



**Philipps-Universität Marburg**  
School of Business and Economics  
MACIE - Marburg Centre for Institutional Economics  
**Prof. Dr. Marc Steffen Rapp**

# MACIE EU Taxonomy Report 2023

Insights from EURO STOXX 50 firms

May 2023



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# About this report

- ❑ In December 2019, the European Commission made use of its 'right of initiative' and proposed that Europe should become the first climate neutral bloc by 2050. Next day, the European Council endorsed the idea and in April 2021 they reached an agreement about the intended objective.
- ❑ Without doubts, this is an ambitious goal and significant investments are required in the upcoming years to enable the transition towards what should become a "low-carbon, resilient and resource-efficient economy" that allows to achieve climate neutrality by 2050. Specifically, it creates the need to channel substantial amounts of money into sustainable and resource-efficient activities.
- ❑ Already, in 2018, the EU's action plan on Financing Sustainable Growth called for the creation of a classification system for sustainable activities to define what to be considered a '*sustainable investment*' with the ultimate purpose of reorienting capital flows towards sustainable investments.
- ❑ This is the purpose of the EU Taxonomy that entered into force on 22 June 2020. It aims to identify economic activities that can contribute to the EU's environmental objectives. As such, the EU Taxonomy intends to create a common ground for businesses and investors by requiring them to report three climate-related key performance indicators (KPIs).
- ❑ With this study, we aim to shed light on the newly introduced regulation. Examining firms listed in the EURO STOXX 50, we aim to assess the current state of 'greenness' of the very largest listed European companies according to the EU Taxonomy. Among others, we provide evidence regarding the following questions:
  - » How 'green' are the business models of the very largest European listed companies according to the EU Taxonomy?
  - » What is the level of taxonomy-eligibility and -alignment of EURO STOXX 50 firms and their business models measured by the three climate-relevant KPIs of the EU Taxonomy?
  - » How do the firms/ industries differ with regards to their taxonomy-eligibility and -alignment?

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# 1 | Executive Summary

- ❑ Since 2022, European firms that fall within the scope of the NFRD/CSRD must report about the conformity of their economic activities with the EU Taxonomy. Thereby, it is important to note that the EU Taxonomy is still “work in progress”. [Section 2 | About the EU Taxonomy](#).
- ❑ The study evaluates to what extent the economic activities of the largest listed European firms conform with the EU Taxonomy. In doing so, it follows the logic proposed by the EU Taxonomy and differentiates two concepts of conformity: eligibility and alignment. [Section 3 | Scope and approach](#).
- ❑ Only 51% of sample firms report taxonomy-eligible turnover, while 97% report taxonomy-eligible activities to at least one of the required KPIs. These activities cluster in 8 of the 13 EU Taxonomy economic sectors. Overall, eligibility is low: 39% for turnover, 35% for OPEX, and 55% for CAPEX. [Section 4 | EU Taxonomy-eligible activities](#).
- ❑ Only 46% of sample firms report taxonomy-aligned turnover. In the aggregate, 6% (or 156 €bn out of 2,443 €bn) of turnover, 13% (or 13 €bn out of 103 €bn) of OPEX, and 21% (or 59 €bn out of 276 €bn) of CAPEX are classified as taxonomy-aligned. For the average firm report 5% of its turnover, 10% of its OPEX, and 13% of its CAPEX as taxonomy-aligned. While there is significant industry heterogeneity, there is no clear correlation between the level of taxonomy-aligned activities and other measures of sustainability (e.g., Scope 1 CO2 emissions per turnover). [Section 5 | EU Taxonomy-aligned activities](#).
- ❑ Currently, climate change mitigation seems the most important environmental goal that drives the extend of taxonomy-eligible activities. Moreover, several issues remain with the EU Taxonomy that should be addressed in due time. Finally, the European Commission should thoroughly review potential unintended consequences. [Section 6 | Summary and conclusion](#).

# Methodology

- ❑ **Which companies do we cover?**  
We cover all non-financial firms listed in the EURO STOXX 50 with fiscal year end 31/Dec/2022 that have reported about the conformity of their activities with the EU Taxonomy until 01/May/2023. These 35 firms account for a market capitalization of 2,710 €bn and generate an aggregate turnover of 2,443 €bn. Moreover, they invest 103 €bn in OPEX, and 276 €bn in CAPEX.\*
- ❑ **What KPIs do we analyze?**  
In the progress of defining the EU Taxonomy, the European Commission has agreed on three green KPIs (turnover, OPEX, CAPEX). We track these three KPIs and evaluate the proportion of firms reporting at least marginal green performance along these KPIs, as well as the average green performance for the cohort of sample firms.
- ❑ **Why are these KPIs important?**  
While the KPI turnover aims to provide information about the sustainability level of current operations, the KPIs OPEX and CAPEX aim to provide an outlook, as they try to gauge the relevance of sustainability in the capital allocation of the firm.
- ❑ **How do we source information?**  
We carefully reviewed the annual reports of these firms and extracted information on their EU Taxonomy conformity. We then collected information on the three green KPIs defined by the European Commission and to what extent the firms perform in regarding their “taxonomy eligibility” and “taxonomy alignment” along these three dimensions.

\* While the EURO Stoxx 50 comprises 50 firms, our sample covers only 35 firms. 10 firms are eliminated because they are financial or insurance institutions required to report different KPIs, 4 firms have fiscal years ending before the 31/Dec/2023. One firm did not publish their annual reports including the EU Taxonomy reporting by 01/May/2023.

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## 2 | About the EU Taxonomy (1/2)

### Context

In 2019, the EU Member States committed to the European Green Deal. It aims at achieving climate neutrality by 2050. To get there, it foresees to reduce emissions of all Member States by at least 55% by 2030, compared to 1990. This will create new opportunities for innovation, jobs and economic growth but also requires significant investments into sustainable activities. Already in 2018, the action plan on Financing Sustainable Growth called for the creation of a common classification system, defining sustainable economic activities, to channel institutional and private capital flows towards sustainable investments.

### Legal framework

The EU Taxonomy regulation ((EU) 2020/852), in force since July 2020, scientifically defines economic activities and the technical screening criteria that allow economic activities to qualify as environmentally sustainable.

Essentially, an economic activity can only be classified as sustainable if it substantially contributes to one of the six environmental objectives of the Green Deal as laid down in Article 9 of Regulation (EU) 2020/852 (see right side). Different criteria may apply for an activity to make a substantial contribution to each objective.

So far, economic activities and technical criteria for the first two objectives (climate change adaptation and mitigation) were published (delegated act (EU) 2021/2139). A second delegated act for the remaining four objectives has been published in April 2023 and will presumably be applicable from January 2024.

The EU Taxonomy distinguishes economic activities between taxonomy-eligible, taxonomy-eligible and -aligned, and taxonomy-eligible but not-aligned activities. While taxonomy-eligible activities indicate the potential to contribute to the environmental objectives, only taxonomy-aligned activities can be considered as environmentally sustainable.

Therefore, an eligible activity is an economic activity described in the delegated act irrespective whether it meets any of the technical screening criteria of the delegated act. It represents the maximum environmental sustainability potential of an economic activity as defined by the EU Taxonomy. An activity must be eligible to also be aligned.

### Environmental objectives of the EU Taxonomy

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

Source: EU Taxonomy Regulation 2020/852 of the European Parliament and of the Council and Delegated Regulations 2021/2178 and 2021/2139 of the EU Commission

## 2 | About the EU Taxonomy (2/2)

### Legal framework (cont.)

An activity is considered aligned if it complies with Article 3 of Regulation (EU) 2020/852 as follows:

- ❑ It is described in the delegated act (EU) 2021/2139 on environmental objectives (1) and (2) or in a later stage in the second delegated act on environmental objectives (3)-(6)
- ❑ It complies with the technical screening criteria outlined in Annex I and II of the delegated act (EU) 2021/2139 and thereby contributes substantially to at least one of the six environmental objectives
- ❑ It does not significantly harm any of the other environmental objectives laid down in Article 17 of Regulation (EU) 2020/852
- ❑ It is carried out in compliance with the minimum safeguards laid down in Article 18 of Regulation (EU) 2020/852

While aligned activities must meet all the above-mentioned criteria, taxonomy-eligible but not aligned activities do either not make a substantial contribution, do significantly harm another objective or do not comply with minimum safeguard procedures.

### Reporting

The EU Taxonomy regulation distinguishes financial and non-financial firms with regards to their reporting requirements and timelines.

