so-called “Climate Delegated Act”)*: in this delegated act are defined technical screening criteria for each environmental objective for the whole list of environmentally sustainable activities.
- *Annexes I and II to the Commission Delegated Regulation (EU) .../... of 4.6.2021 supplementing Regulation (EU) 2020/852*: in the annexes I and II of the Climate Delegated Act are defined the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially respectively to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives.
- *Commission delegated regulation (EU) .../... of 6.7.2021 supplementing Regulation (EU) 2020/852 (the so-called “Delegated Act on Article 8 of the Taxonomy Regulation”)*: this delegated act specifies the content, methodology and presentation of information to be disclosed by financial and non-financial undertakings concerning the proportion of environmentally sustainable economic activities in their business, investments or lending activities.
- *Annexes I to XI to the Commission Delegated Regulation (EU) .../... of 6.7.2021 supplementing Regulation (EU) 2020/852*: in the annexes I to XI are defined respectively the information and the template to use for the disclosure by financial and non-financial undertakings pursuant to Article 8 of the Taxonomy Regulation.

It should be noted that, at the time of writing, there are no references to the technical screening criteria for 4 of the 6 objectives of the Taxonomy.

1.3 Literature review

The scientific literature about the Taxonomy can be articulated in the following topics:

1. Approaches for the definitions of the technical screening criteria
2. Impact analysis of the technical screening criteria
3. Taxonomy usability, costs and scope of application
4. Taxonomy impact on financial undertakings

The contents of the main papers for each of the aforementioned topics are synthetically reported below. Instead, it should be noticed that this paper is focused on non-financial undertakings, a topic that, until now, is little treated from the scientific literature.

1. **Approaches for the definitions of the technical screening criteria**

Canfora, P., Dri, M., Polidori, O., Solzbacher, C., & Arranz Padilla, M. (2021, January). *Substantial contribution to climate change mitigation – a framework to define technical screening criteria for the EU taxonomy*. Joint Research Centre. Luxembourg: Publications Office of the European Union.

The authors of the paper, based on the experience gained working with the Technical Expert Group on Sustainable Finance (TEG), define technically the concept of substantial contribution to an environmental objective and classify the types of contribution that an economic activity can make (that are, improving the state of the environment, reducing the pressure on the environment, or enabling either of the two previous types). The paper outlines which specific approaches can be used to define a substantial contribution to climate change mitigation, and it develops the conditions of applicability of each suggested approach.

2. **Impact analysis of the technical screening criteria**

Schütze, F., Stede, J., Blauert, M., & Erdmann, K. (2020). EU Taxonomy - increasing transparency of sustainable investments. *DIW Weekly Report*, 10, 485-492.

To achieve the target of climate neutrality by 2050, undertakings and investors need to be well informed about which investments contribute to reducing greenhouse gas emissions and can therefore be classified as sustainable. The paper verifies to what extent the EU Taxonomy contributes to this objective. It concludes that only for certain economic sectors included in the Taxonomy, such as the automotive one, the technical screening criteria are compatible with a path towards climate neutrality. However, in other sectors, such as the emission-intensive basic materials sector, the criteria are insufficient. The presence of too loose criteria involves the risk of a carbon lock-in, that is, the entrenchment of technologies and not the transition to other production models (in these cases the investments could become stranded assets for investors). Instead, the EU taxonomy should offer incentives for innovations in decarbonising the economy. This can be achieved by setting stricter technical screening criteria for new investments and existing “*transitional*” economic activities.

3. Taxonomy usability, costs and scope of application

Schütze, F., & Stede, J. (2020, December). EU Sustainable Finance Taxonomy - What is its Role on the Road towards Climate Neutrality? *DIW Berlin Discussion Paper, 1923*.

This study takes up the results highlighted in the paper "*EU Taxonomy - increasing transparency of sustainable investments*" (Schütze et al., 2020) in which it was demonstrated how, for certain sectors included in the Taxonomy, the technical screening criteria are not yet sufficient to ensure the alignment with the pathways for achieving climate neutrality by 2050.

The paper, however, adds some important considerations on the scope of application of Regulation 2020/852. It states that the sectors included in the Taxonomy are responsible for a much lower share of employment and gross value added than emissions. In fact, it's highlighted that the same sectors responsible for threequarters of EU emissions have a share of 20 percent of employment and 28 percent of gross value added at NACE 2 level. In view of this data, the paper states that labour intensity is thus not a good indicator for carbon intensity. In addition, it is pointed out that since the European Non-Financial Reporting Directive (NFRD) makes reporting for non-financial information mandatory for undertakings with more than 500 employees, adding taxonomy-related information into the NFRD requirements will therefore add reporting requirements for some undertakings with low emissions, and exclude other companies with high emissions. To circumvent this issue, the authors suggest implementing an additional metric based on emission-intensity as a requirement for Taxonomy-related reporting under NFRD.

Och, M. (2020, November 15). Sustainable Finance and the EU Taxonomy Regulation - Hype or Hope? *Working Paper(2020/05)*. Leuven, Holland: Jan Ronse Institute for Company & Financial Law.

The paper sets out some of the main points of discussion about the EU Taxonomy. In particular, concerns about its usability, especially in light of the few data available, the cost of their collection, and the need for a more inclusive Taxonomy, which also covers "*less sustainable*" and "*not sustainable*" economic activities.

The paper also examines the impacts of the new proposal for a Corporate Sustainability Reporting Directive (CSRD) which will replace the current NFRD. Thus, all those companies complying with the CSRD, whether mandatory or voluntarily, will disclose data relevant for the Article 8 reporting under the Taxonomy Regulation, which currently refers to the NFRD. The paper highlight that, in relation to the NFRD, the scope of the CSRD is significantly wider, including all large companies, compared to only listed companies exceeding 500 employees. The scope furthermore includes a simplified reporting regime for listed SME's, thereby mitigating the risk that they might get excluded from investment portfolios altogether, as financial market participants want to facilitate their own sustainability disclosure. The paper also mentions that ESG information will become a common practice in the following years and will be used as a basis for many other transactions, such as bank loans, and will be increasingly required by customers.

4. Taxonomy impact on financial undertakings

Alessi, L., Battiston, S., Melo, A., & Roncoroni, A. (2019). *The EU Sustainability Taxonomy: a Financial Impact Assessment*. Joint Research Centre. Luxembourg: Publications Office of the European Union.

The report presents the results of a Taxonomy's financial impact assessment. It first provides an overview of the currently available macroeconomic estimates of the amount of investment required to achieve the transition targets towards a low-carbon economic system for various forward-looking scenarios. Subsequently, the report focuses on the financial dimension, analysing the entire European bond and equity market to provide a picture of the positioning of the European financial markets in relation to the low-carbon transition. In this regard, estimates of the financial investments that currently support Taxonomy-eligible assets are provided. Finally, the amount of financial investments needed to allow the EU to reach the target level of emissions reduction is estimated. The report concludes that most financial investments in Taxonomy-eligible sectors needed to reach the target level of emissions reduction appear to be within reach.

Birindelli, G., Palea, V., Trussoni, L., & Verachi, F. (2020, September). Climate Change: EU taxonomy and forward looking analysis in the context of emerging climate related and environmental risks. *Risk Management Magazine*(15), 48-64.

The paper analyses the impact that the transition process will inevitably have on banks' balance sheets, introducing new risks but also opportunities. The paper also discusses how banks should integrate climate risks into their organizational framework by assessing climate risks as financial risks and no longer just as mere reputational risks. Proposals for calculating conditional Probability of Default (PD) on transition risk are also presented.

1.4 Objectives of the paper

In the current practices, the objectives of sustainability still appear as an ambiguous concept from the analytical point of view, which leads to numerous misunderstandings.

In this context, the EU Taxonomy offers a key contribution by laying the foundations for the analytical definition of corporate sustainability plans and the classification of environmentally sustainable investments by financial institutions.

To achieve its aims, however, the Taxonomy introduces new and articulated principles for assessing the environmental sustainability of undertakings and new operational challenges, which are complex to implement.

Indeed, the contents of the Taxonomy have a strong impact and therefore require in-depth analysis on many fronts.

The paper aims to contribute to shed light on the above issues, focusing on non-financial undertakings and pursuing 3 main objectives.

The first objective of the paper is to disseminate the main contents of the Taxonomy.

The second objective is to introduce general criteria to satisfy in order to represent the articulated contents required by the Taxonomy in an exhaustive and easy-to-consult summary reporting.

The third objective concerns some preliminary reflections on possible ways of extending the Taxonomy to Small and Medium Enterprises (SMEs), which play a very significant role in the European economic system.

The remainder of the paper is organized as follows. Section 2 describes the main characteristics and the innovative elements of the Taxonomy (subject of the paper's first objective). Section 3 analyses the general criteria for structuring the summary reporting (subject of the paper's second objective). Section 4 discusses the extension of Taxonomy to SMEs (the subject of the paper's third objective). Section 5 concludes.

2. Main characteristics and innovative elements of the Taxonomy

In this section, the main characteristics of the Taxonomy will be first illustrated in paragraph 2.1. Then, in paragraph 2.2, its innovative elements in respect to the current sustainability practices will be highlighted. Finally, in paragraph 2.3, the expected significant impacts that these innovative elements will have on current sustainability practices will be analysed.

2.1 Main characteristics of the Taxonomy

The European Taxonomy defines in a technically robust way:

- The system of sustainability objectives at the European Union level;
- The technical criteria for verifying which economic activities contribute to achieve the system of objectives and can therefore be considered "*environmentally sustainable*".

With respect to the 3 pillars of ESG sustainability (Environmental, Social, Governance), the Taxonomy currently focuses on the E (Environmental) pillar. The coverage of the other two pillars S and G are under discussion. In particular, the Taxonomy allows to pursue the following different objectives:

- To provide appropriate and homogeneous indications to undertakings and investors on which economic activities can be considered sustainable from an environmental point of view.
- To limit the risk of *greenwashing*.
- To help undertakings to plan their transition process towards business models in line with a low-carbon economy.
- To support the financial system in the process of reallocating capital flows (both debt and equity) in the EU internal market towards sustainable investments as defined by the Taxonomy.

At the legislative level, the Taxonomy of the European Union is introduced by Regulation (EU) 2020/852 of 18 June 2020. In this paragraph the description of the Taxonomy structure is articulated in the following four themes:

Theme 1: Objectives and scope of application of the Regulation, discussed in sub-paragraph 2.1.1

Theme 2: Criteria for environmentally sustainable economic activities, discussed in sub-paragraph 2.1.2

Theme 3: Disclosure and transparency, discussed in sub-paragraph 2.1.3

Theme 4: Platform on Sustainable Finance, discussed in sub-paragraph 2.1.4

For each of the four themes, the most relevant articles of Regulation (EU) 2020/852 will be analysed.

2.1.1 Theme 1: Objectives and scope of application of the Regulation

The objectives and the scope of application of the Taxonomy are dealt with in Article 1, the text of which is reported in the following box:

<p>Article 1 <i>Subject matter and scope</i></p> <p>1. This Regulation establishes the criteria for determining whether an economic activity qualifies as environmentally sustainable for the purposes of establishing the degree to which an investment is environmentally sustainable.</p> <p>2. This Regulation applies to:</p> <p>a) measures adopted by Member States or by the Union that set out requirements for financial market participants or issuers in respect of financial products or corporate bonds that are made available as environmentally sustainable;</p> <p>b) financial market participants that make available financial products;</p> <p>c) undertakings which are subject to the obligation to publish a non-financial statement or a consolidated non-financial statement pursuant to Article 19a or Article 29a of Directive 2013/34/EU of the European Parliament and of the Council, respectively.</p>
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Paragraph 1 defines the objectives of Regulation 2020/852, that are to define a set of unambiguous criteria to determine whether an economic activity can be considered environmentally sustainable, with the aim of establishing the degree to which an investment is environmentally sustainable. Two important considerations can be derived from this:

- With respect to the three pillars of corporate sustainability ESG (Environmental, Social and Governance), Regulation 2020/852 currently focuses on the assessment of environmental sustainability, covering only the first, the so-called Pillar E (Environmental). However, is already being studied the expansion of the Taxonomy with the definition of criteria for determining social sustainability (Pillar S)¹.
- The assessment of environmental sustainability should not be carried out at the aggregate level of the undertaking, but it should be articulated for each individual economic activity that the undertaking carries out. Therefore, for every single undertaking the sustainability reporting and communication must be articulated at the level of the different economic activities.

Paragraph 2 defines the scope of the Regulation 2020/852. The provisions directly concern all companies subject to the obligation to draw up Non-Financial Statements (NFS) pursuant to articles 19a or 29a of Directive 2013/34/EU, namely:

¹ In this regard, see: Platform on Sustainable Finance. (July, 2021). *Draft Report by Subgroup 4: Social Taxonomy*. Draft Report.

- Undertakings which satisfy all the three following conditions:
 - Are large undertakings;
 - Are public-interest entities;
 - Exceeds on their balance sheet dates the criterion of the average number of 500 employees during the financial year.

- Undertakings which satisfy all the three following conditions:
 - Are parent undertakings of a large group;
 - Are public-interest entities;
 - Exceeds on their balance sheet dates, on a consolidated basis, the criterion of the average number of 500 employees during the financial year.

Although the undertakings directly impacted by the Regulation 2020/852 are large undertakings, the Taxonomy has significant indirect impacts on all undertakings, regardless of their size (including therefore SMEs). The reasons for these indirect impacts are as follows:

- Transition of the sectors included in the Taxonomy: the Regulation 2020/852 will result in a significant boost to the transition to new market contexts in all economic sectors included in the Taxonomy, with consequent significant impacts on the sources of supply, on production and on distribution of products and services. Consequently, for all undertakings belonging to the economic sectors included in the Taxonomy it will be necessary to reshape their business models in order to adapt to the transition paths of their sector.

- Supply chains: the Regulation 2020/852, having direct impacts on all large undertakings, will affect their entire supply chain. Therefore, SMEs belonging to these supply chains, but carrying out economic activities that are not environmentally sustainable, face the risk of losing their customers. This is because large companies, directly impacted by Regulation 2020/852, will be pushed to develop sustainable supply chains, selecting only suppliers whose business model already has sustainability characteristics.

- Transversal impacts on all sectors: the Regulation 2020/852 will promote the supply from renewable energy sources, the use of sustainable transport and, in general, the development of environmentally sustainable logistics, with a transversal impact on all economic sectors, even those not included directly in the Taxonomy. All undertakings, regardless of their size, will therefore have to manage the transition to such transversal impacts.

- Access to credit: at the regulatory level of financial intermediaries, the credit rating of the undertakings shall also be determined on the basis of ESG information, and the capital requirements of the banks' loans shall be differentiated according to the sustainability or not of the corporate projects to be financed. All undertakings, therefore, will be significantly impacted also from a financial point of view, both in terms of access to credit and in terms of the technical forms of financing to be adopted.

For further details on all these types of impacts, see paragraph 4.2.

2.1.2 Theme 2: Criteria for environmentally sustainable economic activities

It has been shown in paragraph 2.1.1 that Regulation 2020/852 aims to define a set of unambiguous criteria to determine whether an economic activity can be considered environmentally sustainable. These criteria are listed in Article 3, which is therefore the central article of the entire Regulation.

Article 3

Criteria for environmentally sustainable economic activities

For the purposes of establishing the degree to which an investment is environmentally sustainable, an economic activity shall qualify as environmentally sustainable where that economic activity:

- a) contributes substantially to one or more of the environmental objectives set out in Article 9 in accordance with Articles 10 to 16;
- b) does not significantly harm any of the environmental objectives set out in Article 9 in accordance with Article 17;
- c) is carried out in compliance with the minimum safeguards laid down in Article 18; and
- d) complies with technical screening criteria that have been established by the Commission in accordance with Article 10 (3), 11(3), 12(2), 13(2), 14(2) or 15(2).

