On the way to a sustainable economy: *Results of the MACIE EU Taxonomy Report 2023*

How sustainable are the non-financial companies of the EURO STOXX 50 with regards to the EU Taxonomy? This question was assessed by the authors of the MACIE EU Taxonomy Report 2023. Results suggest that among the selected firms, only 6% of their turnover in 2022 and less than 25% of the investments were classified as sustainable under the EU Taxonomy. The study concludes that there is still a long way to go to achieve a sustainable economy in Europe.

I. Motivation and setting

Based on the EU Taxonomy Regulation ((EU) 2020/852), capital market-oriented non-financial companies (i.e., industrial and service firms) that are required to report non-financial information under the Non-Financial Reporting Directive (NFRD) must report and detail out three "green" key performance indicators (KPIs) since 2022: turnover, operating expenditure (OpEx) and capital expenditure (CAPEX) [1–3]. According to the European Commission, the aim of these performance indicators is to define the environmental sustainability of companies' economic activities in a transparent and comparable way [1].

While simplified reporting requirements applied in 2022, since this year companies must classify their economic activities in a multi-stage due diligence process regarding their "taxonomy eligibility" or "taxonomy alignment" [2]. This multi-stage due diligence process comprises 4 steps to determine a company's sustainable performance [4,5].

As shown in Figure 1, the first step is to determine whether an economic activity has been included in the Delegated Act (EU) 2021/2139 by the European Commission and thus has the potential to contribute to the achievement of the EU environmental objectives. As part of this Delegated Act the European Union defined a list of economic activities that is based on the NACE industrial classification system [6]. Such activities classify as "taxonomy-eligible" and are allocated to the corresponding key performance indicator [2].

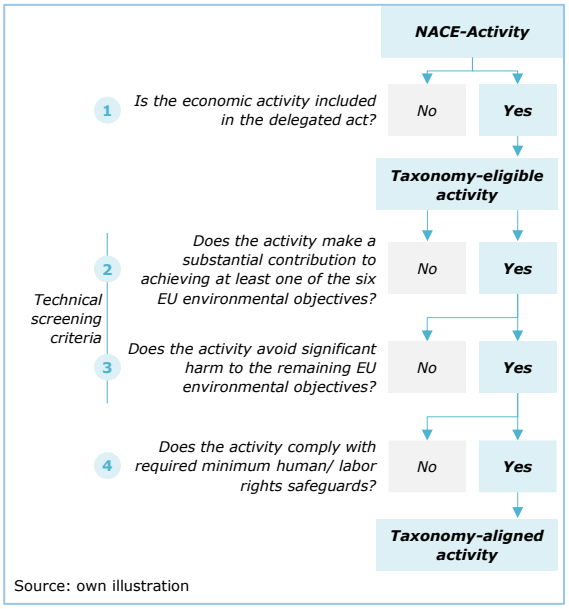

Figure 1: Process of verifying the taxonomy-alignment of economic activities

In the subsequent steps the taxonomy-eligible activities are then evaluated against the so-called technical evaluation criteria and minimum safeguard requirements and thereby the activities are tested for their actual sustainability performance [4]. Therefore, the activities must make a make a significant contribution to achieving at least one the EU's environmental objectives. In the third step, the activities must comply with the so-called "do-no-significant-harm" (DNSH) criteria to ensure that said activities don't have a negative impact on the remaining environmental objectives. In step four, companies must assess whether their processes and practices comply with the minimum standards for human and labor rights. A taxonomy-eligible activity that meets all

criteria may then be classified by companies as "taxonomy-aligned", i.e., sustainable under the EU Taxonomy. According to the European Commission, only these activities make significant contribution to achieving the EU's environmental objectives. Finally, companies can then classify and report the performance indicators of all their activities in three categories: taxonomy-non-eligible, taxonomy-eligible and taxonomy-aligned.

In this context, the authors take this as an opportunity to present their findings of the "MACIE EU Taxonomy Report 2023", a study of the Marburg Centre for Institutional Economics (MACIE) and the Philipps-Universität Marburg, to examine the sustainability of the business models of the non-financial companies of the EURO STOXX 50 under the EU Taxonomy Regulation [7]. Key findings of the study are presented and discussed below.

II. Background EU Taxonomy

Climate neutrality by 2050 in Europe - this is the goal set by the European Commission in 2019 [8]. To achieve this and to enable the transition to a sustainable and at the same time competitive economy, considerable investments and efforts will be required in the coming years [9]. The European Commission estimates that - to achieve the climate targets for 2030 - additional annual investments of 336 billion euros in the energy system alone (excluding the transport sector) will be necessary [10].

The European Commission is aware that public funds alone cannot finance the transformation of companies and the economy [1]. Hence, private capital flows into sustainable investments are required. However, the multitude of available definitions of the term "sustainability" is considered an obstacle. Therefore, the creation of a classification system to identify sustainable investments was discussed in 2018 in the EU Action Plan for Financing Sustainable Growth [1].