Since January 2022, non-financial firms, that publish a non-financial declaration, are also required to report on the EU Taxonomy. According to Article 8 of the Regulation (EU) 2020/852, the taxonomy-eligible and -aligned proportions of turnover, capital expenditure (CAPEX) and operating expenditure (OPEX) by economic activities are to be reported on an annual basis. KPIs are reported as percentage of total firm turnover/CAPEX/OPEX that is considered eligible/aligned. For further details on the methodology please refer to Annex I of delegated act (EU) 2021/2178.

During the first year after its introduction corresponding to the FY21 annual reports, non-financial firms were required to only report taxonomy-eligibility. Since January 2023 (corresponding to FY22 annual reports), non-financial firms are required to report their level of taxonomy-eligibility as well as -alignment.

### Taxonomy-eligibility/ -alignment

An economic activity is **taxonomy-eligible** if it the activity...

... is described in the delegated act of the EU Taxonomy regulation

An economic activity is **taxonomy-aligned** if it the activity...

... is **eligible**, i.e., included in the Delegated Act on environmental objectives (1) and (2)

... makes a **substantial contribution** by fulfilling the technical screening criteria

... **does not significantly harm** the other environmental objectives

... does comply with **minimum safeguards**

Source: EU Taxonomy Regulation 2020/852 of the European Parliament and of the Council and Delegated Regulations 2021/2178 and 2021/2139 of the EU Commission

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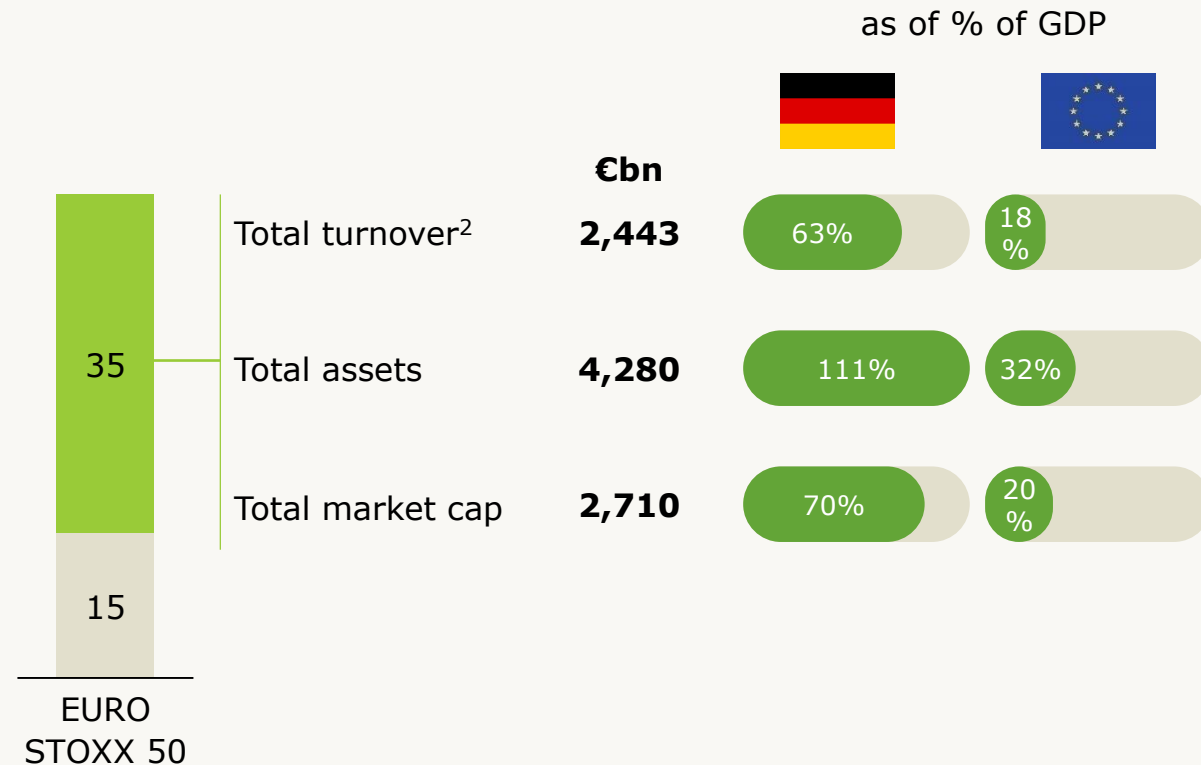
### 3 | Scope and approach (1/2)

- ❑ The subject of this study are all non-financial firms that were members of the EURO STOXX 50 on 01/Jan/2023. Financial firms were excluded as their EU Taxonomy reporting guidelines and KPIs differ from those of non-financial firms. Also, we restrict the sample to firms with fiscal year end 31/Dec/2022. This is to ensure that firms must comply with full EU Taxonomy reporting obligations.<sup>1</sup>
- ❑ Data collection was completed on 01/May/2023. Therefore, 5 non-financial firms are not included in the sample because their annual report for the second year of reporting, 2022 including information on taxonomy-alignment, is not (yet) available. Therefore, the final number of firms included in this study is 35.
- ❑ In total, these firms generate an annual turnover of 2,443 €bn in 2022. This corresponds to 18% of the GDP of the Eurozone, which amounted to 13,320 €bn in 2022, and 63% of the GDP of Germany. Also, their balance sheets add up to 4,280 €bn, or 111% of GDP of Germany.
- ❑ Given the sheer size of these sample firms, it seems fair to argue that the potential and actual contribution of these firms to the environmental objectives of the European Commission is highly relevant.

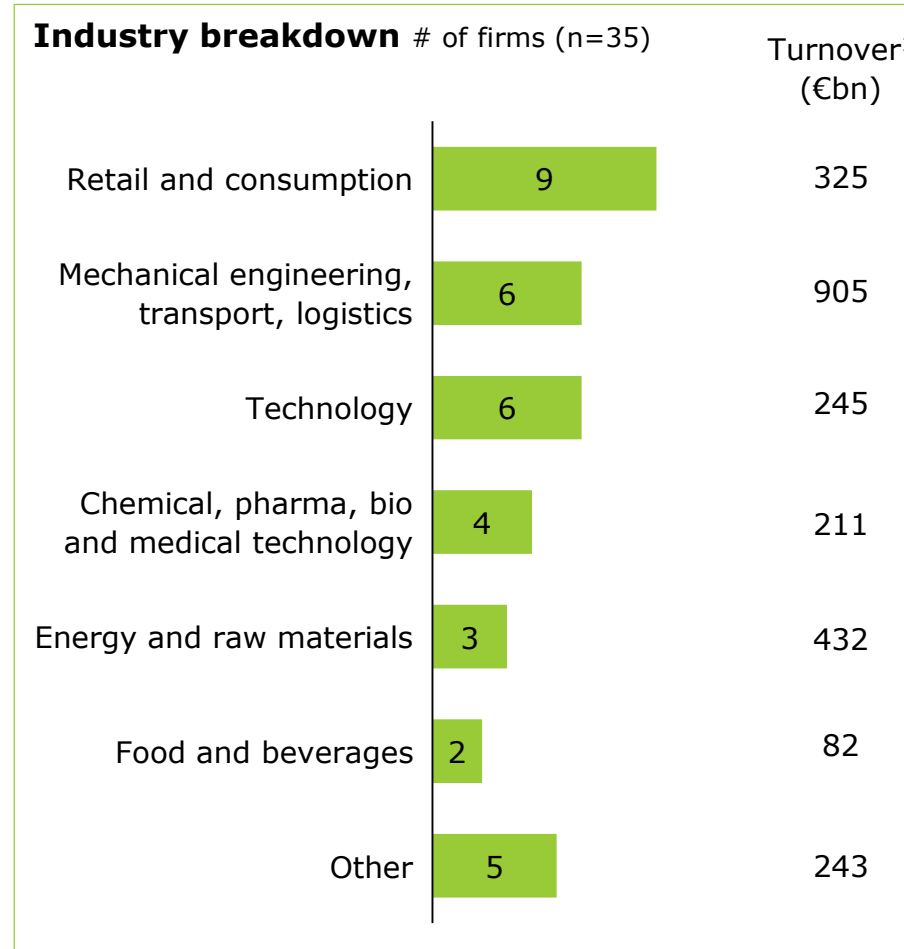
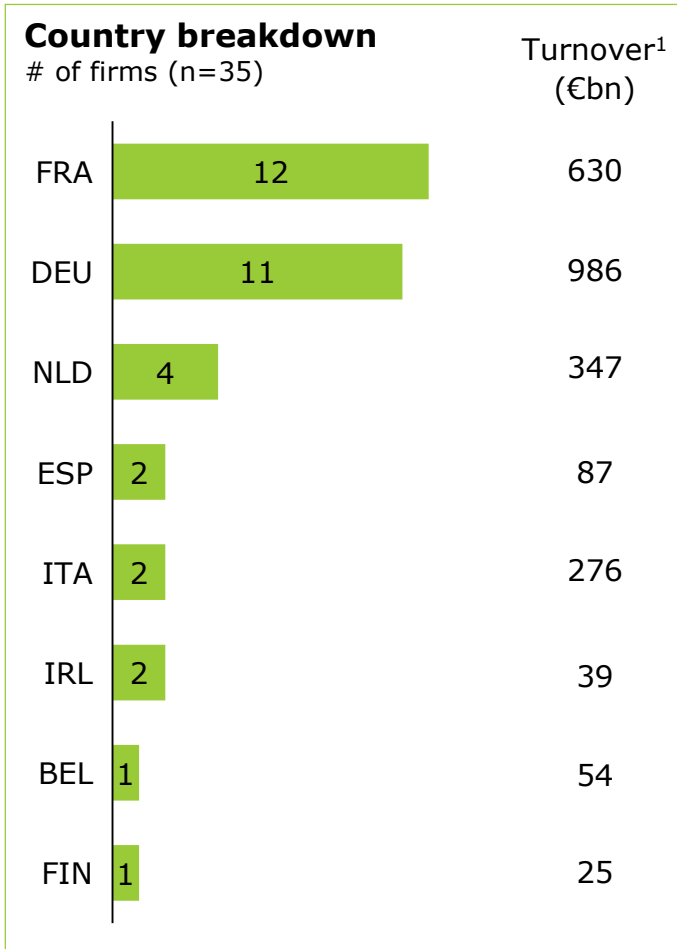
1. Since January 2022 European companies that fall within the scope of the NFRD/CSRD must report about the conformity of their economic activities with the EU Taxonomy  
 2. Turnover defined as EU Taxonomy total turnover (denominator of KPI)  
 Sources: EUROSTAT (Gross domestic product at market prices; online data code: TEC00001), Refinitiv Datastream