According to the provisions of Article 3, from an operational point of view, the assessment of the environmental sustainability of an economic activity shall be carried out in the following three sequential steps:

Step 1: assess that the economic activity substantially contributes to the achievement of one or more environmental objectives (Article 3, criterion a) on the basis of specific indicators and thresholds detailed in the relative technical screening criteria (Article 3, criterion d).

Step 2: assess that the economic activity does not significant harm any of the remaining environmental objectives (Article 3, criterion b, the so-called DNSH principle), on the basis of specific indicators and thresholds detailed in the relative technical screening criteria (Article 3, criterion d).

Step 3: assess that the economic activity is carried out in compliance with the minimum safeguards (Article 3, criterion c).

When an economic activity jointly meets all the criteria in these three evaluation steps, it can be considered as environmentally sustainable under Regulation 2020/852 or be defined as "*Taxonomy Aligned*".

To detail the contents of the assessments to be performed in the three steps described above, it is necessary to deepen:

- Which are the environmental objectives present in the Regulation. Article 9 of Regulation 2020/852 is dedicated to this focus.

- What does it mean to "do not significant harm" an environmental objective (DNSH principle). Article 17 of Regulation 2020/852 is dedicated to this focus.
- What is meant by "minimum safeguards". Article 18 of Regulation 2020/852 is dedicated to this focus.
- Which are the characteristics of the "technical screening criteria". Article 19 of Regulation 2020/852 is dedicated to this focus.

Below we proceed to illustrate all the articles mentioned in the points above, in order to deepen the contents of the environmental sustainability assessments.

Focus on environmental objectives

To be considered sustainable, an economic activity must first of all make a substantial contribution to the achievement of one or more of the environmental objectives set out in Regulation 2020/852. There are six environmental objectives, and they are reported in Article 9, the content of which is shown below:

Article 9
Environmental objectives

For the purposes of this Regulation, the following shall be environmental objectives:

- a) climate change mitigation;
- b) climate change adaptation;
- c) the sustainable use and protection of water and marine resources;
- d) the transition to a circular economy;
- e) pollution prevention and control;
- f) the protection and restoration of biodiversity and ecosystems.

Each objective is described in detail in the following six articles, from 10 to 15 of the Regulation. The following is a quick description of each environmental objective:

- a) Climate change mitigation: described in Article 10 as the stabilization of greenhouse gases concentrations in the atmosphere.
- b) Climate change adaptation: described in Article 11 as the prevention and/or reduction of the effects of climate change risks on the economic activities carried out by the undertaking and therefore on the people and assets involved in these activities.
- c) Sustainable use and protection of water and marine resources: described in Article 12 as the achievement of good status of water bodies or the prevention of deterioration of water bodies that already have a good status.
- d) Transition to a circular economy: described in Article 13 as the transition to a circular economy, including waste prevention, re-use and recycling.

- e) Pollution prevention and control: described in Article 14 as prevention and reduction of pollutant emissions into the environment.
- f) Protection and restoration of biodiversity and ecosystems: described in Article 15 as protecting, conserving or restoring biodiversity, or achieving the good condition of ecosystems, or protecting ecosystems that are already in good condition.

It should be noted that the six environmental objectives set out in Article 9 represent a set of objectives that shall be pursued synergistically to ensure an effective transition process towards an environmentally sustainable economic system.

Focus on DNSH principle

An economic activity, in addition to contributing substantially to one or more environmental objectives, to be considered environmentally sustainable shall do not significant harm (DNSH principle) any of the other environmental objectives defined by the Regulation 2020/852. The definition of significant harm to environmental objectives is set out in Article 17, the content of which is shown below:

Article 17 <i>Significant harm to environmental objectives</i>
<p>a. For the purposes of point (b) of Article 3, taking into account the life cycle of the products and services provided by an economic activity, including evidence from existing life-cycle assessments, that economic activity shall be considered to significantly harm:</p> <ul style="list-style-type: none"> a) climate change mitigation, where that activity leads to significant greenhouse gas emissions; b) climate change adaptation, where that activity leads to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature or assets; c) the sustainable use and protection of water and marine resources, where that activity is detrimental: <ul style="list-style-type: none"> i) to the good status or the good ecological potential of bodies of water, including surface water and groundwater; or ii) to the good environmental status of marine waters; d) the circular economy, including waste prevention and recycling, where: <ul style="list-style-type: none"> i) that activity leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources such as non-renewable energy sources, raw materials, water and land at one or more stages of the life cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products; ii) that activity leads to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste; or iii) the long-term disposal of waste may cause significant and long-term harm to the environment; e) pollution prevention and control, where that activity leads to a significant increase in the emissions of pollutants into air, water or land, as compared with the situation before the activity started; or f) the protection and restoration of biodiversity and ecosystems, where that activity is:

- i) significantly detrimental to the good condition and resilience of ecosystems; or
- ii) detrimental to the conservation status of habitats and species, including those of Union interest.

2. When assessing an economic activity against the criteria set out in paragraph 1, both the environmental impact of the activity itself and the environmental impact of the products and services provided by that activity throughout their life cycle shall be taken into account, in particular by considering the production, use and end of life of those products and services.

The environmental objectives set out in Article 9 represent a set of objectives that shall be pursued synergistically to ensure an effective transition process towards an environmentally sustainable economic system. This synergy between the objectives requires that an economic activity that contributes to one of them does not significantly harm the others, so as to undermine the effectiveness of the transition process. In other words, the pursuit of one environmental objective shall not be achieved at the expense of the remaining ones.

For example, when carrying out an economic activity, it is not enough to adopt technologies which merely reduce CO₂ emissions, but it is necessary to adopt technologies that allow to reduce CO₂ emissions without simultaneously exacerbating the pollution of air, water or subsoil. In fact, achieving a low level of greenhouse gases emissions in a context of heavily compromised water resources and ecosystems would, in any case, not allow to reach an environmentally sustainable system condition.

For this reason, Regulation 2020/852 introduced the DNSH principle, requiring that the environmental sustainability of an economic activity should not be assessed only in terms of the substantial contributions to the environmental objectives that it allows to achieve, but shall also be assessed in a synergistic way the possible negative impacts on the remaining objectives that contribute to define the scope of environmental sustainability. The fulfilment of the DNSH principles by an economic activity means that, by contributing to one or more specific environmental objectives, it does not affect the achievement of the other objectives.

Paragraph 1 of Article 17 defines the meaning of "*significant harm*" for each of the six environmental objectives:

- a) Climate change mitigation: an economic activity significantly harms the climate change mitigation objective if it leads to significant greenhouse gas emissions (GHG).
- b) Climate change adaptation: an economic activity significantly harms the climate change adaptation objective if it leads to increased adverse impacts, deriving from current or future climate risks, on the economic activity itself or on people, natural environment and assets that are involved in it.
- c) Sustainable use and protection of water and marine resources: an economic activity significantly harms the objective of sustainable use and protection of water and marine resources, where that activity is detrimental to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters.
- d) Transition to a circular economy: an economic activity significantly harms the circular economy objective if that activity leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or if it leads to a significant increase in the

generation, incineration or disposal of waste, or if the long-term disposal of waste may cause significant and long-term harm to the environment.

- e) Pollution prevention and control: an economic activity significantly harms the objective of pollution prevention and control if that activity leads to a significant increase in the emissions of pollutants into air, water or land, as compared with the situation before the activity started.
- f) Protection and restoration of biodiversity and ecosystems: an economic activity significantly harms the objective of protection and restoration of biodiversity and ecosystems if that activity is significantly detrimental to the good condition and resilience of ecosystems, or detrimental to the conservation status of habitats and species.

In paragraph 2 of Article 17 it is also emphasized that the assessment of compliance with the DNSH principle for the different objectives must consider the environmental impacts of products and services provided by the economic activity throughout its life cycle. The impact assessment shall therefore be carried out by analysing the production, use and end-of-life stages of products and services offered by the economic activity.

In conclusion, it is emphasized that the DNSH principle plays a key role, as:

- It allows to define environmental sustainability on multiple dimensions and objectives, which are linked and interdependent.
- It allows to assess the environmental sustainability of an economic activity also considering the constraints due to the effects of interdependence among the different objectives.

The DNSH principle constitutes an absolutely distinctive element of the Taxonomy and of the multidimensional concept of environmental sustainability that the Regulation 2020/852 intends to promote.

Focus on minimum safeguards

Every economic activity, to be considered environmentally sustainable, must be carried out in compliance with the minimum safeguards. The definition of the minimum safeguards pursuant to the Regulation 2020/852 is found in Article 18:

Article 18

Minimum safeguards

1. The minimum safeguards referred to in point (c) of Article 3 shall be procedures implemented by an undertaking that is carrying out an economic activity to ensure the alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

2. When implementing the procedures referred to in paragraph 1 of this Article, undertakings shall adhere to the principle of 'do no significant harm' referred to in point of Article 2 of Regulation (EU) 2019/2088.

The minimum safeguards are a set of procedures that the undertaking shall implement in order to ensure that an economic activity is carried out in compliance with certain essential social principles laid down by the following international institutions:

- OECD Guidelines for Multinational Enterprises: these guidelines contain a set of recommendations from the Organization for Economic Cooperation and Development (OECD) to ensure that undertakings conduct their business responsibly. Although the recommendations of the OSCE guidelines are not binding, the countries that adhere to these guidelines are committed to promoting and implementing them among undertakings operating in their territories.
- United Nations Guiding Principles on Business and Human Rights: these guiding principles represent a global standard for preventing human rights violations in carrying out economic activities. They apply to all undertakings, of all sizes, in any sector, in any country; moreover, undertakings are individually held responsible for respecting human rights.

The introduction of minimum safeguards within the environmental sustainability assessment criteria has the purpose of ensuring that the pursuit of an environmental objective is not implemented by infringing certain minimum standards of social protection that must be guaranteed carrying out an economic activity. The minimum safeguard thus represents a first point of contact of Regulation 2020/852 with the social dimension (Pillar S) of corporate sustainability from an ESG perspective.

Focus on technical screening criteria

To be considered environmentally sustainable, an economic activity shall meet all the technical screening criteria defined by the European Commission. The general requirements of these technical screening criteria are explained in Article 19, the content of which is shown in the box below:

Article 19

Requirements for technical screening criteria

1. The technical screening criteria established pursuant to Articles 10(3), 11(3), 12(2), 13(2), 14(2) and 15(2) shall:
 - a) identify the most relevant potential contributions to the given environmental objective while respecting the principle of technological neutrality, considering both the short- and long-term impact of a given economic activity;
 - b) specify the minimum requirements that need to be met to avoid significant harm to any of the relevant environmental objectives, considering both the short- and long-term impact of a given economic activity;

- c) be quantitative and contain thresholds to the extent possible, and otherwise be qualitative;
- d) where appropriate, build upon Union labelling and certification schemes, Union methodologies for assessing environmental footprint, and Union statistical classification systems, and take into account any relevant existing Union legislation;
- e) where feasible, use sustainability indicators as referred to in Article 4(6) of Regulation (EU) 2019/2088;
- f) be based on conclusive scientific evidence and the precautionary principle enshrined in Article 191 TFEU;

It is necessary to emphasize that the technical screening criteria represent the pivotal analytical and operational tool of the whole process of assessing the environmental sustainability of an economic activity.

In particular, in accordance with letters (a) and (b) of Article 19, the technical screening criteria can be defined as a set of unambiguous criteria that allow you to determine:

- Under what specific conditions it can be considered that an economic activity contributes substantially to the achievement of one of the environmental objectives (and therefore meets the content of Article 3, letter a).
- Under what specific conditions it can be considered that an economic activity does not significant harm one or more of the other objectives, namely the DNSH principle (and therefore meets the content of Article 3, letter b).

The set of technical screening criteria is thus divided into criteria for the substantial contribution to the objectives (Article 19, letter a) and criteria to avoid significant harm (Article 19, letter b).

According to the foregoing, it can therefore be stated that the compliance of an economic activity with the relevant technical screening criteria for a given environmental objective (i.e., the satisfaction of the content of Article 3, letter d) entails simultaneously:

- The compliance with the principle of substantial contribution to this environmental objective.
- The compliance with the principle of do not significant harm (DNSH) the remaining environmentally sustainability objectives.

The other key requirements of the technical screening criteria are listed below:

- First of all, according to the provisions of Article 19, letter (c), whenever possible the technical screening criteria must be defined as quantitative criteria with clarification of thresholds containing limit values; alternatively, explicit qualitative criteria should be used.
- Secondly, as can be seen from the reading of Article 19, letters (a) and (b), the criteria must be constructed considering the impacts both in the short and in the long term that can be produced by an economic activity towards each environmental goal.

- Finally, Article 19, letter (f), which establishes that the content of the technical screening criteria must be determined on the basis of irrefutable scientific evidence, is fundamental, thus leaving no room for subjective interpretative margins and allowing the adoption of a scientific and unambiguous certification of the environmental sustainability of an economic activity.

As an example of the level of detail of the technical screening criteria adopted in the Taxonomy, the following box shows the technical screening criteria for the assessment of the substantial contribution to the climate change mitigation objective (Article 9, letter a) for the economic activity of cement manufacturing².

The activity manufactures one of the following:

- a) grey cement clinker where the specific GHG emissions are lower than 0,722 tCO₂e per tonne of grey cement clinker;
- b) cement from grey clinker or alternative hydraulic binder, where the specific GHG emissions from the clinker and cement or alternative binder production are lower than 0,469 tCO₂e per tonne of cement or alternative binder manufactured.

Where CO₂ that would otherwise be emitted from the manufacturing process is captured for the purpose of underground storage, the CO₂ is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

It should be noted that the technical screening criteria for activity (a) of the example specify:

- the variable to be measured and its unit of scale (specific emissions of greenhouse gases with units of measurement of tCO₂e per ton)
- the quantitative threshold on the variable to define the fulfilment of the substantial contribution (less than 0.722 tCO₂e per ton)

If the economic activity of cement manufacturing carried out by an undertaking complies with the above-mentioned technical screening criteria, the substantial contribution of that economic activity to the climate change mitigation objective could be considered fulfilled.

Finally, it should be noted that the content of the technical screening criteria is not reported within the 2020/852 Regulation. In fact, the technical screening criteria are defined by the European Commission for each of the six environmental objectives through a Delegated Act.

At the time of writing, the European Commission has published the technical screening criteria relating only to the first two environmental objectives (climate change mitigation and climate change adaptation) through the adoption of the so-called Climate Delegated Act on June 4, 2021.

The technical screening criteria for the remaining four environmental objectives will also be adopted by means of a Delegated Act by 31/12/2021.

² European Commission. (2021, June 4). Annex I of Climate Delegated Act

2.1.3 Theme 3: Disclosure and transparency

The Taxonomy Regulation introduces a set of disclosure and transparency requirements on the outcomes of the environmental sustainability assessment of economic activities carried out by undertakings. The articles relating to these obligations range from Article 4 to Article 8.

In particular, the disclosure and transparency requirements concern the following three topics:

Topic 1: qualification of environmentally sustainable activities (Art.4).

Topic 2: transparency of financial products (Art. 5, 6, 7).

Topic 3: non-financial statements produced by financial and non-financial undertakings (Art.8).

Topic 1: qualification of environmentally sustainable activities

Article 4, entitled "*Use of the criteria for environmentally sustainable economic activities in public measures, in standards and in labels*" establishes that the qualification of environmental sustainability according to the Taxonomy criteria must be used for all disclosure requirements relating to the environmental sustainability of an economic activity. These disclosure requirements include the regulatory sources of the European Union and the Member States, labels and financial products.

Topic 2: transparency of financial products

Financial products are differentiated according to the different levels of compliance with the contents of the Taxonomy with regard to the economic activities on which they invest. A distinction is therefore made between "*Taxonomy-compliant*" financial products, which are dealt with in Article 5, and non-"*Taxonomy-compliant*" financial products, which are dealt with in Article 6 (relating to products which nevertheless promote environmental characteristics, even if they do not comply with the Taxonomy criteria) and in Article 7 (relating to products which do not pursue environmental sustainability objectives).