The EU Taxonomy Regulation is a classification system that is based on six EU environmental objectives (Figure 2) and defines economic activities that can contribute to achieving these objectives. The required reporting guidelines aim at creating the basis of communication between companies and investors. However, to date only economic activities that contribute to the first two of the six EU environmental objectives have been developed and entered into force: (1) climate protection and (2) adaptation to climate change. While an economic activity pursuing climate change mitigation aims at stabilizing greenhouse gas emissions in line with the target of the Paris Agreement, economic activity under the goal of climate change adaptation aims at reducing the adverse effects of the current or future climate on people, nature, and assets [1]. Although the economic activities currently covered represent only 40% of all activities, they account for 80% of the emissions of listed companies in Europe [11]. In April 2023, the European Commission published a draft of the delegated act for the EU environmental objectives (3)-(6) and initiated a consultation process [12]. It is not yet foreseeable when the delegated act will finally enter into force.

(1)	Climate change mitigation
(2)	Climate change adaption
(3)	The sustainable use and protection of water and marine resources
(4)	The transition to a circular economy
(5)	Pollution prevention and control
(6)	The protection and restoration of biodiversity and ecosystems

Source: Article 9 (EU) 2020/852

Figure 2: EU Environmental objectives

III. KPI I: Turnover

In the reporting period 2022, the sampled companies generated a turnover of 2,443 billion euros with their economic activities, which corresponds to around 18% of the GDP of the Eurozone.

According to the companies, only 39% of their turnover is taxonomy-eligible, i.e., has the potential to make a significant contribution to achieving the EU's environmental objectives (Figure 3) which can

be explained by two reasons: On the one hand, these companies are engaged in economic activities that the European Commission considers not to be conducive to achieving the EU's environmental objectives. Such activities do not classify as taxonomy-eligible. On the other hand, the EU Taxonomy currently only considers two of the six environmental objectives defined by the EU, and thus not all possibly sustainable economic activities.

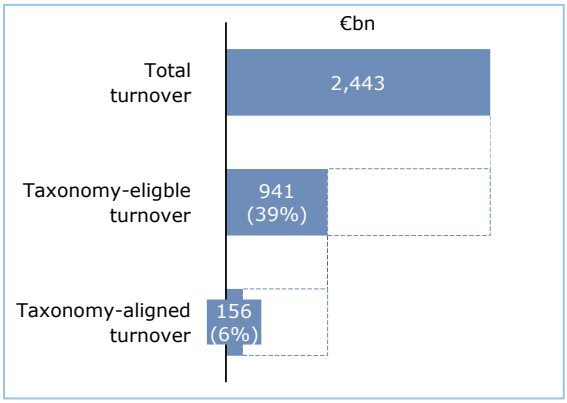

Figure 3: Taxonomy-eligible and -aligned turnover of EURO STOXX 50 sample firms 2022

While 39% of turnover has been classified as taxonomy-eligible, 83% of these do not meet the technical criteria of the EU Taxonomy and therefore cannot be classified as taxonomy-aligned. Hence, only 6% of all turnover generated by the companies examined are classified as sustainable under the EU Taxonomy.

Low percentage values can be explained by the fact that the foundations of the current economic activities were laid many years ago, i.e., at a time when, on the one hand, environmental and sustainability aspects still played a minor role in some cases, but at which the EU Taxonomy and the classification system of economic activities on the other hand had not yet been designed and were therefore not known to the companies. The upcoming expansion to include the environmental objectives (3)-(6) will probably increase the sustainability potential of the EURO STOXX 50.

IV. KPI II and III: Operating and Capital expenditure

In addition, the EU Taxonomy Regulation requires companies to disclose the proportion of sustainable investments. The regulation distinguishes between operating expenditure (e.g., costs for research and development, restructuring or leasing) and capital expenditure (e.g., in property, plant and equipment or intangible assets). The companies under review invested a total of 379 billion euros in 2022, of which 103 billion euros were classified as operating expenditure and 276 billion euros as long-term capital expenditure.

According to the companies, 35% of operating expenditures have the potential to contribute to the achievement of the EU environmental objectives and 13% are sustainable under the EU Taxonomy. In terms of capital expenditure, 55% of investments were classified as taxonomy-eligible and 21% as sustainable under the EU Taxonomy (Figure 4).

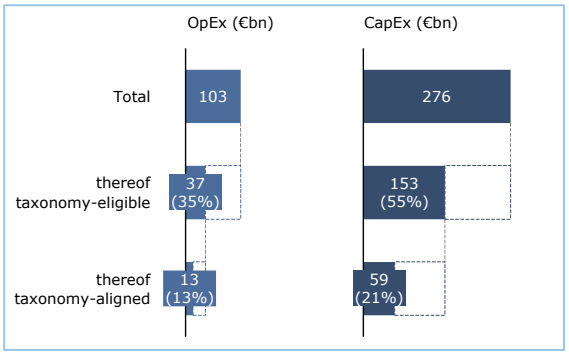

Figure 4: Taxonomy-eligible and -aligned investments of EURO STOXX 50 sample firms 2022

Today's investments determine the medium and long-term development of companies and their sustainability performance. Therefore, it is positive that the proportion of sustainable investments is higher than that of turnover reflecting the status quo of economic activities. Nevertheless, values of less than 25% can certainly not be considered satisfactory from the point of view of the European Commission.