#### EURO STOXX sample, # of firms

■ In sample  
 ■ Out of sample



### 3 | Scope and approach (2/2)



- ❑ Looking at the sample from the perspective of geographic location, we note:
  - » 34% of sample firms are headquartered in France, followed by 31% in Germany and 11% in the Netherlands.
  - » Regarding turnover: 40% of the sample's turnover is generated by German firms, followed by 26% of French firms and 14% by Dutch firms and 11% by Italian firms.
- ❑ From the perspective of industry affiliation, we note:
  - » 26% of firms belong to the retail and consumption industry, 17% are mechanical engineering, transport, logistics firms or technology firms and 11% belong to the Chemical, pharmaceutical, biotechnology and medical technology industry.
  - » Regarding turnover: 37% of turnover is generated by the mechanical engineering, transport, logistics industry, followed by 18% of the energy and raw materials sector and 13% by the retail and consumption industry.

1. Turnover defined as EU Taxonomy total turnover (denominator of KPI)  
 Source: Firms annual reports FY2021 and FY2022, own calculation

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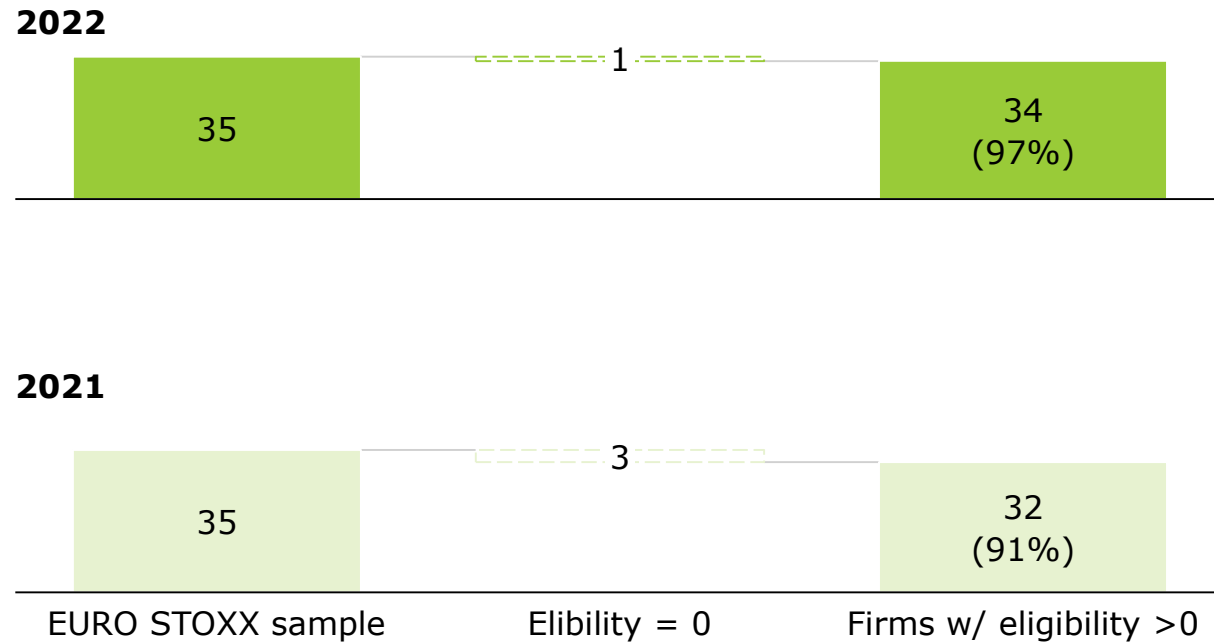
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# 4 | 97% of non-financial EURO STOXX 50 firms are taxonomy-eligible at least with 1 of 3 three EU Taxonomy KPIs

**Taxonomy-eligible firms with at least 1 KPI eligible, 2022 vs. 2021**  
# of firms

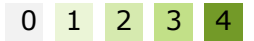


- ❑ In 2022, required reporting includes taxonomy-eligibility as well as taxonomy-alignment in relation to environmental objectives climate change mitigation and climate change adaptation.
- ❑ An economic activity pursuing climate change mitigation aims at contributing to stabilizing greenhouse gas emissions in line with the target of the Paris Agreement.
- ❑ An economic activity under the goal of climate change adaptation aims at contributing to reducing the adverse effects of the current or future climate and its effect on people, nature, and assets.
- ❑ The first two goals hereby focus on activities with the highest contribution to CO2 emissions (e.g., energy, manufacturing, transport and buildings), as well as activities that enable a firm’s transformation towards a more sustainable operating model.
- ❑ Firms whose core business is currently not covered in the delegated acts of the EU Taxonomy regulation are either not considered sustainable under the EU Taxonomy or non-eligible until further economic activities and delegated acts for the remaining environmental objectives will enter into force.
- ❑ Nonetheless, 97% (2022), and 91% (2021) of the sample are taxonomy-eligible with at least one KPI non-financial firms are required to report. That means that 97% of the sample identified at least one activity included in the delegated that can be associated with turnover, OPEX or CAPEX.
- ❑ 2 firms reported taxonomy-eligible activities in 2022 for the first time. One firm classified its turnover, OPEX and CAPEX as taxonomy-non-eligible in 2021 as well as 2022.