Article 5, entitled "*Transparency of environmentally sustainable investments in pre-contractual disclosures and in periodic reports*", deals with "*Taxonomy-compliant*" financial products, establishing transparency requirements for financial products investing in economic activities aligned with Taxonomy, or economic activities that meet the four environmental sustainability criteria set out in Article 3 of the Regulation. For these financial products, the information to be disclosed shall be the following:

- a) Information on the one or more environmental objectives to which contributes the economic activity that is financed through the investment underlying the financial product.
- b) A description of how and to what extent the investments underlying the financial product are in economic activities that qualify as environmentally sustainable.

Articles 6 and 7, on the other hand, deal with non-"*Taxonomy-compliant*" financial products, distinguishing respectively those that still promote environmental characteristics (Article 6) and all other financial products (Article 7).

In particular, Article 6, entitled "*Transparency of financial products that promote environmental characteristics in pre-contractual disclosures and in periodic reports*", refers to financial products that promote environmental characteristics. The concept of "*promotion of environmental characteristics*" refers to economic activities that pursue some sustainability objective but are not fully aligned with the Taxonomy criteria. They are therefore non "*Taxonomy-compliant*" or only partially "*Taxonomy-compliant*" financial products. For these products, Article 6 states that the information to be disclosed in the pre-contractual disclosure and in the periodic reports are always accompanied by the following statement:

"The - do no significant harm - principle applies only to those investments underlying the financial product that take into account the EU criteria for environmentally sustainable economic activities. The investments underlying the remaining portion of this financial product do not take into account the EU criteria for environmentally sustainable economic activities"

This statement is necessary to give knowledge to the potential subscriber of the product that the economic activities in which the product invests are not fully "*Taxonomy-compliant*".

Instead, Article 7, entitled "*Transparency of other financial products in pre-contractual disclosures and in periodic reports*", refers to financial products that do not pursue any environmental sustainability objective. According to this article, the information to be disclosed in the pre-contractual disclosure and in the periodic reports are always accompanied by the following statement:

"The investments underlying this financial product do not take into account the EU criteria for environmentally sustainable economic activities"

This statement is necessary to give knowledge to the potential subscriber of the product that the economic activities in which the product invests do not pursue any environmental sustainability objective and are in no way "*Taxonomy-compliant*".

Topic 3: non-financial statements produced by financial and non-financial undertakings

Article 8 introduces a set of provisions that apply to all undertakings subject to the obligation to draw up the Non-Financial Statement (NFS) and which concern additional information content in relation to what is already provided for NFS.

Given the relevance of this article for the evolution of environmentally sustainability disclosure, we report below the content and dedicate more space to its deepening.

Article 8

Transparency of undertakings in non-financial statements

1. Any undertaking which is subject to an obligation to publish non-financial information pursuant to Article 19a or Article 29a of Directive 2013/34/EU shall include in its non-financial statement or consolidated non-financial statement information on how and to what extent the undertaking's activities are associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9 of this Regulation.
2. In particular, non-financial undertakings shall disclose the following:

a) the proportion of their turnover derived from products or services associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9; and

b) the proportion of their capital expenditure and the proportion of their operating expenditure related to assets or processes associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9.

4. The Commission shall adopt a delegated act in accordance with Article 23 to supplement paragraphs 1 and 2 of this Article to specify the content and presentation of the information to be disclosed pursuant to those paragraphs, including the methodology to be used in order to comply with them, taking into account the specificities of both financial and non-financial undertakings and the technical screening criteria established pursuant to this Regulation. The Commission shall adopt that delegated act by 1 June 2021.

Article 8 paragraph 1 provides that undertakings subject to publication of the NFS must communicate, within the NFS itself, information on how and to what extent the economic activities they carry out can be considered sustainable from an environmental point of view, according to the provisions of the environmental sustainability assessment criteria listed in Article 3 of the Regulation.

It should be noted that the European Commission, on 21 April 2021, presented a proposal for the revision of Directive 2013/34/EU the so-called "*proposal for a Corporate Sustainability Reporting Directive (CSRD)*"³. Among the updates provided by the proposed legislation, is highlighted the intention to broaden the scope of undertakings subjected to the obligation to draw up NFS by lowering the size limits to include SMEs listed in European markets. The approval of the CSRD would consequently lead to the extension of the undertakings subjected to the provisions of Article 8.

Article 8, paragraph 2 specifies a set of Key Performance Indicators (KPIs) that non-financial undertakings shall disclose within the NFS, in a proper section:

- The proportion of their turnover derived from products or services associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9, the so-called Turnover KPI.
- The proportion of their capital expenditure (CapEx KPI) and the proportion of their operating expenditure (OpEx KPI) related to assets or processes associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9.

Article 8 does not explicitly refer to KPIs for financial undertakings. However, paragraph 4 requires the Commission to adopt, by 1 June 2021, a Delegated Act to further specify the content, methodology and presentation of the information to be disclosed by both non-financial undertakings (therefore in relation to Turnover KPI, CapEx KPI and OpEx KPI) and financial ones. On July 6, 2021, the Commission drew up the Delegated Act on Article 8 of Regulation 2020/852.

³ Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting

Given the relevance of the topic, in Appendix 1 is proposed a summary analysis of the contents of the Delegated Act on Article 8 in order to explain the details of the main disclosure requirements that financial and non-financial undertakings will have to comply with.

Returning to the contents of Article 8, it is essential to point out that the provisions contained in paragraph 2 introduce significant innovations in the disclosure and representation of the undertakings' performances.

Traditionally, in fact, the KPIs used for assessing the performance of an undertaking have been divided into two main categories:

- KPIs at economic and financial level

- KPIs at the ESG corporate sustainability level, divided into three subcategories:
 - KPI Environmental (Pillar E)
 - KPI Social (Pillar S)
 - KPI Governance (Pillar G)

According to the regulations prior to Regulation 2020/852, in the Non-Financial Statements produced by undertakings, the KPIs that are presented are purely related to the ESG dimensions, without explaining how sustainability strategies are integrated with the economic and financial dynamics.

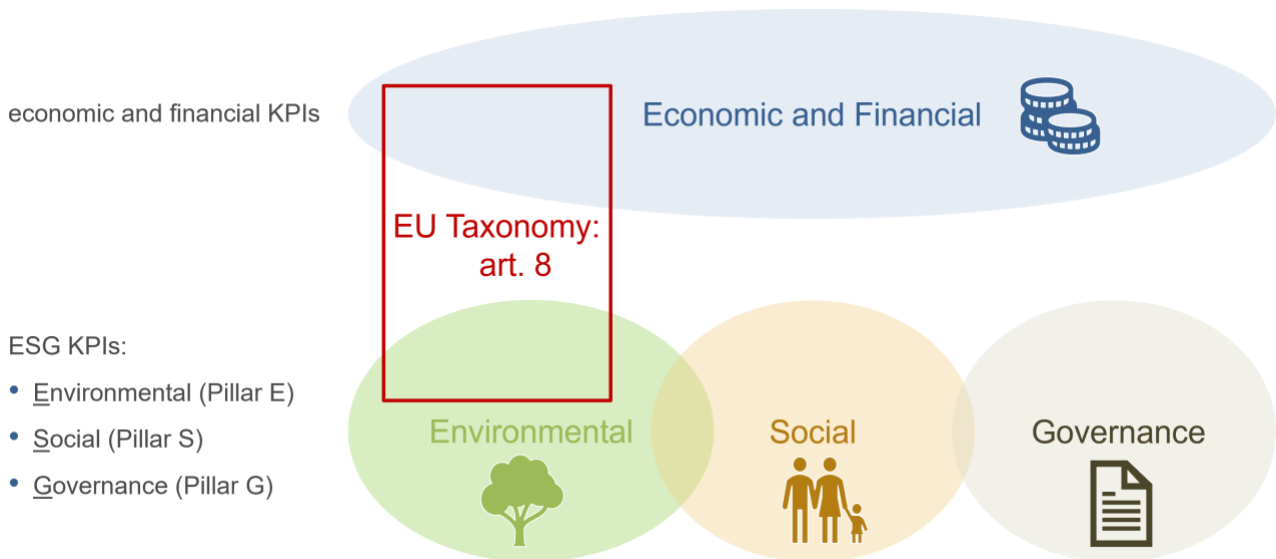
On the other hand, the innovations introduced by the Taxonomy Regulation profoundly modify this logic of representation, which sees corporate sustainability and economic-financial performance as two parallel and substantially independent dimensions, disclosed in separate reports.

In particular, Article 8, paragraph 2, introduces an explicit link between the ESG KPIs and the undertaking's economic and financial KPIs.

In fact, the environmental KPIs in the technical screening criteria allow to identify environmentally sustainable and non-environmentally sustainable economic activities, each of which must subsequently be associated with the KPIs at the economic and financial level (Turnover, CapEx, OpEx).

Therefore, the Taxonomy Regulation require an interdependent vision of the sustainability performance (currently relating only to the environmental dimension) and the economic and financial performance of the undertaking.

The link between ESG KPIs and economic and financial KPIs introduced by Article 8 is represented in the following figure:



Finally, it is useful to report in this paragraph some relevant conclusions that can be deduced from the analysis of the contents of Appendix 1 concerning the Delegated Act on Article 8.

In particular, the Delegated Act introduces an instrument called "*Capex Plan*", which consists of a formal planning document (sustainability plan) in which the undertaking shall explain its objectives set in order to make its economic activities environmentally sustainable according to the criteria of the Taxonomy.

In the CapEx Plan, the environmental sustainability objectives shall be articulated in short and medium-long term.

Furthermore, to achieve the environmental sustainability of the economic activities carried out, the target values set in the CapEx Plan must necessarily refer to the variables and thresholds contained in the technical screening criteria.

Finally, the plan must specify the operational expenses (OpEx) and capital expenses (CapEx) that are intended to be incurred to achieve the identified environmental sustainability objectives.

The introduction of the CapEx Plan entails the obligation to explicitly consider in the reporting also the idiosyncratic forward-looking information referring to the undertaking's environmental sustainability objectives.

Article 8 therefore requires undertakings to integrate in the reporting both traditional backward-looking information and idiosyncratic forward-looking information regarding corporate transition plans.

In brief, therefore, Article 8 requires two forms of information integration in the disclosure requirements by undertakings:

- 1) Integration of environmental sustainability KPIs and economic and financial KPIs
- 2) Integration of backward-looking information and idiosyncratic forward-looking information.

2.1.4 Theme 4: Platform on Sustainable Finance

Given the significant complexity of the contents of the technical screening criteria and, in general, of the provisions on the Taxonomy, the Regulation itself provides, in Article 20, that the Commission establishes a so-called "*Platform on Sustainable Finance*" with the aim of supporting it by a technical and scientific point of view.

Article 20 of the Regulation is presented in the box below and subsequently will be outlined the role of the Platform within the Taxonomy framework.

Article 20
Platform on Sustainable Finance

1. The Commission shall establish a Platform on Sustainable Finance (the 'Platform'). It shall be composed in a balanced manner of the following groups:

- a) representatives of:
 - i) the European Environment Agency;
 - ii) the ESAs;
 - iii) the European Investment Bank and the European Investment Fund; and
 - iv) the European Union Agency for Fundamental Rights;
- b) experts representing relevant private stakeholders, including financial and non-financial market participants and business sectors, representing relevant industries, and persons with accounting and reporting expertise;
- c) experts representing civil society, including persons with expertise in the field of environmental, social, labour and governance issues;
- d) experts appointed in a personal capacity, who have proven knowledge and experience in the areas covered by this Regulation;
- e) experts representing academia, including universities, research institutes and other scientific organisations, including persons with global expertise.

The Sustainable Finance Platform is an expert group set up by the European Commission. It is composed of European Authorities with significant experience in sustainability issues and in the sectors covered by the Taxonomy. These Authorities represent a wide range of stakeholders including financial markets, industry, civil society and academia.

The main objective of the Platform is to provide high-level technical and scientific advice to the European Commission on various topics related to the further development of the Taxonomy framework and to provide technical support to the Commission in drawing up the Delegated Acts required by the Taxonomy Regulation.

Based on the mandate referred to in Article 20 of the Regulation, the Platform has already started working on four main areas:

- Provide advice to the Commission on the development of technical screening criteria, analysing the impact of their application on the economic sectors of interest in terms of potential costs and benefits, as well as on the possible need to update the criteria.

- Provide advice to the Commission for the ongoing revision of the Taxonomy Regulation and on the coverage of other sustainability objectives, especially on the integration of social objectives.
- Analyse capital flows on financial markets to monitor the reallocation process towards sustainable investments.
- Provide broader advice to the Commission on possible sustainable finance policies.

2.2 Innovative elements of the Taxonomy

The Taxonomy, the main characteristics of which have been described in the previous paragraph 2.1, presents several significant innovative elements, which are analysed below.

- It is the first case, at the international level, in which a regulation has been adopted for defining environmental sustainability objectives for all economic activities at the level of an entire continent, adopting an approach based on specific indicators (technical screening criteria) and thus avoiding the "*principle based*" approach which instead leaves greater degrees of freedom in the application of the rule.
- It adopts a multidimensional vision of environmental sustainability, defining six joint objectives that are declined through technical variables and scientifically based thresholds (technical screening criteria). In the Taxonomy, therefore, it is not only considered the objective of reducing greenhouse emissions, but it is recognized that to preserve our life on the planet it is equally necessary to act simultaneously on the other five objectives (preserving water resources, preserving biodiversity, containing air and soil pollution, etc.).
- It adopts the DNSH principle, according to which it must be systematically verified that the achievement of an environmental sustainability objective is not pursued at the expense of the other objectives.
According to the DNSH principle, it is not enough to reduce emissions, but it is also necessary to systematically verify that the technological solution adopted to reduce emissions does not harm water, soil, increase in waste, etc.
The adoption of the DNSH principle certainly increases the complexity of the Taxonomy, but this complexity is necessary in order to consider the significant interaction effects that actually occur among the objectives and thus avoid the negative impacts that the pursuit of an objective may cause on the achievement of the other objectives.
- It introduces the breakdown into individual economic activities carried out by the undertaking for the assessment of environmental sustainability. This articulation is necessary in order to be able to adopt the quantitative analytical approach based on technical screening criteria; these criteria can in fact be properly set only at the level of specific economic activity for specific sector.
It should be noted that the breakdown into individual economic activities does not make it possible, according to the logic of the Taxonomy, to evaluate environmental sustainability directly at the aggregate level of the undertaking.
- It introduces the distinction of economic activities into non-eligible, eligible and aligned with the technical screening criteria. This distinction is necessary in order to identify among the different economic activities:
 - Those which cannot in any way contribute to the achievement of the environmental objectives defined in the Taxonomy (non-eligible economic activities);
 - Those on which it is possible to define a sustainability plan (CapEx Plan) so that in the future they can contribute to the achievement of the environmental objectives defined in the Taxonomy (eligible economic activities);
 - Those which currently contribute to the achievement of the environmental objectives defined in the Taxonomy (aligned economic activities).

- It establishes a process of structured data collection on ESG indicators:
 - Listed through KPIs predefined, where possible, at the regulatory level by the technical screening criteria;
 - Where possible having quantitative nature but, however, requiring the collection of qualitative information to describe and motivate the measurement of quantitative indicators;
 - At a backward-looking level regarding the current values of ESG indicators;
 - At a forward-looking level regarding the target values of the ESG indicators to be formalized in the sustainability plan (CapEx Plan).

- It requires *ex lege* the formulation of a formal sustainability plan (Capex Plan) to increase the contribution of the economic activities carried out by the undertaking to the achievement of environmental sustainability objectives.
This plan shall consider target values:
 - Articulated in the short and long term, as transition processes generally require significant implementation times;
 - Related to the variables and thresholds contained in the technical screening criteria.