V. Conclusion

The European Commission has set the goal of achieving climate neutrality by 2050 [8]. With the help of the EU Taxonomy, private financial flows are to be steered in such a way that they contribute to transform the economy towards a more sustainable operating model [9].

However, an efficient steering of private capital flows towards sustainable investments can only succeed if the EU Taxonomy is accepted as a common and universal language for sustainable economic activities. This transformation, however, requires the full elaboration of the EU Taxonomy Regulation and the development of the delegated act for the missing environmental objectives (3)-(6) including the list of economic activities and technical screening criteria. However, it is not yet foreseeable when the associated delegated act will enter into force, which results in high uncertainty for the affected companies.

In addition, the EU Taxonomy requires extensive professional and technical expertise not only from the firms but also from investors and the public, as otherwise it is difficult to interpret the results and put them into context. In addition, companies still report uncertainties regarding the interpretation and application of the regulation. The European Commission should take these difficulties seriously and take countermeasures. Otherwise, the EU Taxonomy might be considered secondarily to other ESG metrics in investment decisions due to interpretation difficulties and low significance [13].

From a business perspective, the EU Taxonomy forces the top management group to rethink current business model in a granular way. In addition, the mandatory reporting on the EU Taxonomy is associated with a high level of effort and complexity, as companies now must reorganize their reporting along the specified reporting logic. This requires appropriate regulatory know-how, cross-functional cooperation and adjustments in IT, data collection and other processes.

Therefore, management teams and supervisory boards of companies that will be affected by the EU Taxonomy in the future (large companies from fiscal year 2025 and all capital market-oriented small and medium-sized enterprises with the exception of micro-enterprises from fiscal year 2026) should reflect at an early stage on what the sustainability requirements of the EU Taxonomy mean for the respective business model in the long term, what operational and strategic consequences will result from this and how these can be managed.

MACIE EU Taxonomy Report 2023

The MACIE EU Taxonomy Report is available on SSRN: https://ssrn.com/abstract=4465530.

Research design

The research examined the 35 industrial and service companies of the EURO STOXX 50 (as of January 1, 2023) that have published their annual report for the year 2022 by May 01, 2023, including the key performance indicators for taxonomy alignment. Infineon Technologies AG, Linde plc, Pernod Ricard S.A., Prosus N.V., and Siemens AG were therefore not included. Financial and insurance companies were also excluded as they report other performance indicators.

About the researchers

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VI. References

[1] European Commission, Regulation (EU) 2020/852 of the European Parliament and of the Council: (EU) 2020/852, 2020.

[2] European Commission, Commission Delegated Regulation (EU) 2021/2178: (EU) 2021/2178, 2021.

[3] W. Bovenschen, R. Lieshout, EU Taxonomy, action plan & supervisory developments on sustainable finance: what uses may these have

for the E(S)CB?, ESCB Legal Conference (2020) 118–129.

[4] L. Alessi, S. Battiston, A.S. Melo, Travelling down the green brick road: a status quo assessment of the EU taxonomy, 2023. https://www.ecb.europa.eu/pub/financial-stability/macroprudential-bulletin/html/ecb.mpbu202110_2~ea64c9692d.en.html#toc7 (accessed 30 May 2023).

[5] European Commission, Impact Assessment Report SWD(2021) 152 final, 2021. https://data.consilium.europa.eu/doc/document/ST-9801-2021-INIT/en/pdf (accessed 26 May 2023).

[6] European Commission, Commission Delegated Regulation (EU) 2021/2139: (EU) 2021/2139, 2021.

[7] M.S. Rapp, M. Roser, MACIE EU Taxonomy Report 2023, 2023. www.uni-marburg.de/en/fb02/research/institutes/macie/EU_Taxonomy_Report_2023 (accessed 27 May 2023).

[8] European Commission, Regulation (EU) 2021/1119 of the European Parliament and the Council, 2021. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32021R1119 (accessed 31 May 2023).

[9] EU Technical Expert Group on Sustainable Finance, Taxonomy: Final report of the Technical Expert Group on Sustainable Finance, 2020. https://finance.ec.europa.eu/system/files/2020-03/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf (accessed 30 May 2023).

[10] European Commission, Impact Assessment: SWD/2020/176 final, 2020. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020SC0176 (accessed 26 May 2023).

[11] European Commission, FAQ: What is the EU Taxonomy and how will it work in practice?, 2021. https://finance.ec.europa.eu/system/files/2021-04/sustainable-finance-taxonomy-faq_en.pdf (accessed 26 May 2023).

[12] European Commission, European Commission Daily news, 2023.

[13] H. Pettingale, S. de Maupeou, P. Reilly, EU Taxonomy and the Future of Reporting, 2022. https://corpgov.law.harvard.edu/2022/04/04/eu-taxonomy-and-the-future-of-reporting/ (accessed 26 May 2026).