Source: Firms annual reports FY2021 and FY2022, own calculation

# 4 | Some of the EURO STOXX sample's industries are taxonomy-non-eligible as not considered in the first delegated act

# of firms attributable to sector/ industry



## Turnover: Eligible firms per sector and industry<sup>1</sup>, 2022

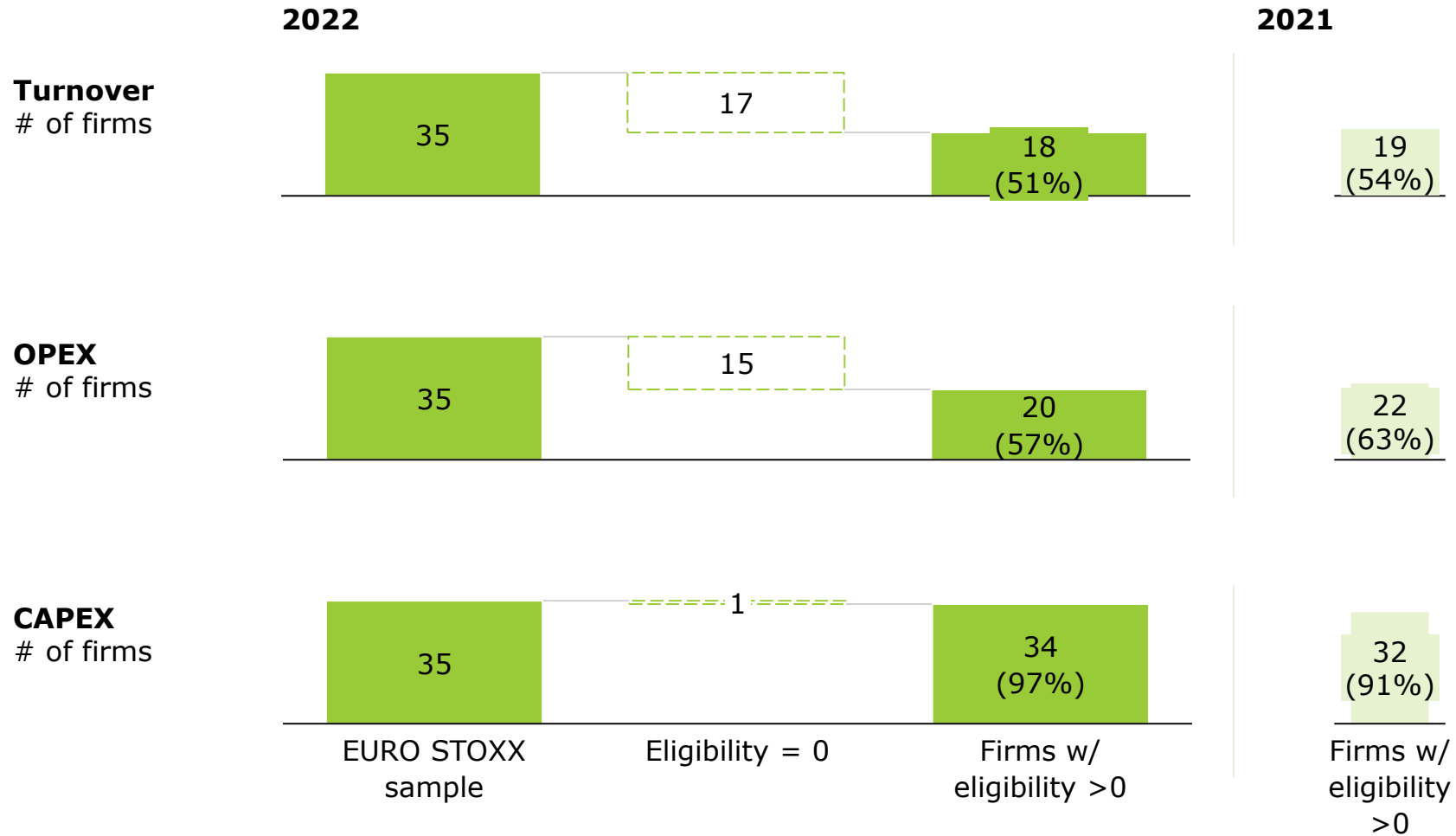
EU Taxonomy sectors	Firm industry	Energy and raw materials	Technology	Mechanical engineering, transport, logistics	Chemical, pharma, bio and medical technology	Retail/ consumption	Food and beverages	Other
Manufacturing		2	1	4	2	0	0	1
Transport		2	2	2	1	0	0	2
Energy		2	1	0	1	0	0	2
Construction and real estate		2	1	1	0	0	0	2
Professional, scientific and technical activities		1	1	1	0	0	0	2
Water supply, sewerage, waste, remediation		2	0	0	1	0	0	1
Information and communication		0	2	0	0	0	0	1
Environmental protection/ restoration activities		0	0	0	0	0	0	1
Education		0	0	0	0	0	0	0
Financial and insurance activities		0	0	0	0	0	0	0
Human health and social work activities		0	0	0	0	0	0	0
Forestry		0	0	0	0	0	0	0
Arts, entertainment and recreation		0	0	0	0	0	0	0
<b># of firms per industry</b>		<b>3</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>9<sup>2</sup></b>	<b>2<sup>2</sup></b>	<b>5</b>

1. Firms can perform economic activities from more than one EU Taxonomy sector but can only be assigned to one EURO STOXX 50 industry | 2. All firms of specified industry are taxonomy-non-eligible

Source: Firms annual reports FY2021 and FY2022, own calculation

# 4 | Overall eligibility of firms is mainly driven by the CAPEX KPI, as fewer firms identified eligible turnover and OPEX

## Taxonomy-eligible firms, 2022 vs. 2021



- ❑ Only 51%/57% of the sample firms identified taxonomy-eligible activities that count as turnover/OPEX in 2022. These numbers are similar to the year before, indicating only small differences.
- ❑ In addition, all firms except one, invest in CAPEX activities that can be considered eligible under the EU Taxonomy. This means that they are associated with emissions-intensive activities and have the potential to contribute to the EU's environmental objectives (1) and (2).
- ❑ Eligible turnover can only result from products or services, associated with taxonomy-eligible economic activities. Since the EU Taxonomy focused on emissions-intensive activities, some industries are currently not included in the delegated act, explaining the lower number of firms with eligible turnover.
- ❑ However, eligible CAPEX and OPEX can not only result from assets or processes associated with taxonomy-eligible activities but also from standalone investments included in the delegated act even if not directly related to the firm's core economic activities (e.g., purchase of taxonomy-aligned output, investments in CAPEX to extend eligibility/to become aligned). This explains the higher number of firms with eligible CAPEX.

Source: Firms annual reports FY2021 and FY2022, own calculation

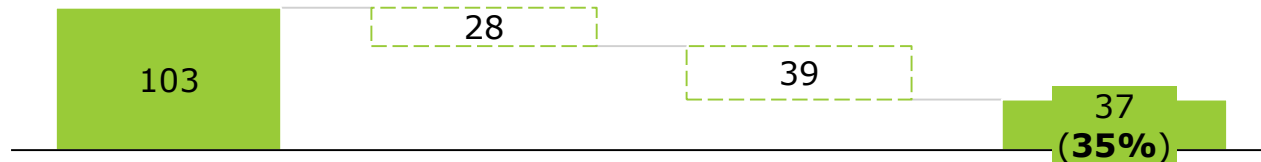
# 4 | Taxonomy-eligibility decreases significantly when looking at monetary values of turnover, OPEX and CAPEX

## Eligible turnover, OPEX and CAPEX, 2022

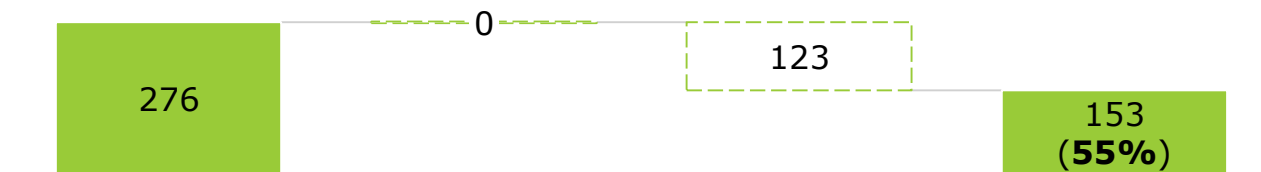
### Turnover (€bn)



### OPEX<sup>1</sup> (€bn)



### CAPEX<sup>2</sup> (€bn)



Total of EURO STOXX sample      Firms with eligibility = 0      Uneligible proportion of eligible firms      Eligible amount

- ❑ Of the total amount of funds circulating through these firms, 39% (turnover), 35% (OPEX) and 55% (CAPEX) were classified as taxonomy-eligible.
- ❑ While 97% of the firms are CAPEX-eligible in the first place, only 55% of their spent has the potential to contribute to the EU's environmental objectives. A similar trend was observed for turnover (51% of firms vs. 39% of their turnover) and OPEX (57% of firms vs. 35% of their OPEX spend).
- ❑ Looking at the individual cases, only few firm were able to report a turnover-eligibility level close to 100% indicating that even firms that engage in emission-intensive activities still perform activities that either have not yet been considered in the regulatory framework or are not considered in the regulatory framework as these activities can't contribute to the EU's environmental objectives.
- ❑ To meet climate neutrality by 2050, most likely taxonomy-alignment of >25% is required.