- It requires an integrated analysis of the environmental performance and the economic and financial performance of the undertaking, explaining the link between the ESG KPIs, identifiable within the technical screening criteria, and the economic and financial KPIs.
This integrated analysis allows to identify:
 - The economic and financial impacts of the sustainability plans
 - The share of turnover, operating costs and fixed assets associated with the economic activities aligned with the Taxonomy.

2.3 Analysis of the main impacts of the Taxonomy on current sustainability practices

Due to its innovative elements, which were analysed in the previous paragraph 2.2, the Taxonomy has significant impacts on current sustainability practices, in terms of:

- logic for defining objectives;
- sustainability assessment processes implemented by undertakings;
- adopted metrics and indicators;
- reporting and disclosure.

The main impacts on current practices are analysed below.

- The Taxonomy Regulation, instead of international principles freely chosen by undertakings, represent a highly articulated regulation on how to define sustainability objectives and metrics to be adopted.
Until now, adopting international principles (for example the Global Reporting Initiative (GRI) standards widely adopted in current NFS) there has been a lot of freedom for undertakings to define their sustainability objectives and how to measure them.

Instead, the Taxonomy will introduce many regulatory constraints for undertakings in defining their sustainability objectives and the way they measure them. These more binding constraints are necessary to achieve a greater system-level homogeneity in business practices, both in terms of defining the environmental objectives and in assessing the results achieved.

- The European Taxonomy introduces a more articulated, time-consuming and expensive process for assessing the environmental sustainability.

In fact, it introduces the Taxonomy Alignment process for undertakings, which from an operational point of view must be performed in the following three sequential steps:

1. The economic activity substantially contributes to the achievement of at least one of the environmental objectives, where the substantial contribution is assessed on the basis of compliance with the respective technical screening criteria. In other words, an economic activity makes a substantial contribution to a given environmental objective if it is aligned with the relative technical screening criteria which define the requirements that that economic activity must meet in order to make a substantial contribution to the environmental objective of interest.
2. The economic activity does not cause significant harm (DNSH principle) to any of the remaining environmental objectives, where fulfilment with the DNSH principle is assessed on the basis of compliance with the respective technical screening criteria. In other words, an economic activity complies with the DNSH principle towards the remaining environmental objectives if it is aligned with the relevant technical screening criteria which define the requirements that that economic activity must comply with in order not to cause significant damage to the remaining environmental objectives.
3. The economic activity is carried out in compliance with the minimum safeguards.

- The assessment of Taxonomy Alignment is more complex and expensive than the current environmental sustainability assessment carried out by undertakings, because:

- It shall be carried out for each economic activity and not directly at the aggregate level of the undertaking;
- It shall be conducted on the basis of the full articulation and detail of the technical screening criteria;
- It shall consider not only the substantial contribution to the environmental objectives, but also the DNSH principle.

- The assessment of Taxonomy Alignment is a new topic for all undertakings, even those with more experience in the formulation of Non-Financial Statements, as it introduces new logics for defining objectives, KPI typologies and report contents that are completely different from those required so far by international best practices.

This new context is introduced with the need to standardize the internal assessments of undertakings, to increase information transparency on the transition process and to limit greenwashing.

- The European Taxonomy requires to assess the environmental sustainability in terms of individual economic activities, making any type of environmental sustainability assessment conducted directly at the aggregate level of the undertaking as non-compliant with the regulation.
- The Taxonomy Alignment assessments are not consistent with:
 - Many of the contents of the current NFSs, which are drawn up according to "principle based" international best practices;
 - The principles for assigning the current ESG ratings: all the most popular ESG ratings are based on attribution methodologies that do not consider the individual economic activities of the companies and that assign the score to Pillar E considering the undertaking as a whole.
- The Taxonomy requires formalizing ESG sustainability plans for all undertakings. Until now, the disclosure of the sustainability plans has been incomplete and, in any case, non-homogeneous in its contents. Instead, the Taxonomy will introduce new disclosure requirements on sustainability plans (CapEx Plan) at the regulatory level, binding undertakings to define target values referring to variables and thresholds contained in the technical screening criteria.
- The Taxonomy requires to formalize the assessment of the impacts of the sustainability performance on the economic and financial performance. Until now, the sustainability performance and the economic and financial one have been assessed in parallel and the results have been disclosed in separate reports by the undertakings. Instead, the Taxonomy will introduce new requirements to disclose:
 - The economic and financial impacts of the sustainability plans;
 - The share of turnover, operating costs and fixed assets associated with the economic activities aligned with the Taxonomy.

3. Summary reporting: general criteria to satisfy

In the previous paragraph it has been shown that the information required by the Taxonomy is very articulated and is therefore complex to analyse and synthesize by the stakeholders, both internally and externally to the undertakings.

The indications provided by the Taxonomy Alignment assessments' outcomes are important:

- For internal management purposes of the undertaking, in particular to support the formulation of the sustainability plan (Capex Plan);
- For the disclosure to external stakeholders, especially for financial stakeholders and customers.

However, the level of detail and the multiple assessment's steps required by the Regulation entail the following issues for the stakeholder:

- The need to spend a lot of time analysing very articulated information;
- The need to interpret the marginal contribution and therefore the relevance of the individual detailed information constituted by every single technical screening criterion;
- The difficulty of arriving at a summary that allows identifying the strengths and weaknesses of the undertaking with regard to its environmental sustainability.

The formulation of a summary reporting is therefore of fundamental importance to allow stakeholders to effectively use the information of the Taxonomy, but involves significant implementation difficulties as it requires addressing the issues outlined above.

This paragraph proposes the general criteria to be met in order to draw up a summary report that allows to represent in an easy-to-consult manner all the articulated information required by the Taxonomy Alignment assessment process.

In particular, it is not intended to present a single specific format to use for the reports' formulation, as a single format cannot be suitable to meet the different needs of individual undertakings on such an articulated topic.

Instead, it appears preferable, first of all, to set up a framework to define the list of specific issues to address in formulating the summary report and illustrate their relevance. Subsequently, in relation to this framework, it has to be provided the general criteria that must be met for addressing each specific issue, in order to ensure an exhaustive and robust report, without losing any relevant content in the summary.

Given their general meaning, these criteria can be considered to promote the formulation of robust summary reports and therefore the disclosure of information that can be effectively consulted by all stakeholders.

The objective of the paper is that these general criteria can be a reference for setting up individual reports based on the needs and peculiarities of the single undertakings, but in a reasoned and robust way, without neglecting any relevant element.

In order to define these general criteria, it was necessary to have an application environment to experiment and analyse all the steps and the relative issues of the Taxonomy Alignment process that shall be carried out by undertakings.

To this end, a prototype tool has been internally developed to carry out the entire Taxonomy Alignment process in a structured way.

On the basis of the experimentation carried out with the use of this prototype tool⁴, the general criteria to be met in order to formulate a summary report were divided into three categories: criteria for defining the number of report's sections, criteria for representing the assessment's outcomes, criteria for representing the causes of the assessment's outcomes.

The three categories of general criteria are described in the following three paragraphs.

3.1 Criteria for defining the number of report's sections

The first category of criteria concerns the definition of the number of sections according to which to organize the structure of the summary report.

Criterion 1.1

Surely the first section of the report must consider the Taxonomy Alignment assessment's final outcomes, in terms of eligibility or alignment of the different economic activities.

An example of this first section, concerning the Taxonomy Alignment assessment's outcomes, is provided directly by the regulation in the templates that can be found in Annex II of the Delegated Act on Article 8, which is reported in Appendix 2.

It should be noted that the Annex II refers to the representation of economic and financial KPIs (Turnover, OpEx, CapEx). Regarding the Taxonomy alignment assessment's outcomes, which is the subject of the criterion under analysis, the structure of the templates in the Annex II also considers the list of the different economic activities divided in aligned activities and eligible activities.

Criterion 1.2

Is it sufficient to present all the assessment's outcomes in the same section, as in the example of Annex II shown in Appendix 2, or is it preferable to organize the representation of the different assessment's outcomes in a more structured way on several sections?

For example, a more structured representation of the assessment's outcomes may include three distinct sections: a first section for aligned activities, a second section for eligible activities and a third section for non-eligible activities.

Criterion 1.3

Is it sufficient to consider only the sections to represent the Taxonomy Alignment assessment's final outcomes or it is necessary to provide other sections in which present other additional information, as, in particular, the causes of the assessment's outcomes?

In the first case, the report does not provide the information on the causes of the assessment's outcomes. The templates in Annex II, shown in Appendix 2, are an example of this first case. These regulatory templates don't consider any information on the causes of the assessment's outcomes.

⁴ The research results have been presented and discussed with some Italian corporates and banks. On the base of the positive feedback, a research spin-off of the Venice University, KnowShape, has implemented a market solution that can be adopted by firms and banks. For more information see www.knowshape.com

In the second case, the report should indicate the causes of the assessment's outcomes, otherwise the stakeholder is not able to form an idea about the degree of environmental sustainability of the undertaking. Therefore, in order to provide the information on the causes of the assessment's outcomes, it is necessary to introduce additional sections in the report.

In other words, the additional sections that can be introduced on the basis of this criterion 1.3 contain the information on the causes of the assessment's outcomes contained in the previous sections, defined on the basis of criteria 1.1 and 1.2.

Criterion 1.4

The number of sections on the causes of the assessment's outcomes, introduced on the basis of the previous criterion 1.3, depends on the articulation and the level of depth with which is intended to represent the information on the causes themselves.

3.2 Criteria for representing the assessment's outcomes

The second category of criteria concerns the form of representation of the Taxonomy Alignment assessments' outcomes.

Criterion 2.1

In the representation of the assessments' outcomes there are four types of regulatory constraints that must be satisfied in the formulation of the summary report:

1. To articulate the representation of the assessments' outcomes for each individual economic activity.
2. To articulate the representation of the assessments' outcomes for non-eligible, eligible and aligned activities.
3. To articulate the representation of the assessments' outcomes for the six environmental objectives (mitigation, adaptation, water, circular economy, pollution, biodiversity)
4. To articulate the representation of the assessments' outcomes for the six DNSH criteria with respect to the six environmental objectives.

An example of these constraints on the representation of the Taxonomy Alignment assessments' outcomes is provided directly by the regulation in the templates that can be found in Annex II of the Delegated Act on Article 8, which is reported in Appendix 2.

It should be noted that Annex II refers to the representation of economic and financial KPIs (Turnover, OpEx, CapEx). Regarding the Taxonomy alignment assessment's outcomes, which is the subject of the criterion under analysis, the structure of the templates however also considers the articulation that allows to satisfy the four types of constraints listed above.

Criterion 2.2

Define how to represent the summary of the single assessments' outcomes, articulated on the basis of the constraints introduced by the previous criterion 2.1.

The summary of each single Taxonomy Alignment assessments' outcome can be YES or NO.

But should the NO be further qualified and represented?

If so, it should be considered that there are different degrees of NO, based on:

- Percentage of alignment with the specific technical screening criteria related to the single assessment;

- Effort for the undertaking to reach the alignment of the technical screening criteria for which it is not already aligned.

Therefore, according to the different degrees of NO, the managerial implications and the formulation of the sustainability plan can be very different for the undertaking. This type of information is certainly relevant for the stakeholder. It should be underlined that the regulatory templates in Annex II, shown in Appendix 2, don't consider this kind of additional information.

3.3 Criteria for representing the causes of the assessment's outcomes

The third category of criteria concerns the representation of the causes of the assessment's outcomes.

Criterion 3.1

The assessment's outcomes are based on an articulated set of information related to the contents of the technical screening criteria. Therefore, in order to provide the reasons for the assessment's outcomes, it is necessary to represent, in a synthetic way, the contents of the technical screening criteria.

Criterion 3.2

It is necessary to consider the different formats of the technical screening criteria that are used in the text of the Regulation. In particular, the technical screening criteria have six different formats, which are listed below:

Format A: List of specific analytical criteria

Format B: Tabular criteria

Format C: References to third party documents

Format D: Deconstructed and descriptive criteria

Format E: References to appendices

Format F: Nested criteria

An example for each representation format of the technical screening criteria is given in Appendix 3. It should be noted that the examples given are related to different economic activities, as it has not been identified in the Taxonomy a single economic activity associated with technical screening criteria represented in all six different formats.

Criterion 3.3

How to represent the summary of the contents of the technical screening criteria' different formats? Is it preferable to adopt a specific summary representation for each individual format or to adopt a general and homogeneous summary representation for all six different formats?

The first option is easier to apply, the second is more complex but would facilitate reading the summary report.

Criterion 3.4

How to interpret the marginal contribution (relative weight) of the multiple detailed information that must be considered in the Taxonomy Alignment assessment process?

Is it appropriate to provide information on this topic in order to facilitate the interpretation of the report both internally and externally of the undertaking?

4. Extensions to SMEs

This paragraph presents some preliminary reflections and proposals on the possible ways of extending the Taxonomy to SMEs. As explained in paragraph 2.1, in fact, currently the Taxonomy only applies to undertakings with over 500 employees.

First, the reasons why an extension to SMEs is relevant to achieve the sustainability objectives defined in the Taxonomy will be analysed.

In particular, the first reason is the relevance of SMEs in the European economic and social system. This relevance will be illustrated from an empirical point of view in paragraph 4.1.

The second reason is that SMEs will be significantly impacted indirectly by the application of the Taxonomy to large enterprises and financial institutions, therefore they will have to deal with it anyway. This topic will be illustrated in paragraph 4.2.

Subsequently, the possible ways of extending the Taxonomy will be discussed, focusing on the objective of simplifying its complexity and effort for SMEs.

In particular, in paragraph 4.3 the aspects of the Taxonomy that are considered appropriate to maintain unchanged also for the extension to SMEs will be discussed.

Instead, in paragraph 4.4 a list of possible interventions to simplify some aspects of the Taxonomy for its extension to SMEs will be formulated.

Finally, in paragraph 4.5 the main problems that SMEs would face in the application of the Taxonomy will be presented and some possible solutions will therefore be discussed.

4.1 Relevance of SMEs in EU: empirical evidence

This paragraph provides empirical evidence on the relevance of SMEs in the European Union.

The relevance of SMEs in the European Union is analysed through the following three dimensions:

1. Number of SMEs operating in the EU
2. Contribution to the EU economic performances
3. Contribution to the EU social dimension

In this paper, considering the Eurostat classification, SMEs are identified as all enterprises that have a number of employees between 10 and 250.

It has to be underlined that micro-enterprises (companies with fewer than 10 employees) are excluded from the analysis. The reason for the exclusion of micro-enterprises is that it would not be operationally possible to extend such a complex and structured regulation as the Taxonomy to these kinds of enterprises.

The analysis of the three dimensions abovementioned is conducted on Eurostat data⁵ related to year 2018 that is the last available.

⁵ Eurostat - SBS_SC_1B_SE_R2 (NACE Rev. 2: B-E, F, G, H-N)

1. Number of SMEs operating in the EU

In this subparagraph the number of SMEs operating in the European Union is compared to large enterprises. Therefore, the analysis is performed on a sample of SMEs and large enterprises. It has to be underlined that micro-enterprises (companies with fewer than 10 employees) are excluded from the analysis.

In Table 1 below it is reported the distribution of the number of enterprises (only SMEs and large enterprises) operating in the European Union and in the main Member States (Germany, France, Italy) in 2018.