1. Total OPEX value missing for one firm. The missing value was estimated based on EURO STOXX 50 industry average. | 2. Total CAPEX value missing for one firm. The missing value was estimated based on the methodology described in the delegated act, as well as the respective annual report  
Source: Firms annual reports FY2021 and FY2022, own calculation

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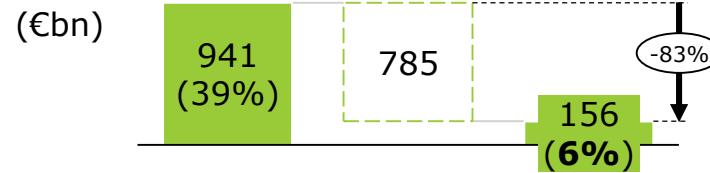
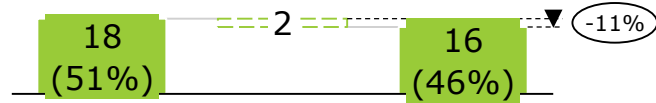
# 5 | Sustainability defined in EU Taxonomy by Taxonomy-alignment – in 2022 less than 25% of turnover, OPEX and CAPEX classified as sustainable

## Eligible and aligned turnover, OPEX and CAPEX, 2022

(#%) Percentage of sample

### Turnover

# of firms



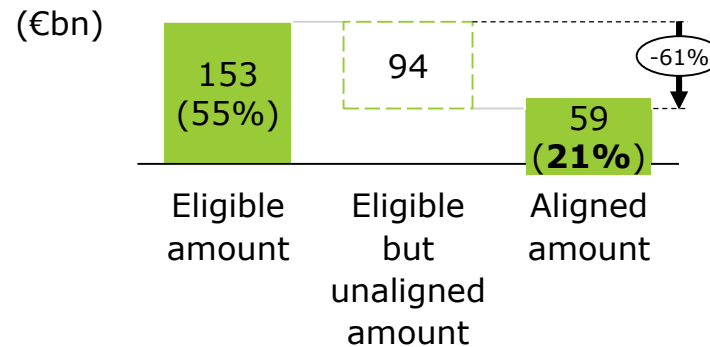
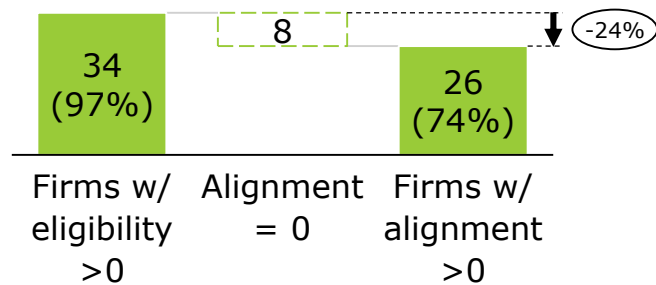
### OPEX

# of firms



### CAPEX

# of firms

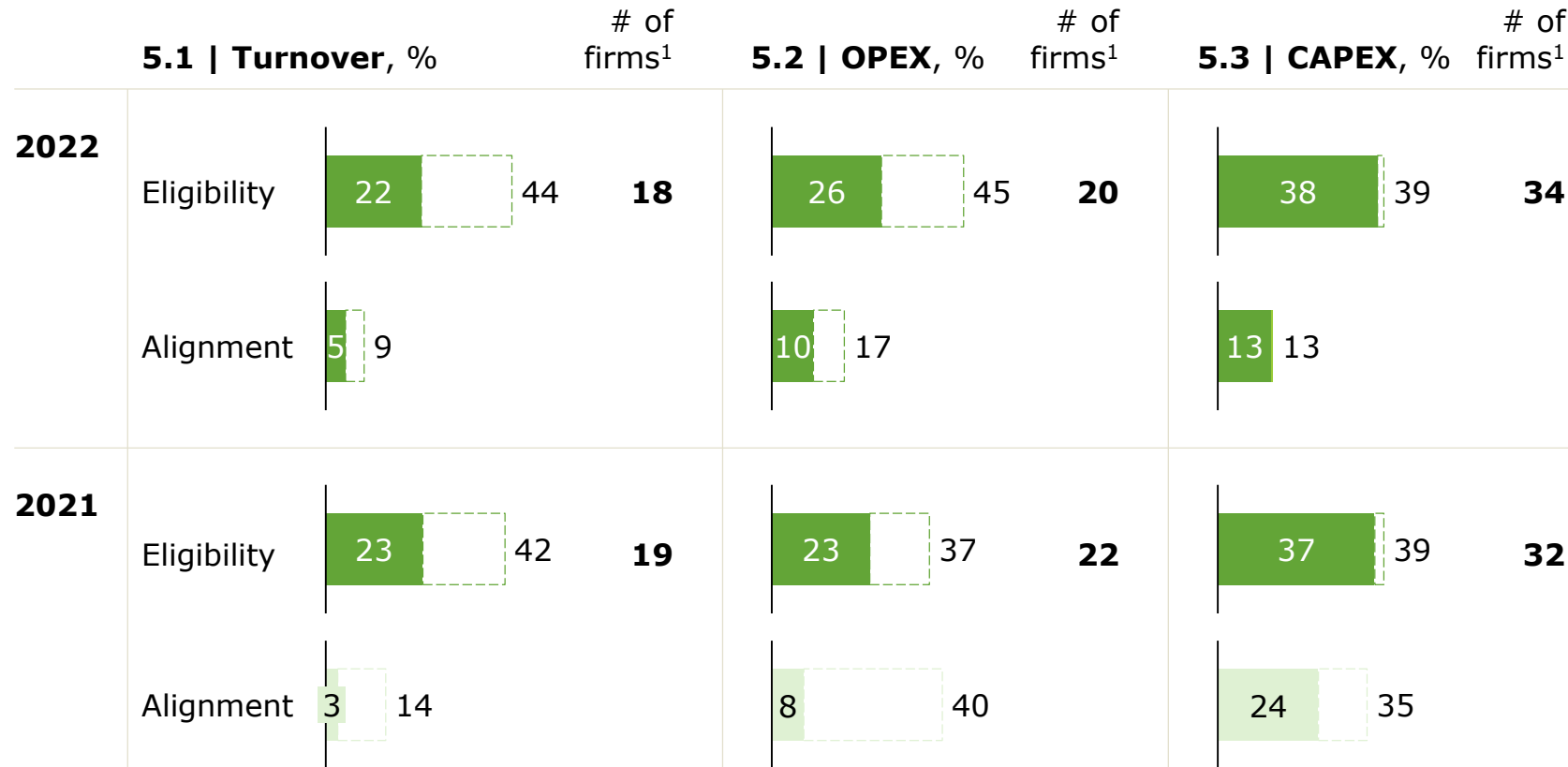


- ❑ The sustainability performance of a firm under the EU taxonomy is measured by its level of alignment. For our sample this is lower than the firm's potential (eligible amount) for all three KPIs, both in relative and absolute terms.
- ❑ The current product portfolio of many firms has the potential to contribute to the environmental objectives but does not yet do so. Looking at the numbers, while 51% of firms and 39% of the firm's turnover have potential to be sustainable (taxonomy-eligible), only 46% of firms and 6% of total turnover contribute to the EU's environmental objectives and are sustainable (taxonomy-aligned). Similar results were identified for OPEX.
- ❑ For CAPEX-relevant economic activities, significantly more firms are taxonomy-eligible (97%). While 55% of the firm's CAPEX spend is classified as taxonomy-eligible, only 18% of the firm's CAPEX spend was classified as sustainable investment under the EU Taxonomy.
- ❑ Overall, between 61% and 83% of the investments potentially sustainable are not taxonomy-aligned because they do not meet the required criteria of the EU Taxonomy.
- ❑ Overall, less than 25% of turnover, OPEX and CAPEX were classified as sustainable, a non-satisfactory value aiming at climate neutrality.

Source: Firms annual reports FY2021 and FY2022, own calculation

# 5 | Average firm alignment ranges from 5% (turnover), over 10% (OPEX) to 13% (CAPEX) – Firm averages higher when looking at eligible firms only

## Average firm KPI



1. # of firms with eligibility >0%  
 Source: Firms annual reports FY2021 and FY2022, own calculation

- In addition to the monetary discrepancies, there is also a gap between average eligibility and alignment per firm. E.g., Average turnover eligibility amounts to 22% compared to alignment of 5% in 2022. When only looking at eligible firms, averages are higher (44%/9%).
- Turnover provides the status quo perspective of a firm's sustainable activities under the EU Taxonomy. As of now, the companies' current product portfolios do not yet meet the requirements for a sustainable business model that contributes to the achievement of the EU's environmental objectives. Therefore, the average firm eligibility in 2022 of 22%, and alignment of 5% over the EURO STOXX sample is to be considered low.
- CAPEX and OPEX related activities represent investments in the long- or mid-term sustainable activities of the firm (e.g., R&D, investments in (in)tangible assets, maintenance). Such investments lead the way for the long-term sustainability direction of a firm. The firm's average aligned CAPEX/OPEX amounts to 10%/13% of total spend. Even when looking at average alignment of eligible firms only, 17% and 13% is still too low to holistically transform a business towards a green operating model following the definition of the EU Taxonomy.

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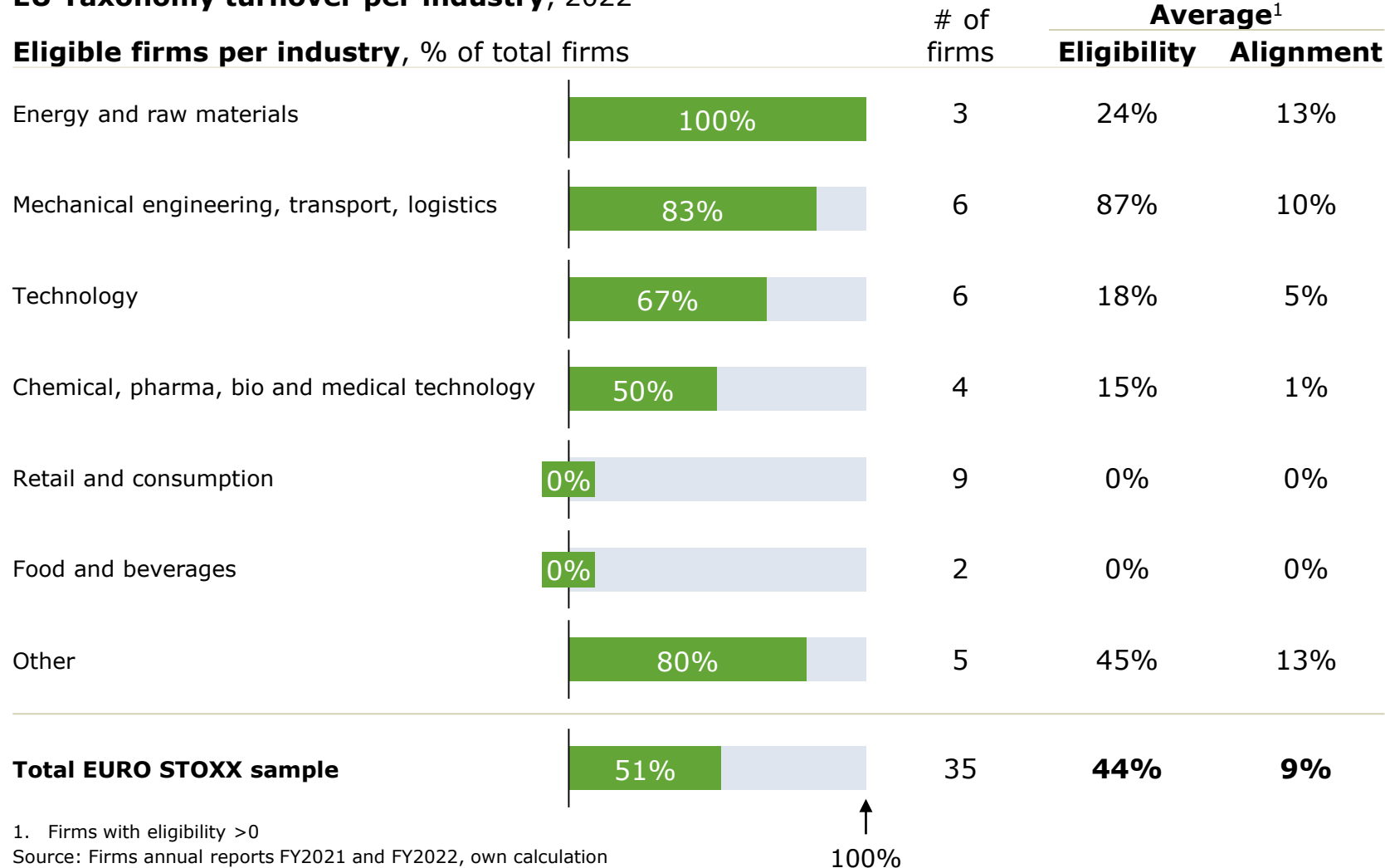
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# 5.1 | Turnover: Not only taxonomy-eligibility but also taxonomy-alignment varies by industry

## EU Taxonomy turnover per industry, 2022



- ❑ Level of eligibility and alignment varies significantly by industry.
- ❑ While all energy and raw material firms classify as taxonomy-eligible, none of the retail and consumption as well as food and beverage firms classified themselves as turnover-eligible.
- ❑ Activities such as the manufacturing of textiles or footwear, and its retail will be listed under environmental objective (4) and are currently considered non-eligible. Similarly, the operation of food stores and e-commerce or the production of food and beverage has not been considered under environmental objectives (1) and (2).
- ❑ The industry average eligibility ranges from 15% (energy and raw materials) to 87% (mechanical engineering, transport, logistics) considering only eligible firms. The industry average alignment (of eligible firms) ranges from 1% to 13% in the energy and raw materials industry.
- ❑ The gap between eligibility and alignment is particularly low for the energy and raw material industry and highest for the chemical, pharma, bio and medical technology industry.
- ❑ Expert knowledge is needed to assess whether the technical criteria of an activity have been set in a particularly ambitious/lax way explaining the differences between eligible industries. Moreover, the EU Taxonomy can only show its full potential when all objectives and activities have been elaborated.

# 5.1 | Turnover: Heterogeneous performance emerges even among the top 10 turnover-aligned firms

Top 10 firms ranked by highest % of aligned turnover, 2022

! Best performance per category

Firm	Industry	Eligibility, %	€bn	Alignment, %	€bn	Discrepancy <sup>1</sup> , %	
Firm 1	Energy and raw materials	56%	30.4	36%	19.7	-35%	Highest alignment in %
Firm 2	Conglomerates	29%	41.9	21%	30.6	-27%	Highest alignment in €bn, Lowest discrepancy
Firm 3	Technology	29%	9.8	20%	6.9	-29%	
Firm 4	Miscellaneous	42%	23.3	20%	11.2	-52%	
Firm 5	Mechanical engineering, transport, logistics	53%	50.5	12%	11.3	-78%	
Firm 6	Mechanical engineering, transport, logistics	91%	130.3	11%	15.7	-88%	
Firm 7	Miscellaneous	96%	8.6	11%	0.9	-89%	
Firm 8	Mechanical engineering, transport, logistics	98%	146.8	10%	15.0	-90%	
Firm 9	Mechanical engineering, transport, logistics	92%	257.0	9%	26.1	-90%	Highest eligibility in €bn
Firm 10	Mechanical engineering, transport, logistics	99%	178.4	7%	12.5	-93%	Highest eligibility in %

Source: Firms annual reports FY2021 and FY2022, own calculation

1. Eligibility-alignment gap

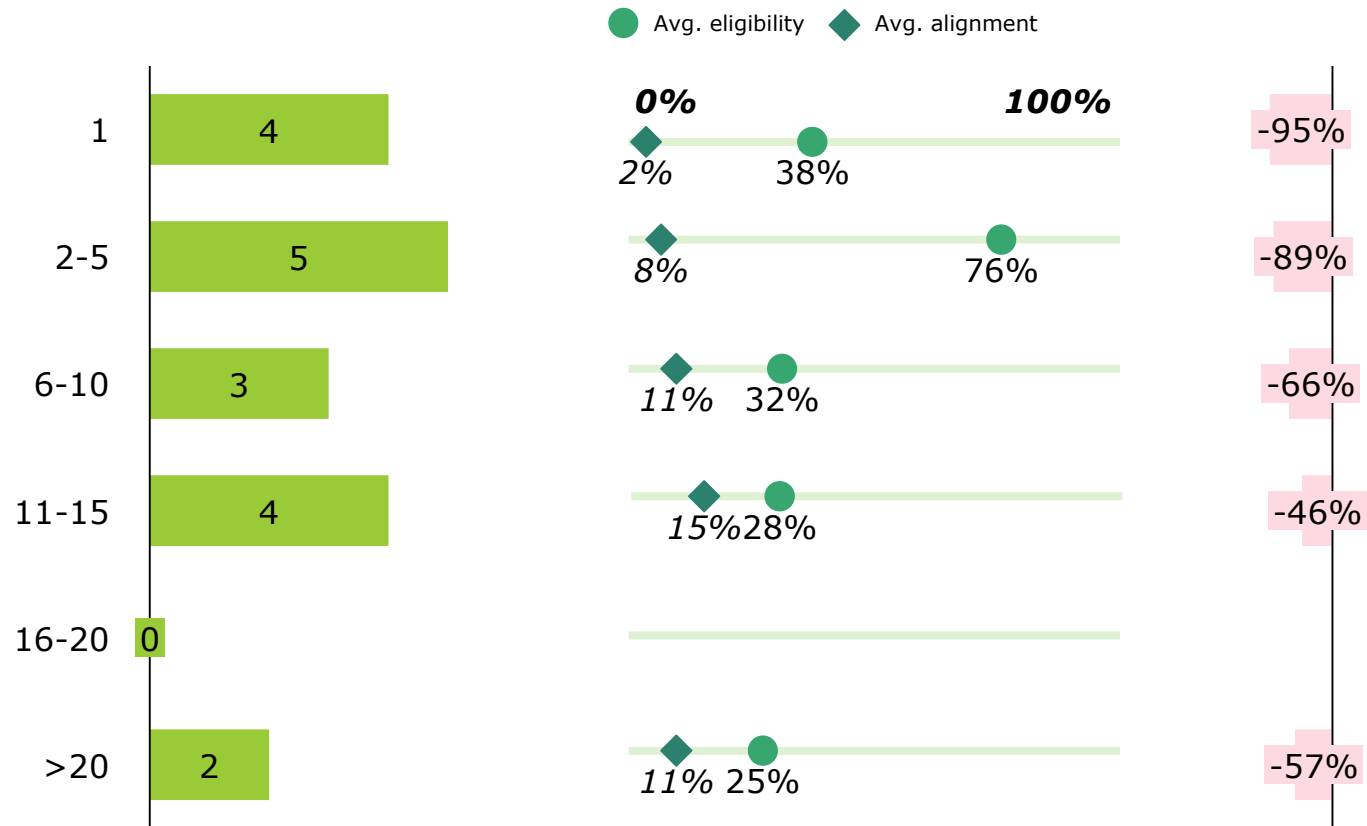
- ❑ The option to look at the EU Taxonomy performance of a firm from different angles across different KPIs makes it difficult to identify a firm with a good performance associated with the EU's environmental objectives.
- ❑ Hereby, the list of the top 10 firms shows how heterogeneous EU Taxonomy firm performance is:
- ❑ While taxonomy-eligible turnover, as the potential to contribute to the environmental objectives ranges from 29% to 99%, the sustainable turnover (in %) of the top 10 firms ranges from 7% to 36%.
- ❑ Firm 2 and 3 have used their current firm-specific potential best resulting in the smallest discrepancy between eligible and aligned turnover.
- ❑ A more consistent picture provide Automotive firms, included in the mechanical engineering, transport logistics industry. These firms identified the highest taxonomy-eligible turnover, in relative and absolute terms of eligibility among the top 10 aligned firms.
- ❑ Given their size, automotive firms do also account for the highest absolute sustainable turnover, even if the relative alignment is only ~10%.