Table 1: distribution of the number of enterprises

Data source: Eurostat - SBS_SC_1B_SE_R2 (NACE Rev. 2: B-E, F, G, H-N) - Enterprises – number

	Small (10 to <50)	Medium (50 to < 250)	Small + Medium	Large (>= 250)
European Union	83.8%	14.5%	98.3%	1.7%
Germany	84.6%	12.8%	97.4%	2.6%
France	83.6%	13.3%	96.9%	3.1%
Italy	88.0%	10.2%	98.2%	1.8%

The data reported in Table 1 shows that the distribution between small, medium and large enterprises is similar for the four geopolitical entities. It also can be deduced that the overwhelming majority of the enterprises operating in the European Union in 2018 (98.3%) were SMEs (for further details see Figure 1 in Appendix 4). This gives a first idea of the relevance of SMEs in the European Union.

2. Contribution to the EU economic performances

This subparagraph reports an analysis of the contribution of each enterprises' category (only SMEs and large enterprises) on the total value added and total turnover of the European Union and its main Member States (Germany, France, Italy).

The reason to consider these two economic indicators are presented below:

- Value added at factor cost is the gross income from operating activities after adjusting for operating subsidies and indirect taxes. It is an indicator in the domain of structural business statistics. The analysis of the SMEs' contribution to this indicator is proposed as it is the most commonly used in official EU reports
- Turnover is a component of value added and regards all income arising during the reference period in the course of ordinary activities of the statistical unit, and is presented net of all price reductions, discounts and rebates granted by it. The analysis of the SMEs' contribution to this indicator is proposed as it is requested by the Delegated Act on Article 8

In Table 2 below it is reported the distribution of value added among enterprises (only SMEs and large enterprises) operating in the European Union and in its main Member States (Germany, France, Italy) in 2018.

Table 2: distribution of value added between enterprises*Data source: Eurostat - SBS_SC_1B_SE_R2 (NACE Rev. 2: B-E, F, G, H-N) - Value added at factor cost - million euro*

	Small (10 to <50)	Medium (50 to < 250)	Small + Medium	Large (>= 250)
European Union	19.8%	21.3%	41.0%	59.0%
Germany	20.0%	19.2%	39.2%	60.8%
France	16.2%	15.5%	31.7%	68.3%
Italy	28.1%	23.8%	51.9%	48.1%

From the data shown in Table 2 it can be deduced that, in 2018, 41% of total value added of the European Union was generated by SMEs with Italy being the country where more than half of the total value added (51,9%) was generated by SMEs.

These data contribute to underpin the empirical relevance of SMEs in the European Union (for further details see Figure 2 in Appendix 4).

Similar results to those just seen relatively to total value added can be derived from the analysis of the contribution to the total turnover.

In Table 3 below it is reported the distribution of turnover among enterprises (only SMEs and large enterprises) operating in the European Union and in its main Member States (Germany, France, Italy) in 2018.

Table 3: distribution of turnover between enterprises*Data source: Eurostat - SBS_SC_1B_SE_R2 (NACE Rev. 2: B-E, F, G, H-N) - Turnover - million euro*

	Small (10 to <50)	Medium (50 to < 250)	Small + Medium	Large (>= 250)
European Union	19.1%	21.1%	40.3%	59.7%
Germany	15.6%	16.7%	32.3%	67.7%
France	14.5%	15.5%	30.0%	70.0%
Italy	27.4%	25.3%	52.8%	47.2%

From the data shown in Table 3 it can be deduced that, in 2018, the 40.3% of total turnover of the European Union was generated by SMEs with Italy being the country where more than half of the total value added (52,8%) was generated by SMEs.

Here again, it is clear that the contribution of SMEs is certainly significant and comparable to that of large enterprises (for further details see Figure 3 in Appendix 4).

3. Contribution to the EU social dimension

The number of employees for each class of enterprises is an indicator of the enterprises' contribution to the social dimension. Thus, in this subparagraph it is reported an analysis of the number of employees for each enterprises' category (only SMEs and large enterprises) operating in the European Union and its main Member States (Germany, France and Italy).

Table 4 below provides data on the distribution of employed population among enterprises (only SMEs and large enterprises) operating in the European Union and in its main Member States (Germany, France, Italy) in 2018.

Table 4: distribution of employed population between enterprises

Data source: Eurostat - SBS_SC_1B_SE_R2 (NACE Rev. 2: B-E, F, G, H-N) - Persons employed – number

	Small (10 to <50)	Medium (50 to < 250)	Small + Medium	Large (>= 250)
European Union	28.1%	22.5%	50.6%	49.4%
Germany	28.0%	21.3%	49.3%	50.7%
France	20.1%	16.9%	37.0%	63.0%
Italy	36.0%	22.7%	58.8%	41.2%

From the data shown in Table 4 it can be deduced that, in 2018, slightly more (50.6%) than half of the population employed in the European Union was employed in SMEs. Here again, it is clear that the contribution of SMEs is certainly significant and comparable to that of large enterprises also relatively to the social dimension (for further details see Figure 4 in Appendix 4).

4.2 Indirect impacts of the Taxonomy on SMEs

As introduced in paragraph 2.1.1, the Taxonomy has significant indirect impacts also on SMEs, due to the transition processes taking place in different economic sectors, in many large client enterprises and in banks.

In particular, the reasons for these indirect impacts are as follows:

- Transition of the sectors included in the Taxonomy: the Regulation 2020/852 will result in a significant boost to the transition to new market contexts in all economic sectors included in the Taxonomy, with consequent significant impacts on the sources of supply, on production and on distribution of products and services. Consequently, for all enterprises belonging to the economic sectors included in the Taxonomy, it will be necessary to reshape their business models in order to adapt to the transition paths of their sector.
- Supply chains: the Regulation 2020/852, having direct impacts on all large enterprises, will affect their entire supply chain. Therefore, SMEs belonging to these supply chains, but carrying out economic activities that are not environmentally sustainable, face the risk of losing their customers. This is because large enterprises, directly impacted by Regulation 2020/852, will be pushed to develop sustainable supply chains, selecting only suppliers whose business model already has sustainability characteristics.
- Transversal impacts on all sectors: the Regulation 2020/852 will promote the supply from renewable energy sources, the use of sustainable transport and, in general, the development of environmentally sustainable logistics, with a transversal impact on all economic sectors, even those not included directly in the Taxonomy. All enterprises, regardless of their size, will therefore have to manage the transition to such transversal impacts.
- Access to credit and to the capital market: the evolution of the regulatory scope for financial institutions is explicitly aimed at directing debt and risk capital towards the financing of the sustainability objectives defined in the European Taxonomy. With regard to credit institutions, the credit rating of the counterparts shall also be determined on the basis of ESG information (see “EBA Guidelines on loan origination and monitoring (2020)”) and the capital requirements for bank loans shall be differentiated, according to the Green Asset Ratio, based on whether or not the corporate projects to be financed pursue the sustainability objectives. All SMEs will therefore be significantly impacted also from a financial point of view, both in terms of access to credit and in terms of the forms of financing to be adopted.

Due to these different forms of impact, therefore, SMEs have both strategic and operational reasons to consider applying the Taxonomy.

In this regard, the current version of the Regulation explicitly considers that SMEs can also voluntarily apply the Taxonomy, even if it does not introduce any obligation to date.

4.3 Taxonomy's characteristics to maintain unchanged also for SMEs

Given the complexity and articulation of the Taxonomy, in order to extend it to SMEs, it is appropriate to identify which of its characteristics to maintain unchanged and which to simplify in order to limit the effort in its application to SMEs.

For this purpose, it is considered appropriate to articulate the Taxonomy's characteristics on four levels:

- Level 1: number of economic activities carried out by the enterprise.
- Level 2: number of environmental objectives and DNSH criteria.
- Level 3: number of specific KPIs and qualitative requirements contained in the technical screening criteria
- Level 4: level of disclosure by the enterprise

With reference to the Taxonomy's characteristics which should be maintained unchanged also for the extension to SMEs, it is proposed that they should cover Level 2 and Level 4.

With regard to Level 2, the six sustainability objectives are all so relevant that it is not considered appropriate to exclude any of them for SMEs. Differentiating the sustainability objectives' system between SMEs and larger enterprises would significantly affect the possibility of achieving the environmental sustainability objectives that are excluded for SMEs.

Even the adoption of the DNSH principle cannot be eliminated in order not to alter the underlying logic of the Taxonomy. In fact, this principle, while keeping the complexity of the Taxonomy at a high level, is necessary in order to be able to consider the significant interaction effects that actually occur between the sustainability objectives and thus avoiding the negative impacts that the pursuit of one objective may cause on the achievement of the other relevant objectives.

With regard to Level 4, the level of disclosure defined in Article 8 and its Delegated Act (See Appendix 1 for details) includes two main contents: the environmental sustainability plan (the so-called "Capex Plan") and the quantification of economic and financial KPIs (Turnover, CapEx and OpEx KPIs).

In order to enable SMEs to start the transition process and to implement an environmental sustainability plan, it is considered necessary to maintain the disclosure on both the abovementioned contents for the following reasons:

- Representing the transition objectives to stakeholders requires to fulfil the disclosure requirements on the environmental sustainability plan to become Taxonomy-Aligned (Capex Plan), specifying the target values of the KPIs reported in the technical screening criteria and the plan's implementation time.
- Representing the company's financial needs, both in terms of debt capital and equity, to the financial stakeholders requires to fulfil the disclosure requirements on the economic and financial KPIs, in particular by quantifying the amount to be financed for the implementation of the environmental sustainability plan (Capex Plan).

Therefore, even if these disclosures are expensive, they are the necessary condition to define the technical instruments, the amounts and the duration of the funding to support the environmentally sustainable transition of SMEs.

4.4 Possible simplifications of the Taxonomy for SMEs

The simplifications for the extension of the Taxonomy to SMEs can also be articulated on multiple levels. For convenience, the articulation on four levels of the Taxonomy's characteristics already introduced in the previous paragraph is reported:

- Level 1: number of economic activities carried out by the enterprise.
- Level 2: number of environmental objectives and DNSH criteria.
- Level 3: number of specific KPIs and qualitative requirements contained in the technical screening criteria.
- Level 4: level of disclosure by the enterprise.

In view of the considerations on the characteristics to maintain unchanged, set out in the previous paragraph 4.3, it is proposed to focus the simplifications only on Level 1 and Level 3.

In other words, all possible simplification for SMEs should be focused on the number of economic activities and on the technical screening criteria, not on the Taxonomy's general architecture.

With regard to Level 1, two alternative options are identified for simplifying the number of economic activities to be considered by SMEs.

Option 1: reducing the number of economic activities that the single SME has to consider when applying the Taxonomy.

The economic activities to be omitted for the single SME are those which are marginal in terms of turnover and/or costs of the SME itself, although being critical for environmental sustainability and therefore being included in the Taxonomy.

In this way the SME effort can be focused only on few economic activities, which concern the most significant part of their business, losing only the exhaustiveness of the corporate representation.

Option 2: reducing the number of SMEs on which to apply the Taxonomy, considering only those that carry out economic activities for which the relevance of larger enterprises, compared to SMEs, is marginal.

These economic activities can be identified as follows:

- a) Measure the level of overall turnover for each economic activity, generated by both SMEs and larger enterprises.
- b) Calculate for each economic activity:
 - the percentage of turnover generated by SMEs.
 - the percentage of turnover generated by larger enterprises.
- c) Select only economic activities with a small percentage of turnover generated by larger enterprises.

It should be noted that the economic activities thus selected would be significantly uncovered with the current Taxonomy's scope of application.

This possible limit justifies the extension of the Taxonomy to the SMEs carrying out these activities and the effort required of them. In this case, considering the importance of this extension for the achievement of the environmental sustainability objectives, targeted forms of aid could be envisaged to support the involved SMEs.

With regard to Level 3, it should be highlighted that the contents of the technical screening criteria, in terms of the number of specific KPIs and qualitative requirements, were initially defined for large enterprises to which the Regulation currently applies.

Therefore, the simplification of the number of specific KPIs and qualitative requirements can be based on the consideration that for SMEs some of the contents of the technical screening criteria may not be relevant or suitable.

In order to identify the specific KPIs and the qualitative requirements that are not relevant or not suitable for SMEs, the technical experts' teams already activated to write the technical screening criteria for large enterprises could be consulted.

These teams, in fact, have an in-depth knowledge of the economic activities included in the Taxonomy and would therefore also be able to recognize the peculiarities of the SMEs' role in each specific economic activity. This knowledge is fundamental in order to filter specific KPIs and qualitative requirements to obtain a simplification of the technical screening criteria' contents for SMEs.

It should be noted that this way of simplification does not renounce to consider relevant information on the contents of the technical screening criteria; in fact, it avoids only those contents that are not relevant to SMEs.

Instead, the idea of simplifying by rewriting *ad hoc* technical screening criteria for SMEs is discarded: this would be too long and costly, as well as introducing unevenness in the objectives and behaviour of enterprises in the same sector.

Indeed, between rewriting simplified technical screening criteria and filtering some of the present ones without adding different specific approaches for SMEs, the second alternative is considered preferable.

4.5 Problems for SMEs in the application of the Taxonomy and possible solutions

In this paragraph, the following topics will be presented:

- First, the main issues that SMEs should face relatively to the application of the Taxonomy, also considering the possible ways of extension discussed in paragraphs 4.3 and 4.4.
- Then, the proposal for a possible solution to the issues listed above, indicating the specific interventions to support SMEs in the application of the Taxonomy.
- Finally, the most effective channel for promoting the abovementioned proposed solution is identified in banks, due to their systemic role and the purpose of European bank regulation.

The main issues identified for SMEs in the application of the Taxonomy are the following six:

Issue 1) An adequate knowledge, by the top management, of the Taxonomy's contents and their effects.

Issue 2) The definition of the process steps that SMEs should follow in order to apply the Taxonomy, identifying for each step: the information to be collected, the analyses and the assessments to be carried out, the reports to be produced.

Issue 3) The adoption of internal regulations and appropriate organisational structures, integrating sustainability and planning functions.

Issue 4) The required professional skills, which are new and highly specialised. They may be internal or external to the enterprise or may be mixed. In particular, it is necessary to integrate four professional profiles: lawyers, engineers, financial planners and auditors.

Issue 5) The adoption of specialised tools supporting the integrated activity of different professional profiles and allowing the formulation of sustainability plans (Capex Plan).

Issue 6) The significant costs of the Taxonomy Alignment process.

A possible solution for SMEs to the six problems described above can be articulated into three parts:

Part a) of the solution: the definition of an operational protocol to be adopted to perform the Taxonomy Alignment process. In this operational protocol the following topics are addressed:

- The specific training activities on Taxonomy by recognized educational institutions;
- The list of the steps of the Taxonomy Alignment process to be carried out;
- The parties responsible for each step of the process;
- The professionals involved in each step;
- The input information for each step;
- The output reports for each step;
- The specific tools to be used at each step.

Part b) of the solution: the development of market solutions to provide end-to-end support to SMEs, covering all or part of the missing internal expertise, consisting of:

- Advisory provided by multidisciplinary specialist teams, trained and organised on the basis of the operational protocol, including:
 - Lawyers: for drawing up internal regulations;
 - Engineers: for technical screening criteria measurement and the definition of sustainability plan to reach Taxonomy alignment;
 - Financial planners: for the quantification of financial impacts (Turnover, CapEx, OpEx) and the choice of financial instruments to support the sustainability plan;
 - Auditors: for the assurance of sustainability plan and related information and the assurance of financial plan and related information.
- Specialised tool, provided in SaaS (Software as a Service) mode, that supports the integrated activity of the different professionals in the specialist team: all the professionals have to work on the same tool in order to ensure the consistency of the Taxonomy Alignment process⁶.

Part c) of the solution: the sharing of the costs that the SMEs have to bear among all the stakeholders benefiting from the application of the Taxonomy by SMEs (banks, large customers, public institutions).

In order to promote this possible solution to extend the Taxonomy to SMEs, banks are considered to be the most effective channel, as they can get two types of benefits from the application of the Taxonomy by SMEs.