# 5.1 | Turnover: Number of eligible activities per firm does not explain average level of eligibility and alignment

## EU Taxonomy turnover activity coverage, 2022

**Number of EU Taxonomy turnover-relevant economic activities per firm, # of firms**

**Discrepancy (eligibility-alignment gap), %**



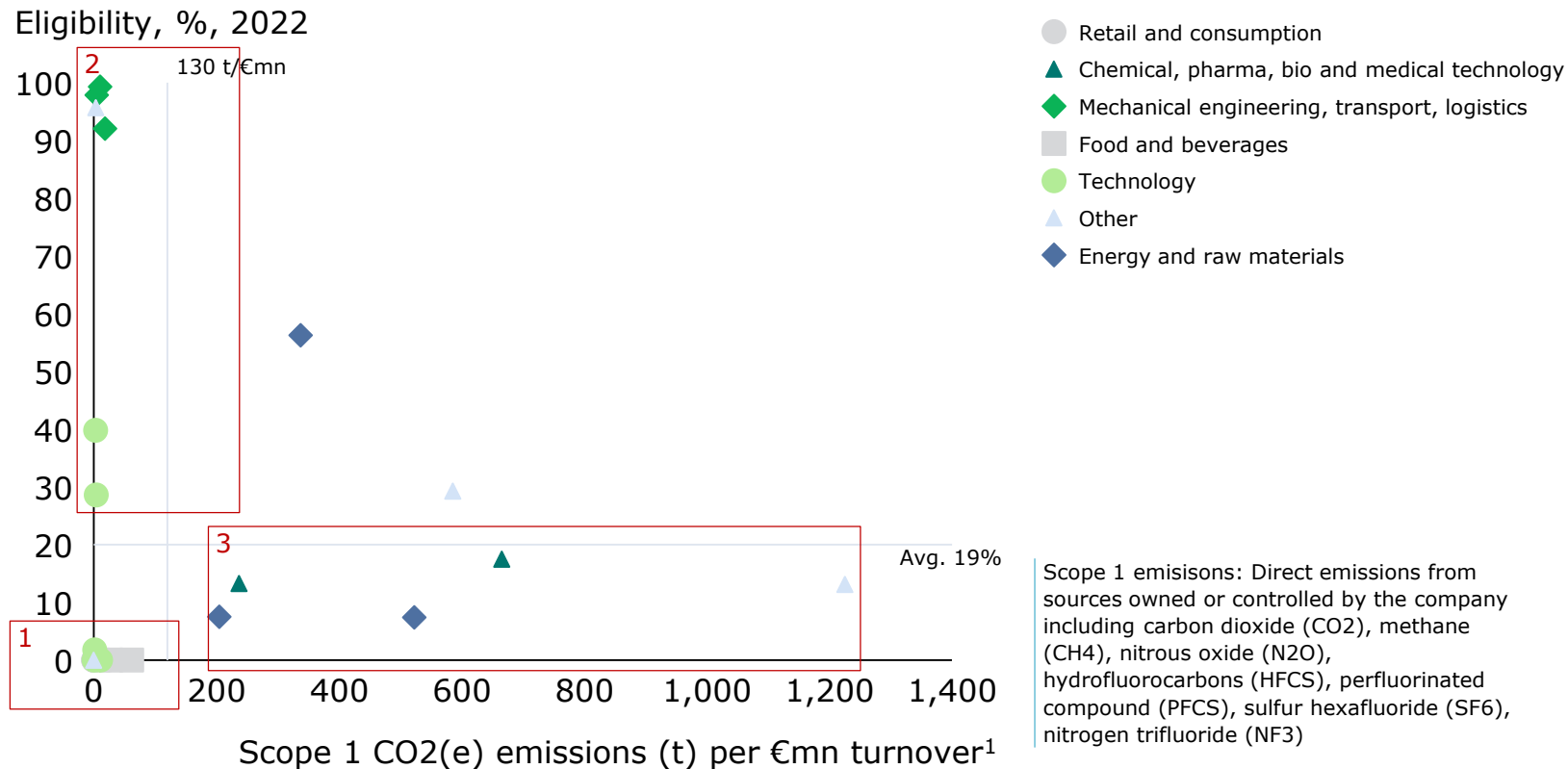
Source: Firms annual reports FY2021 and FY2022, own calculation

- ❑ The eligible firms under review have classified different numbers of economic activities as taxonomy-eligible for their turnover.
- ❑ The number of turnover-related economic activities covered by each firm ranges from 1 to 26 activities.
- ❑ While 22% of the eligible firms account for only one taxonomy-eligible activity, 78% of eligible firms do account for more than one economic activity.
- ❑ With more activities being eligible, in theory a firm has more and/or different options to increase its alignment and hereby its sustainable performance under the EU Taxonomy.
- ❑ Nevertheless, as of now there is no clear relationship in the status quo between the number of activities performed and the average eligibility or alignment.
- ❑ However, this trend could become visible in the future if firms decide to actively manage their taxonomy-eligibility and -alignment.

# 5.1 | Turnover: No clear pattern identifiable between EU Taxonomy KPIs and a firm's CO2 emission level

## EU Taxonomy turnover: Firm Scope 1 CO2e emissions per €mn turnover<sup>1</sup> and level of turnover eligibility

n = 31 (Firms with available emissions data)



1. Calculated as Scope 1 CO<sub>2</sub>(e) emissions divided by total turnover as defined in EU Taxonomy (i.e., denominator of KPI); KPI as of FY21; Source: Refinitiv (extracted January 2023)

Source: Firms annual reports FY2021 and FY2022, Refinitiv Datastream and own calculation

- ❑ For the EURO STOXX sample eligible turnover does not seem to be related to a firm's CO<sub>2</sub> equivalent scope 1 emissions per turnover.
- ❑ Three clusters of firms can be observed:
  - ❑ (1) 58% (18 firms) of the firms account for 0 or below average eligibility and at the same time low Scope 1 emissions per revenue. This result suggests that these firm's business models do not primarily focus on emission-intensive economic activities currently listed under the EU Taxonomy.
  - ❑ (2) At the same time, firms that account for low emission levels, classified high proportions of their turnover as taxonomy-eligible.
  - ❑ (3) The firms in the third area produce above average emissions. However, they also reported below average levels of eligibility.
- ❑ In conclusion, for the EURO STOXX sample, the potential to contribute to climate change under the EU Taxonomy does not seem to be related to the firm's emission levels.