The first type of benefit is the possibility to finance SMEs with "*Taxonomy-compliant*" financial instruments, as defined by Article 5 of the Regulation 2020/852 (see paragraph 2.1.3), which have benefits on capital requirements as they are counted in the numerator of the Green Asset Ratio (GAR). On the rationale for the GAR's calculation see in Appendix 1 the section "Disclosure requirements for financial undertakings".

By financing SMEs with the benefits provided by the GAR, banks can reduce the cost of capital requirement and thus the overall cost of loans.

For European commercial banks, loans to SMEs represent a fundamental share of total loans and interest margin.

Without considering SMEs, therefore, the GAR of European banks would remain low, with limited benefits in terms of capital requirements and cost of loans.

Therefore, a key interest for European Banks is to increase their GAR including SMEs. In particular, to raise the GAR they have to finance the environmentally sustainable transition plans of the SMEs (CapEx Plans).

⁶ To date, part a) and part b) of this solution are experimented in pilot projects in Italy, involving multidisciplinary specialist teams and some firms (both corporates and SMEs) supported by the specialised tool developed by KnowShape (for more information, see paragraph 3 and the website www.knowshape.com).

The new "Taxonomy-compliant" instruments to finance the Capex Plan, as defined by Article 5 of the Regulation 2020/852, shall have the following characteristics:

- The loans' specific purpose is formalised in the financial plan related to the enterprise's environmental sustainability plan (CapEx Plan);
- The objective of the economic activity to be financed shall be differentiated according to the assessment carried out in the Taxonomy Alignment process: aligned economic activities, eligible economic activities or not eligible economic activities;
- The monitoring of the achievement of the environmental sustainability objectives underlying the request for funding shall be based on the KPIs, defined in the technical screening criteria, which were considered in the CapEx Plan;
- The adoption of covenants that refer to the values of the KPIs, defined in the technical screening criteria, which were considered in the CapEx Plan;
- ESG Risk Adjusted Pricing based on counterparty credit ratings integrated by ESG factors, in accordance with the provisions of the EBA Guidelines on loan origination and monitoring (2020).

The second type of benefit for banks is the possibility of providing new ESG sustainability services to firms customers.

In particular, these services to SMEs have the following content:

- ESG sustainability training: on regulatory aspects, operational processes, implications for the company's business and stakeholder relations.
- Specialist advisory supporting SMEs in the internal Taxonomy Alignment assessment's processes and in the formulation of the environmental sustainability plans (CapEx Plans).
- Supply of specialised integrated tools for:
 - Taxonomy Alignment assessment;
 - Formulation of the Sustainability Plan;
 - Economic and financial planning;
 - ESG Risk management, in line with EBA Guidelines on loan origination and monitoring (2020).

Considering these two types of benefits, banks can be motivated to adopt the three-part solution proposed above.

Part a) of the proposed solution (adoption of the operational protocol), offers to the banks a way:

- To streamline the management of the information on the Taxonomy Alignment assessments, necessary for financing the SMEs with "Taxonomy-compliant" financial instruments, as defined by article 5 of the Regulation 2020/852.

In order to use effectively the Taxonomy Alignment's results in the credit processes of financial institutions, a homogeneous representation of the assessments carried out by all the enterprises is required. In fact, the Taxonomy Alignment assessments carried out freely by single enterprises, given their articulation and the degrees of freedom in terms of results' representation, inevitably tend to differ and to require a subsequent step of homogenisation by banks, which can hardly be automated afterwards and is therefore very expensive.

Instead, the adoption of an operational protocol common to all the enterprises makes it possible to obtain information contained in homogeneous reports, that is easier to analyse, without the need for expensive standardisation operations.

- To provide distinctive training services to firm customers on the adoption of the operational protocol to address: regulatory requirements, Taxonomy Alignment processes and stakeholders relationship management.

Part b) of the proposed solution (end-to-end support solution, consisting of advisory and specialised tools), instead, offers to the banks a way:

- To provide end-to-end advisory services to SMEs, outsourced by multidisciplinary specialist teams. These outsourcing teams can:
 - Assess the Taxonomy eligibility to identify the transition projects to be financed by banks;
 - Guarantee support to SMEs in formulating the environmental sustainability plans;
 - Assure the Taxonomy Alignment and the environmental sustainability plans: the formal assurance of Taxonomy Alignment and sustainability plan is necessary for banks, in order to collect the information to be used for computing the regulatory GAR.
- To provide, in SaaS (Software as a Service) mode, integrated specialised tools to SMEs, for supporting all the steps of the operational protocol. These tools also allow banks to:
 - Collect the Taxonomy Alignment assessments and the CapEx Plans into a single platform, in an already structured format, to feed the internal credit processes.
 - Ensuring data quality through the use of a structured platform.
- To make it feasible to collect all the information necessary to finance SMEs with "*Taxonomy-compliant*" financial instruments, as defined by Article 5 of the Regulation 2020/852, and benefit from the cost of loans' reduction. In fact, it should be noted that providing the services described above (advisory and tools), as well as being a source of income for banks, is essential to enable SMEs to implement the Taxonomy Alignment process. Therefore, it is relevant for banks:
 - To activate outsourcing agreements with teams of advisors located in the local regions where the SMEs operate;

- To collect in a unique platform the Taxonomy Alignment assessments and homogeneous ESG data, allowing their effectively usage in the internal credit processes.

Part c) of the proposed solution (sharing of the costs to be borne), finally, offers to the banks a way to activate SMEs in providing the information necessary to:

- Include SMEs exposures in the calculation of the GAR, in order to increase it.
- Consider ESG information on SMEs at all stages of the credit processes, in accordance with the provisions of the EBA Guidelines on loan origination and monitoring (2020).

In order to share the costs that SMEs would have to bear for paying the team of experts and the use of specialised tools, banks could use a portion of their benefits, quantified in terms of the capital requirement's cost reduction due to the GAR, to cover part of the costs of the financed SME.

In order not to burden the banks excessively, reducing too much the benefits of extending the Taxonomy to SMEs, it should be noted that another complementary cost coverage could come from public interventions. Such interventions are aimed to involve SMEs in pursuing the Taxonomy's objectives.

Examples of possible public interventions are:

- Tax deductions for costs incurred for the application of the Taxonomy.
- European contributions in the context of the Next Generation EU

5. Conclusions

The European Taxonomy defines in a technically robust way:

- The system of sustainability objectives at the European Union level.
- The technical criteria for verifying which economic activities make it possible to achieve the system of objectives and can therefore be considered "*environmentally sustainable*".

With respect to the 3 pillars of ESG sustainability (Environmental, Social, Governance), the Taxonomy currently focuses on the E (Environmental) pillar. The coverage of the other two pillars S and G are under discussion.

While the Taxonomy applies to both financial and non-financial undertakings, the paper focuses on non-financial undertakings and aims to contribute to shed light on some of the most significant impacts of the Taxonomy, pursuing 3 main objectives.

The first objective of the paper is to disseminate the main contents of the Taxonomy, underlining its innovative elements with respect to current sustainability practices and its consequent most significant impacts.

The second objective is to introduce general criteria to satisfy in order to represent the articulated contents required by the Taxonomy in an exhaustive and easy-to-consult summary reporting.

The third objective concerns some preliminary reflections on possible ways of extending the Taxonomy to Small and Medium Enterprises (SMEs), which play a very significant role in the European economic system.

Concerning the first objective, related to the dissemination of the main contents of the Taxonomy, the paper articulates the description of the Taxonomy structure in the following four themes:

- Theme 1: Objectives and scope of application of the Regulation
- Theme 2: Criteria for environmentally sustainable economic activities
- Theme 3: Disclosure and transparency
- Theme 4: Platform on Sustainable Finance

It has been highlighted that the Taxonomy presents several significant innovative elements in reference to all the 4 themes.

The first innovative element is the adoption of a multidimensional vision of environmental sustainability, obtained through the definition of six joint objectives that are declined through technical variables and scientifically based thresholds (technical screening criteria). In the Taxonomy, therefore, it is not only considered the objective of reducing greenhouse emissions, but also the objectives of preserving water resources, preserving biodiversity, containing air and soil pollution, etc.

The second innovative element is the adoption of the DNSH principle, according to which it must be systematically verified that the achievement of an environmental sustainability objective is not pursued at the expense of the other objectives. In fact, the six objectives are linked and interdependent; the DNSH principle allows to consider the constraints due to the effects of interdependence among the different objectives. In the Taxonomy, therefore, it is not enough to

reduce emissions, but it is also necessary to systematically verify that the technological solution adopted to reduce emissions does not harm water, soil, increase in waste, etc.

Finally, the third innovative element is the introduction of relevant contents in terms of disclosure requirements. In fact, the Taxonomy introduces disclosure requirements on the formulation of a formal sustainability plan (Capex Plan) aimed to increase the contribution of the economic activities carried out by the undertaking to the achievement of the environmental sustainability objectives. Moreover, the Taxonomy introduces disclosure requirements on the integration between the environmental performance and the economic and financial performance of the undertaking. In particular, the undertaking has to explain the link between the ESG KPIs, identifiable within the technical screening criteria, and the economic and financial KPIs (Turnover, CapEx, OpEx) associated with the economic activities, for each of which it must also be explicated the impact of the sustainability plan.

Afterwards, it has been highlighted that the Taxonomy has significant impacts on current sustainability practices. In fact, the Taxonomy Alignment assessment is a new topic for all undertakings, even those with more experience in the formulation of Non-Financial Statements, as it introduces new logics for defining objectives, KPI typologies and report contents that are completely different from those required so far by international best practices. This new context is introduced with the need to standardize the internal assessments of undertakings, to increase information transparency on the transition process and to limit greenwashing.

Then, the Taxonomy requires a structured process for collecting ESG information that is very different from what has been done so far in the Non-Financial Statements (NFSs), both in terms of defining the sustainability objectives and in terms of specifying the KPIs to consider. In particular, it has been underlined the fundamental role of forward-looking information on targets and possible deviations in the environmental sustainability plans (Capex Plans). For the collection of ESG information it is also essential to distinguish between the contents required by the Taxonomy and the other complementary contents on the three ESG Pillars.

Moreover, the Taxonomy Alignment assessments are not consistent with many of the contents of the current NFSs, which are drawn up according to "*principle based*" international best practices. The Taxonomy Alignment assessments are also not consistent with the principles for assigning the current ESG ratings. In fact, all the most popular ESG ratings are based on attribution methodologies that do not consider the individual economic activities of the companies and that assign the score to Pillar E considering the undertaking as a whole.

Finally, by analysing the contents of the Taxonomy, it has been highlighted its complexity and the expensiveness of its application. However, it is considered that this expensiveness is justified by the complexity that must be faced in order to pursue environmental sustainability objectives that are homogeneous among different undertakings and that comprehend all the different dimensions of environmental sustainability. Instead, an over-simplification and lower costs would increase the risk of *greenwashing*.

Concerning the second objective of the paper, related to the definition of general criteria to satisfy by summary reports, it has been highlighted that these general criteria aim to represent in an easy-to-consult manner all the articulated information required by the Taxonomy Alignment assessment process, without losing any relevant content in the summary.

In order to define these general criteria, it has been necessary to have an application environment to experiment and analyse all the steps and the relative issues of the Taxonomy Alignment process that shall be carried out by undertakings. To this end, a prototype tool has been internally

developed. A result of this research activity, therefore, has been the definition of the workflow for carrying out the entire Taxonomy Alignment process in a structured way.

The general criteria to be met in order to formulate a summary report have been divided into three categories.

The first category of criteria concerns the definition of the number of sections according to which to organize the structure of the summary report. Surely the first section of the report must consider the Taxonomy Alignment assessment's final outcomes, in terms of eligibility or alignment of the different economic activities. However, it may be appropriate to provide other sections in which present other additional information, as, in particular, the causes of the assessment's outcomes. It should be underlined that the regulatory templates, that can be found in Annex II of the Delegated Act on Article 8, don't consider any information on the causes of the assessment's outcomes.

The second category of criteria concerns the form of representation of the Taxonomy Alignment assessment's outcomes. There are four types of regulatory constraints that must be satisfied in the formulation of the summary report. These constraints require to articulate the assessments' outcomes: for each individual economic activity, for non-eligible, eligible and aligned activities, for the six environmental objectives and for the six DNSH criteria. However, it has to be defined how to represent the summary of the single assessments' outcomes. In fact, the summary of each single Taxonomy Alignment assessments' outcome can be YES or NO; but the NO can be further qualified, based on percentage of alignment with the specific technical screening criteria related to the single assessment. It should be underlined that the regulatory templates in Annex II don't consider this kind of additional information.

The third category of criteria concerns the representation of the causes of the assessment's outcomes, that are based on an articulated set of information related to the contents of the technical screening criteria. Therefore, in order to provide the reasons for the assessment's outcomes, it is necessary to represent, in a synthetic way, the contents of the technical screening criteria. It has been highlighted that in the text of the Regulation the technical screening criteria have six different formats. In formulating the summary report, it has to be defined if it is preferable to adopt a specific summary representation for each individual format (easier to apply) or to adopt a general and homogeneous summary representation for all six different formats (more complex but more effective for reading the report). Furthermore, it has to be defined how to interpret the marginal contribution (relative weight) of the multiple detailed information that must be considered in the Taxonomy Alignment assessment process.

To sum up, it should be noted that the regulatory templates contained in Annex 2 of the Delegated Act on Article 8 do not meet all the general criteria defined in this paper for the formulation of the summary report.

The general criteria defined in the paper can be a reference for setting up individual reports based on the needs and peculiarities of the single undertakings, but in a reasoned and robust way, without neglecting any relevant element. Moreover, they can be considered to promote the formulation of robust summary reports and therefore the disclosure of information on environmental sustainability that can be effectively consulted by all stakeholders.

Concerning the third objective of the paper, related to the extension of Taxonomy to SMEs, it has been highlighted that SMEs will be significantly impacted indirectly by the application of the Taxonomy to large enterprises and financial institutions; therefore, even if SMEs currently do not fall within the Taxonomy's scope of application, they will have to deal with it anyway.

In order to suggest possible ways of extending the Taxonomy to SMEs, a two-step approach has been adopted. In the first step, the aspects of the Taxonomy that are considered appropriate to

maintain unchanged also for the extension to SMEs have been discussed. In the second step, a list of possible interventions to simplify some aspects of the Taxonomy, in order to reduce its complexity and the effort for SMEs, has been formulated.

Moreover, the main issues that SMEs should face in the application of the Taxonomy have been discussed and a possible solution has therefore been presented.

This possible solution is articulated into three parts:

Part a) of the solution: the definition of an operational protocol to be adopted to perform the Taxonomy Alignment process.

Part b) of the solution: the development of market solutions to provide end-to-end support to SMEs, covering all or part of the missing internal expertise, consisting of:

- Advisory provided by multidisciplinary specialist teams.
- Specialised tool that supports the integrated activity of the different professionals in the specialist team: all the professionals have to work on the same tool in order to ensure the consistency of the Taxonomy Alignment process.

Part c) of the solution: the sharing of the costs that the SMEs have to bear among all the stakeholders benefiting from the application of the Taxonomy by SMEs (banks, large customers, public institutions).

In order to promote this possible solution to extend the Taxonomy to SMEs, banks are considered to be the most effective channel, as they can get two types of benefits from the application of the Taxonomy by SMEs.

The first type of benefit is the possibility to finance SMEs with "*Taxonomy-compliant*" financial instruments, as defined by Article 5 of the Regulation 2020/852, which have benefits on capital requirements, and thus on the overall cost of loans, as they are counted in the numerator of the Green Asset Ratio (GAR).

The second type of benefit for banks is the possibility of providing new ESG sustainability services (advisory and tools) to firms customers, outsourced by multidisciplinary specialist teams carrying out the Taxonomy Alignment Process.

It should be noted that providing these ESG sustainability services, as well as being a source of income, is relevant for banks to collect in a unique platform the Taxonomy Alignment assessments and homogeneous ESG data. This structured and assured information has to be used in the internal credit processes to finance SMEs with "*Taxonomy-compliant*" financial instruments.

However, further research is necessary to improve the preliminary considerations and solutions proposed in this paper. In particular, the two most relevant research areas concern:

- Extending the experimentation of the application of the Taxonomy on undertakings operating in all the different economic sectors included in the Regulation, in order to identify the specific issues that each economic sector presents.
- Analysing the impacts of the remaining 4 objectives that will complete the Taxonomy.

6. APPENDIX 1: Delegated Act on Article 8 of Regulation 2020/852

On 6 July 2021, the European Commission drew up the Delegated Act on Article 8 of the Taxonomy Regulation, which details the disclosure requirements pursuant to Article 8 both for non-financial undertakings and for financial ones.

This appendix presents a summary analysis of the contents of this Delegated Act divided into two sections, the first relating to disclosure requirements for non-financial undertakings and the second relating to financial undertakings.

The contents of the disclosure requirements refer to three possible characteristics of the economic activities carried out by the undertaking: Taxonomy-aligned activities, Taxonomy-eligible activities and Taxonomy-non-eligible activities. The definitions of these characteristics are introduced in Article 1 of the Delegated Act on Article 8, the text of which is reported in the box below:

Article 1 - DELEGATED ACT

Definitions

- (1). 'Taxonomy-aligned economic activity' means an economic activity that complies with the requirements laid down in Article 3 of Regulation (EU) 2020/852;
- (5). 'Taxonomy-eligible economic activity' means an economic activity that is described in the delegated acts adopted pursuant to Article 10(3), Article 11(3), Article 12(2), Article 13(2), Article 14(2), and Article 15(2), of Regulation (EU) 2020/852, irrespective of whether that economic activity meets any or all of the technical screening criteria laid down in those delegated acts;
- (6). 'Taxonomy-non-eligible economic activity' means any economic activity that is not described in the delegated acts adopted pursuant to Article 10(3), Article 11(3), Article 12(2), Article 13(2), Article 14(2) and Article 15(2), of Regulation (EU) 2020/852;

Disclosure requirements for non-financial undertakings

The KPIs that non-financial undertakings must disclose within the NFS, in a proper section, are indicated in the Annex I of the Delegated Act on Article 8. These KPIs (Turnover, CapEx, OpEx) are all calculated as ratios.

To illustrate how these ratios are calculated, it is necessary to consider the "*Capex Plan*".

The CapEx Plan is a formal planning document that shall be articulated at the level of individual economic activities carried out by the undertaking, shall be approved by the Board of Directors and shall specify the objectives that the undertaking has set regarding:

- a) The expansion of Taxonomy-aligned economic activities carried out by the undertaking. This expansion must be completed within a period of five years.
- b) The development of Taxonomy-eligible economic activities carried out by the undertaking to become Taxonomy-aligned within a period of five years.

In particular, in order to be aligned to the Taxonomy, the target values set in the CapEx Plan must be referred to the variables and thresholds contained in the technical screening criteria.

If the technical screening criteria used to assess the environmental sustainability of the economic activities included in the CapEx Plan are revised and updated before the completion of that CapEx Plan, the undertakings shall update the plan within two years to ensure that the economic activities are aligned with the technical screening criteria updated at the time of completion of the plan.

The methods for computing the numerator and denominator for each of the KPIs, expressed as ratios, which have to be provided by non-financial undertakings, are presented below.

1. Turnover KPI:

- Numerator: turnover derived from products or services associated with Taxonomy-aligned economic activities.
- Denominator: total turnover.

2. CapEx KPI:

- Numerator: part of the capital expenditure:
 - Related to assets or processes that are associated with Taxonomy-aligned economic activities;
 - Part of a plan (CapEx Plan) to:
 - a) expand Taxonomy-aligned economic activities.
 - b) allow other Taxonomy-eligible economic activities to become aligned to the Taxonomy environmental sustainability criteria within a period of five years.
 - Related to the purchase of output from Taxonomy-aligned economic activities
- Denominator: it shall cover additions to tangible and intangible assets during the financial year considered before depreciation, amortisation and any re-measurements and excluding fair value changes. The denominator shall also cover additions to tangible and intangible assets resulting from business combinations

3. OpEx KPI:

- Numerator: part of the operational expenditure:
 - Related to assets or processes associated with Taxonomy-aligned economic activities, including training and other human resources adaptation needs, and direct non-capitalised costs that represent research and development.
 - Part of a plan (CapEx Plan) to:
 - a) expand Taxonomy-aligned economic activities.
 - b) allow other Taxonomy-eligible economic activities to become aligned to the Taxonomy environmental sustainability criteria within a period of five years.
- Denominator: it shall cover direct non-capitalised costs that relate to research and development, building renovation measures, short-term lease, maintenance and repair, and any other direct expenditures relating to the day-to-day servicing of assets of property, plant and equipment by the undertaking or third party to whom activities are outsourced that are necessary to ensure the continued and effective functioning of such assets.

It is relevant to underline that in the Annex I the numerators of the ratios has to consider jointly:

- The economic activities that are already aligned, and;
- The economic activities for which an alignment plan has been provided on the basis of the Capex Plan.

By explicitly providing the reference to the Capex Plan, for the alignment of the economic activities it is also required an idiosyncratic forward-looking assessment related to the objectives of the undertaking.

Furthermore, in relation to the calculation of the numerator of the CapEx KPI and the OpEx KPI, both numerators respectively contain a portion of capital expenditure and a portion of operating expenditure defined in the CapEx Plan. Therefore, the KPIs introduced in Annex I assume an idiosyncratic forward-looking nature related to the objectives of the undertaking.

In conclusion, the fact that a portion of the numerator that enters in the calculation formulas of CapEx and OpEx KPI consists of expenses related to the development targets defined in the Capex Plan, introduces the dimension of planning and idiosyncratic forward-looking information *ex lege* within the Non-Financial Statements, characterized up to now by a purely backward-looking perspective.

Disclosure requirements for financial undertakings

The financial undertakings to which the provisions of the Delegated Act on Article 8 of the Taxonomy Regulation apply are:

1. Credit institutions
2. Asset manager
3. Investment firms
4. Insurance and reinsurance companies

For each of the four categories mentioned above, different types of KPIs are provided to be disclosed within the respective Non-Financial Statements. An exhaustive discussion of the disclosure requirements for each category of financial undertakings would be beyond the scope of this study, which focuses on non-financial firms.

Therefore, the KPIs that credit institutions must disclose within the NFSs are briefly analysed below; these KPIs are indicated in Annex V of the Delegated Act on Article 8.

The choice to focus on credit institutions is due to two reasons:

- The relevance to SMEs of banks disclosure requirements, depending on the bank-enterprise relationship.
- The similarity of the principles governing disclosure requirements for all categories of financial undertakings.

The KPIs that shall be disclosed by credit institutions are calculated following the *Green Asset Ratio (GAR)* methodology. According to this methodology, each specific KPI shall be calculated by the ratio between:

- **Numerator:** composed, depending on the specific KPI, of loans and advances, debt securities, equities or repossessed collateral, financing Taxonomy-aligned economic activities carried out by their client undertakings. The alignment of economic activities shall be assessed on the basis of the data of the bank's client undertakings. In addition, it should be underlined that the alignment has to be intended, as explained in Annex I on non-financial undertakings (calculation of the ratios' numerators), considering jointly:
 - The economic activities that are already aligned, and;
 - The economic activities for which an alignment plan has been provided on the basis of the Capex Plan.
- **Denominator:** composed of *Total Covered Assets*, or, depending on the specific KPI, the total of loans and advances, the total of debt securities, the total of equities or repossessed collateral and all other *covered assets* on the balance sheet.

It should be noted that exposures to undertakings that are not required to publish the Non-Financial Statement, pursuant to Article 19a or 29a of Directive 2013/34/EU, are excluded from the numerator of the KPIs for all financial undertakings. The regulation, however, considers these exposures within the Total Covered Assets, thus, in the denominator of the related KPIs.

This mechanism has significant consequences in the relationship between banks and SMEs, on which this paper focuses.

In fact, SMEs are not required to draw up the Non-Financial Statement and therefore are not subject to the provisions of Article 8 of the Taxonomy Regulation. Consequently, banks with significant exposures to SMEs, in the absence of the related information about Turnover, CapEx and OpEx KPI, cannot enter the amount of these exposures in the numerator for the calculation of their KPIs, but they must enter them, *ex lege*, at the denominator.

For these banks, therefore, the KPIs calculated according to the GAR methodology are all the more distorted downwards the more SME counterparties are actually aligned with the Taxonomy, but for which banks do not have the necessary data to verify the alignment to the Taxonomy. This is because banks could not count these exposures in the numerator but would still have to put them in the denominator, thus resulting in a significantly lower KPI value than the real one.

Therefore, a bank, in its credit appraisal processes, would have an interest in requesting information about the alignment to the Taxonomy also to SMEs that are not legally required to disclose it. Having these data available, in fact, allows banks to produce much more correct and robust KPIs than those calculated only on the basis of the information disclosed by counterparties legally required to draw them up.

7. APPENDIX 2: Templates for non-financial undertakings

Template for Turnover KPI – Annex II Delegated Act on Article 8

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

Template for CapEx KPI – Annex II Delegated Act on Article 8

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

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

8. APPENDIX 3: Formats of technical screening criteria

Format A – List of specific analytical criteria

REFERENCE	Climate Delegated Act – Annex I
ECONOMIC ACTIVITY	3.8 – Manufacture of aluminium
ASSESSMENT	Substantial Contribution to Climate Change Mitigation
TECHNICAL SCREENING CRITERIA	<p>The activity manufactures one of the following:</p> <ul style="list-style-type: none"> a) primary aluminium where the economic activity complies with two of the following criteria until 2025 and with all of the following criteria after 2025: <ul style="list-style-type: none"> i) the GHG emissions do not exceed 1,484 tCO₂e per ton of aluminium manufactured; ii) the average carbon intensity for the indirect GHG emissions does not exceed 100g CO₂e/kWh; iii) the electricity consumption for the manufacturing process does not exceed 15.5 MWh/t Al. b) secondary aluminium.

Format B – Tabular criteria

REFERENCE	Climate Delegated Act – Annex II				
ECONOMIC ACTIVITY	All the economic activities				
ASSESSMENT	Substantial Contribution to Climate Change Adaptation				
TECHNICAL SCREENING CRITERIA	List of physical climate hazards in Appendix A for which undertakings have to perform a robust climate risk and vulnerability assessment:				
		Temperature-related	Wind-related	Water-related	Solid mass-related
	Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
		Heat stress		Precipitation or hydrological variability	Soil degradation
		Temperature variability		Ocean acidification	Soil erosion
		Permafrost thawing		Saline intrusion	Solifluction
				Sea level rise	
			Water stress		
	Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
		Cold wave/frost	Storm (including blizzards, dust and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
		Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
				Glacial lake outburst	

Format C – References to third party documents

REFERENCE	Climate Delegated Act – Annex I
ECONOMIC ACTIVITY	1.1 - Afforestation
ASSESSMENT	DNSH vs Pollution prevention and control
TECHNICAL SCREENING CRITERIA	<p>The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, <u>in accordance with Directive 2009/128/EC of the European Parliament and of the Council</u>, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimises the use of fertilisers and does not use manure. <u>The activity complies with Regulation (EU) 2019/1009 of the European Parliament and of the Council or national rules on fertilisers or soil improvers for agricultural use.</u> Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in <u>Annex I, part A, of Regulation (EU) 2019/102115 of the European Parliament and of the Council, the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer,</u> and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the <u>WHO Recommended Classification of Pesticides by Hazard</u>. The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.</p>

Format D – Deconstructed and descriptive criteria

REFERENCE	Climate Delegated Act – Annex I
ECONOMIC ACTIVITY	6.17 – Low carbon airport infrastructure
ASSESSMENT	DNSH vs Transition to a circular economy
TECHNICAL SCREENING CRITERIA	<p>At least 70% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol. Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.</p>

Format E – References to appendices

REFERENCE	Climate Delegated Act – Annex II
ECONOMIC ACTIVITY	5.11 – Transport of CO2
ASSESSMENT	DNSH vs Sustainable use and protection of water and marine resources
TECHNICAL SCREENING CRITERIA	The activity complies with the criteria set out in <u>Appendix B to this Annex</u> .

Format F – Nested criteria

REFERENCE	Climate Delegated Act – Annex I
ECONOMIC ACTIVITY	3.14 – Manufacture of organic basic chemicals
ASSESSMENT	Substantial Contribution to Climate Change Mitigation
TECHNICAL SCREENING CRITERIA	<p>GHG emissions from the organic basic chemicals production processes are lower than:</p> <ul style="list-style-type: none"> a) for HVC: 0,693 tCO₂e/t of HVC; b) for aromatics: 0,0072 tCO₂e/t of complex weighted throughput; c) for vinyl chloride: 0,171 tCO₂e/t of vinyl chloride; d) for styrene: 0,419 tCO₂e/t of styrene; e) for ethylene oxide/ethylene glycols: 0,314 tCO₂e/t of ethylene oxide/glycol; f) for adipic acid: 0,32 tCO₂e /t of adipic acid. <p>Where the organic chemicals in scope are produced wholly or partially from renewable feedstock, the life-cycle GHG emissions of the manufactured chemical, manufactured wholly or partially from renewable feedstock, are lower than the life-cycle GHG emissions of the equivalent chemical manufactured from fossil fuel feedstock.</p> <p>Life-cycle GHG emissions are calculated using <u>Recommendation 2013/179/EU</u> or, alternatively, using <u>ISO 14067:2018</u> or <u>ISO 14064-1:2018</u>.</p> <p>Quantified life-cycle GHG emissions are verified by an independent third party.</p> <p>Agricultural biomass used for the manufacture of organic basic chemicals complies with the criteria laid down in <u>Article 29, paragraphs 2 to 5 of Directive (EU) 2018/2001</u>. Forest biomass used for the manufacture of organic basic chemicals complies with the criteria laid down in Article 29, paragraphs 6 and 7 of that Directive.</p>

9. APPENDIX 4: List of figures

Enterprises number

Figure 1- Enterprises number: micro vs other enterprises

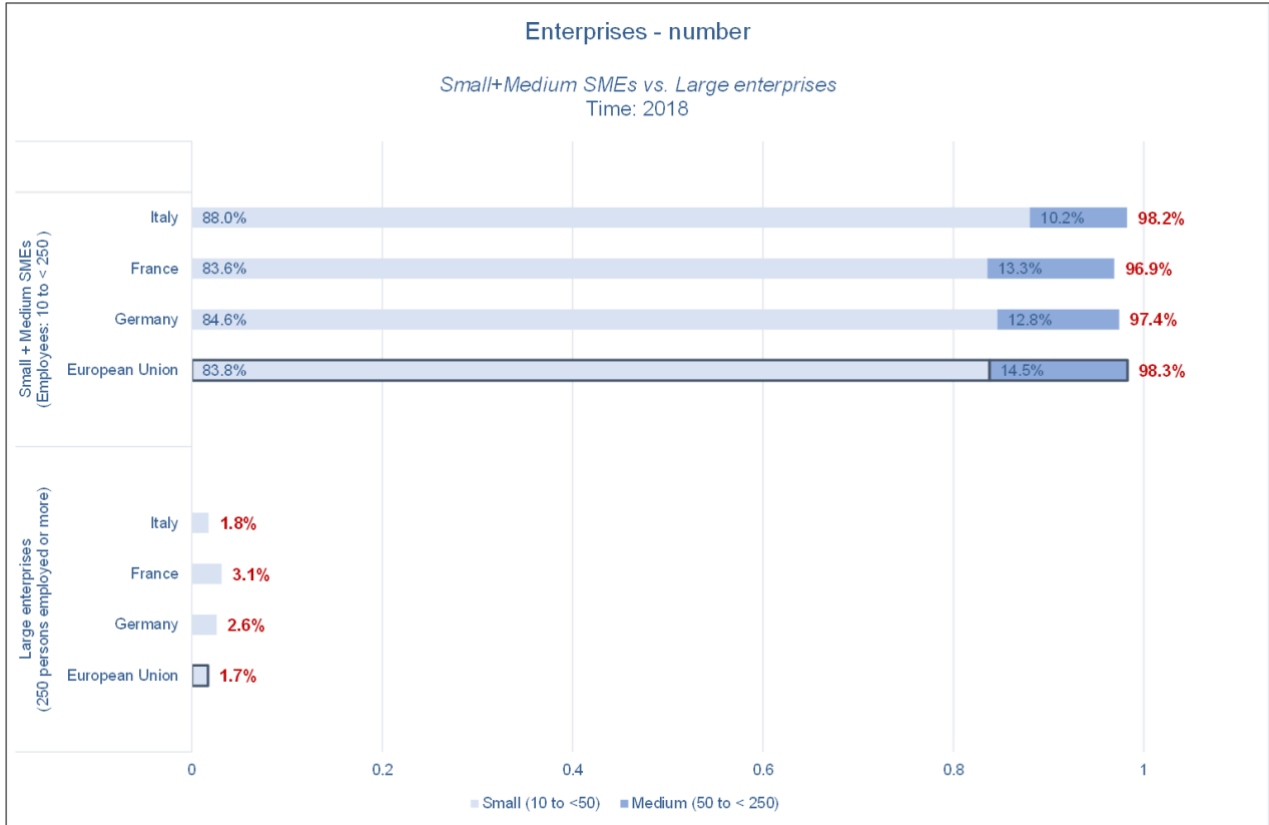


Figure 1 - Enterprises number: small + medium vs large enterprises

Value added at factor cost

Figure 2 - Value added: micro vs. other enterprises

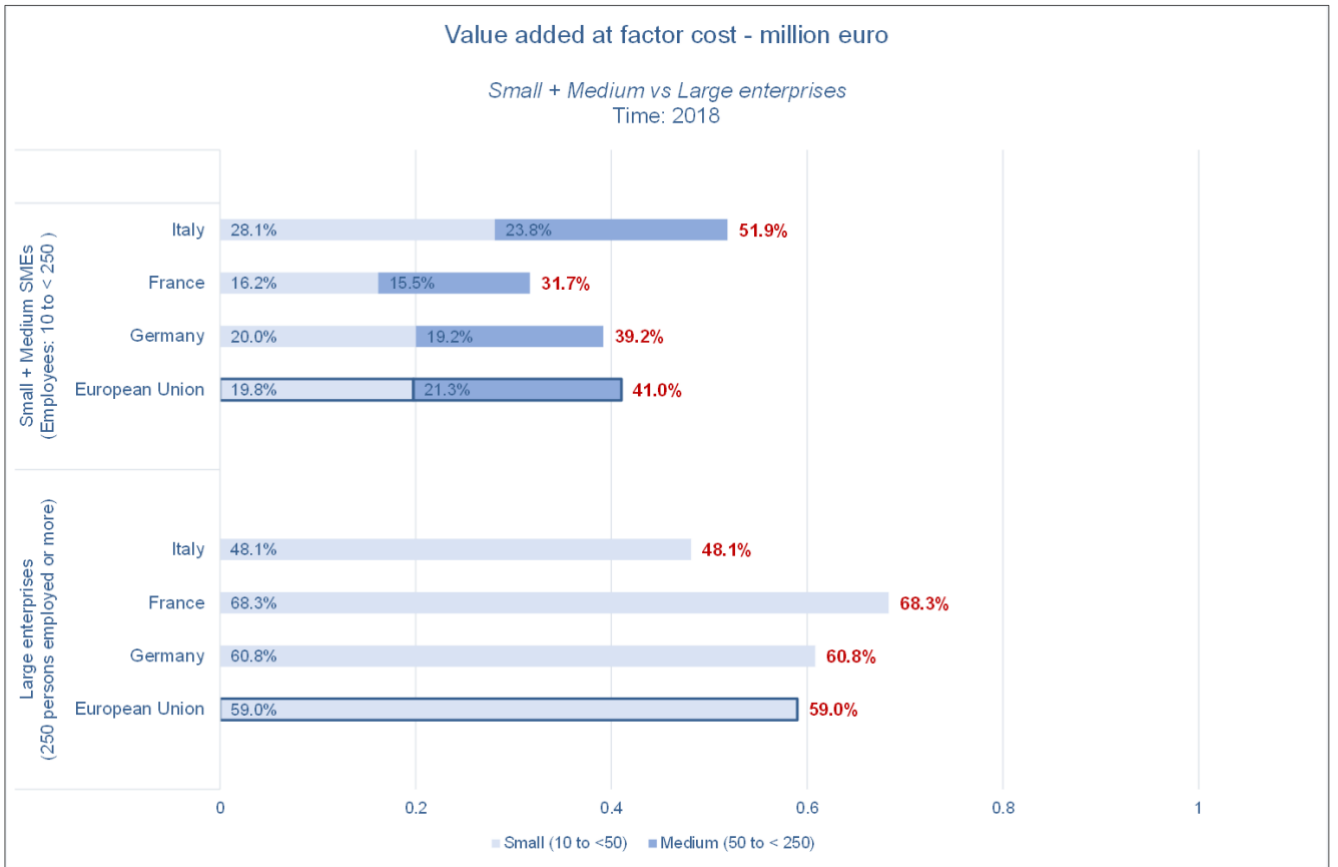


Figure 2 - Value added: small + medium vs. large enterprise

Turnover or gross premiums written

Figure 3 - Turnover: micro vs. other enterprises

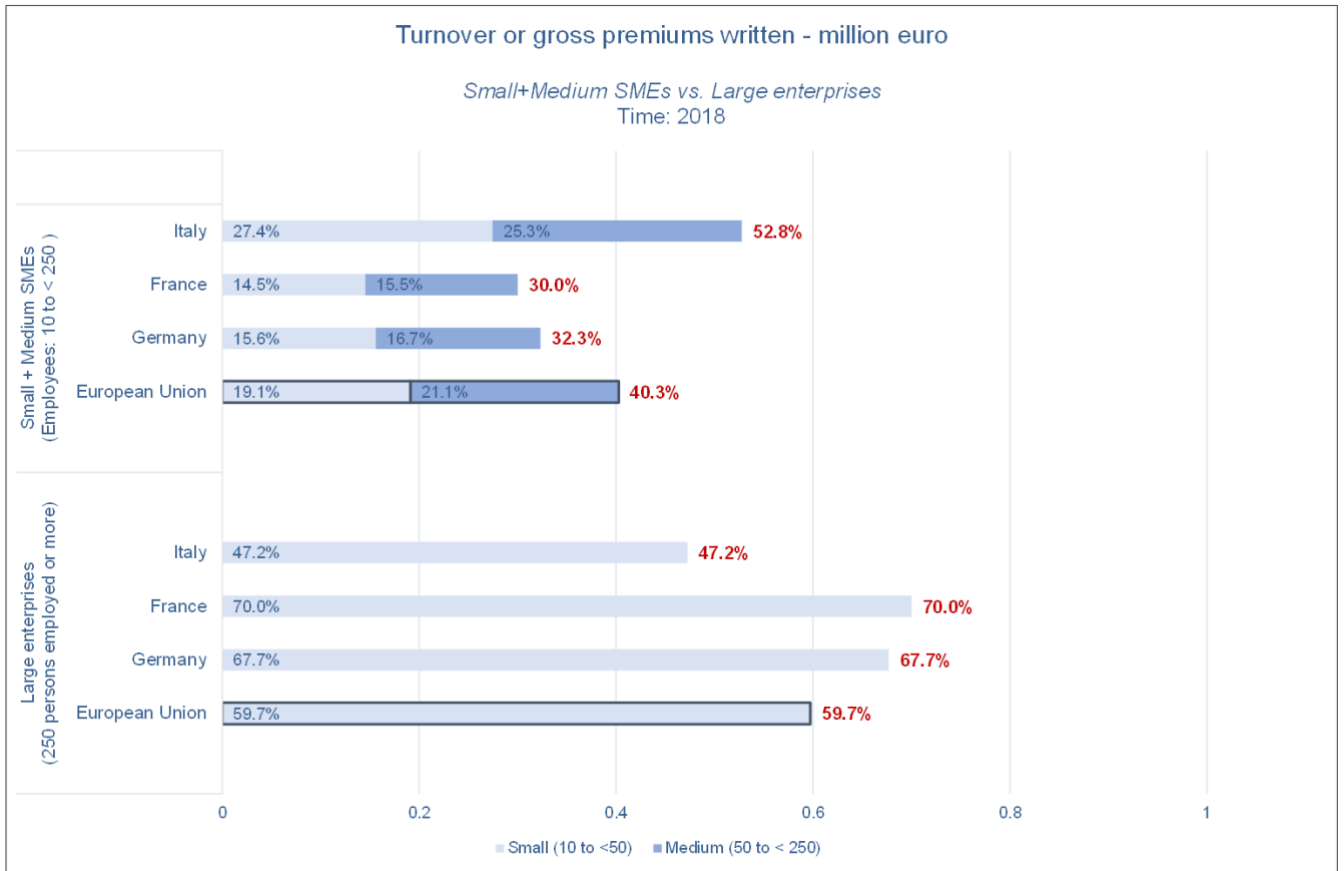


Figure 3 - Turnover: small + medium vs. large enterprises

Persons employed - number

Figure 4 - Persons employed: micro vs. other enterprises

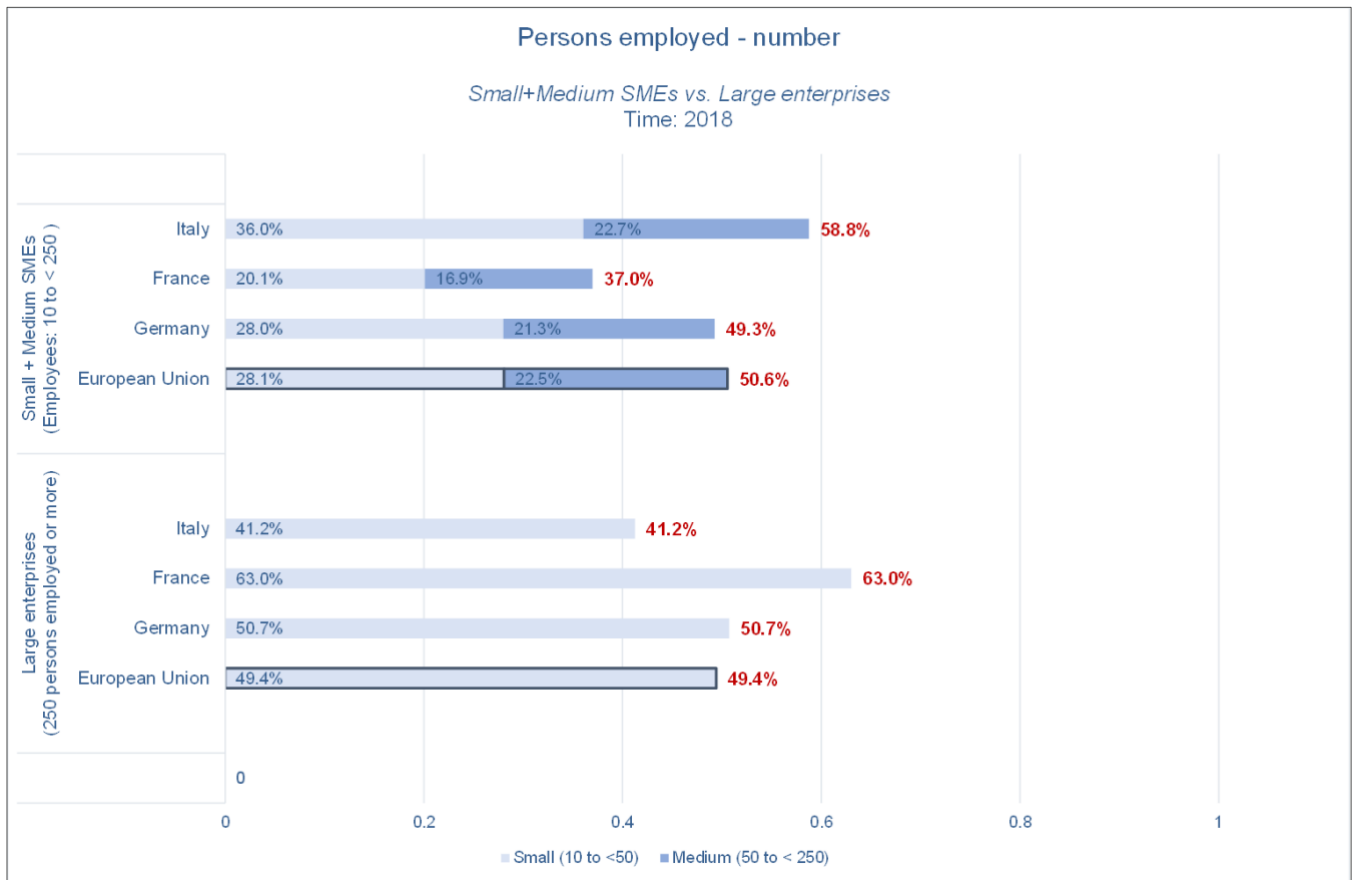


Figure 4 - Persons employed: small + medium vs. large enterprise

References

- Alessi, L., Battiston, S., Melo, A., & Roncoroni, A. (2019). *The EU Sustainability Taxonomy: a Financial Impact Assessment*. Joint Research Centre. Luxembourg: Publications Office of the European Union.
- Birindelli, G., Palea, V., Trussoni, L., & Verachi, F. (2020, September). Climate Change: EU taxonomy and forward looking analysis in the context of emerging climate related and environmental risks. *Risk Management Magazine*(15), 48-64.
- Canfora, P., Dri, M., Polidori, O., Solzbacher, C., & Arranz Padilla, M. (2021, January). *Substantial contribution to climate change mitigation – a framework to define technical screening criteria for the EU taxonomy*. Joint Research Centre. Luxembourg: Publications Office of the European Union.
- European Banking Authority. (2020, May 29). Guidelines on loan origination and monitoring. *EBA/GL/2020/06*.
- European Commission. (2021, June 4). ANNEX I to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. Bruxelles, Belgium.
- European Commission. (2021, June 4). ANNEX II to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. Bruxelles, Belgium.
- European Commission. (2021, July 6). ANNEXES I to IX to the COMMISSION DELEGATED REGULATION (EU) .../... supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation. Bruxelles, Belgium.
- European Commission. (2021, June 4). COMMISSION DELEGATED REGULATION (EU) .../... of 4.6.2021. supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. Bruxelles, Belgium.

- European Commission. (2021, July 6). COMMISSION DELEGATED REGULATION (EU) .../... of 6.7.2021. *supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation*. Bruxelles, Belgium.
- European Parliament and Council. (2020, June 18). Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020. *on the establishment of a framework to facilitate sustainable investment, and amending Regulation* . Bruxelles, Belgium.
- Och, M. (2020, November 15). Sustainable Finance and the EU Taxonomy Regulation - Hype or Hope? *Working Paper(2020/05)*. Leuven, Holland: Jan Ronse Institute for Company & Financial Law.
- Platform on Sustainable Finance. (July, 2021). *Draft Report by Subgroup 4: Social Taxonomy*. Draft Report.
- Schütze, F., Stede, J., Blauert, M., & Erdmann, K. (2020). EU Taxonomy - increasing transparency of sustainable investments. *DIW Weekly Report*, 10, 485-492.
- Scüetze, F., & Stede, J. (2020, December). EU Sustainable Finance Taxonomy - What is its Role on the Road towards Climate Neutrality? *DIW Berlin Discussion Paper*, 1923.