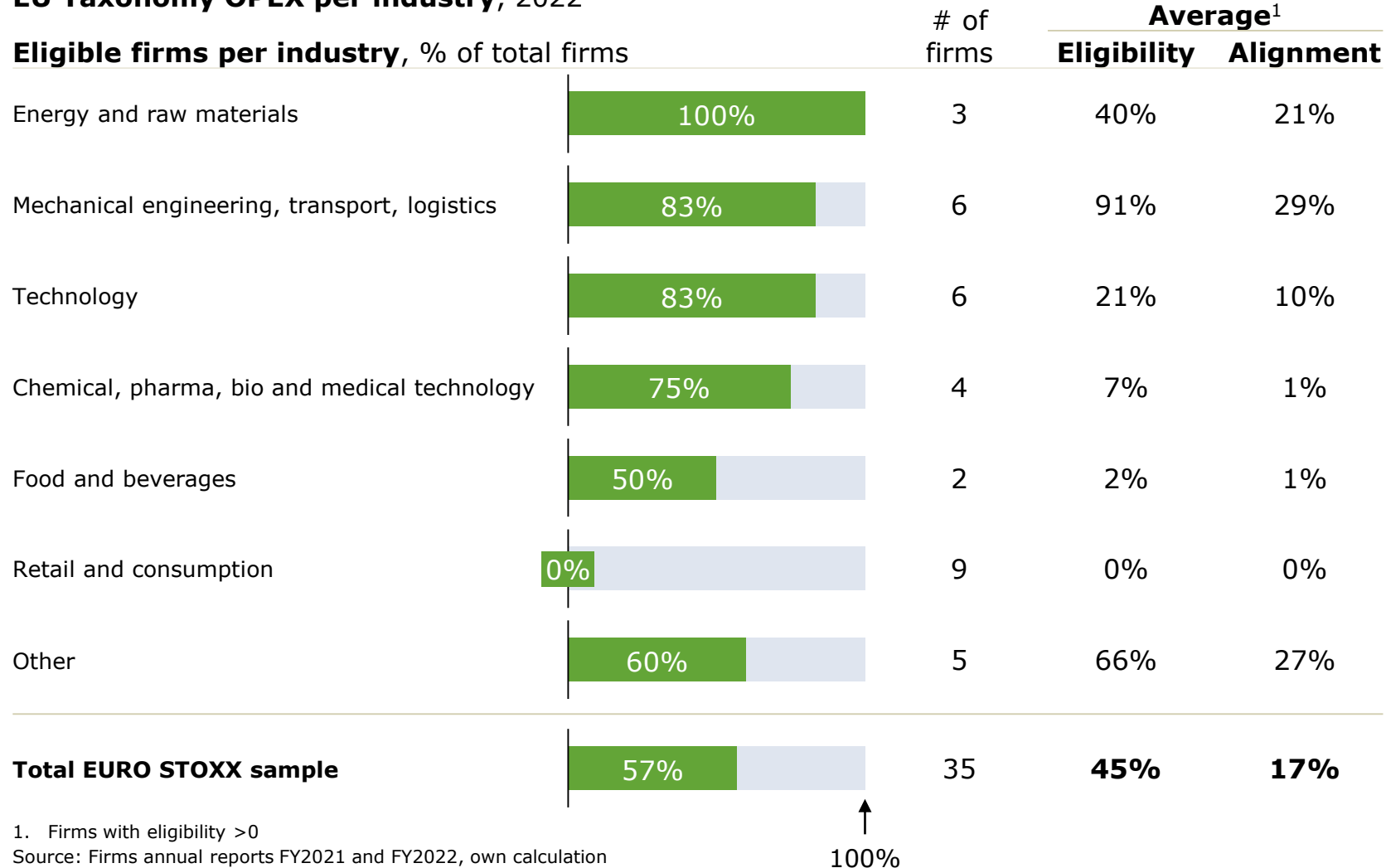


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## 5.2 | OPEX: 5/6 industries represented among eligible firms - level of alignment still varies

### EU Taxonomy OPEX per industry, 2022



- ❑ In 2022, all industries, except retail and consumption identified OPEX-related economic activities as potentially contributing to the EU's environmental objectives (1) and (2).
- ❑ The industry eligibility/alignment average of taxonomy-eligible firms ranges from 2%/1% to 91%/29%, indicating a heterogenous picture across industries.
- ❑ The numerator (eligible/aligned amount) of the OPEX KPI includes expenditures that a) relate to assets/ processes associated with taxonomy-eligible economic activities; b) relate to the purchase of output from taxonomy-aligned economic activities or c) are part of a roadmap to expand taxonomy-aligned economic activities.
- ❑ Therefore, firm's whose core business is currently not included in the EU Taxonomy, can only report eligible and aligned OPEX with regards to point b) and c) of the numerator definition. Moreover, firms whose operational expenditure is not material for the core business do have the option to classify their OPEX as non-eligible.
- ❑ These mechanisms can contribute to explaining the heterogenous eligibility and alignment of the OPEX eligible firms.

## 5.2 | OPEX: Among top 10 firms heterogeneity persist – One firm’s eligible OPEX fully considered sustainable

Top 10 firms ranked by highest % of aligned OPEX, 2022

! Best performance per category

Firm	Industry	Eligibility, %	€bn	Alignment, %	€bn	Discrepancy <sup>1</sup> , %	
Firm 1	Conglomerates	80%	0.8	! 67%	0.7	-16%	Highest alignment in %
Firm 2	Energy and raw materials	93%	1.7	52%	0.9	-44%	
Firm 3	Technology	50%	0.9	50%	0.9	! 0%	Lowest discrepancy
Firm 4	Mechanical engineering, transport, logistics	99%	! 11.4	43%	! 4.9	-57%	Highest eligibility/alignment in €bn
Firm 5	Mechanical engineering, transport, logistics	! 100%	6.7	35%	2.3	-65%	Highest eligibility in %
Firm 6	Mechanical engineering, transport, logistics	! 100%	5.8	29%	1.7	-71%	Highest eligibility in %
Firm 7	Mechanical engineering, transport, logistics	! 100%	3.2	27%	0.9	-73%	Highest eligibility in %
Firm 8	Miscellaneous	95%	0.4	12%	0.0	-87%	
Firm 9	Mechanical engineering, transport, logistics	58%	1.6	11%	0.3	-81%	
Firm 10	Energy and raw materials	16%	0.6	9%	0.3	-44%	

Source: Firms annual reports FY2021 and FY2022, own calculation

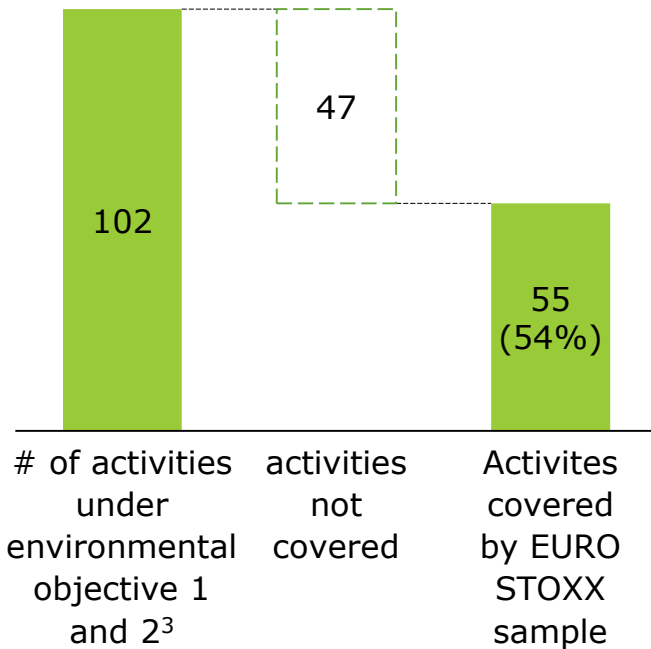
1. Eligibility-alignment gap

- ❑ The list of the top 10 firms (by highest % of aligned OPEX) is similar to the top 10 firms identified for taxonomy-aligned turnover.
- ❑ Overall, alignment ranges from 9% to 67% among top 10 aligned firms.
- ❑ Also, for OPEX, Automotive firms, included in the mechanical engineering, transport logistics industry, show the highest taxonomy-eligible OPEX, in relative and absolute terms of eligibility.
- ❑ Nevertheless, also firms of other industries classified more than 80% of their OPEX as taxonomy-eligible.
- ❑ Firm 3 stands out particularly: While only 50% of OPEX were classified as taxonomy-eligible, 100% of the eligible OPEX was also classified as taxonomy-aligned.

## 5.2 | OPEX: Eligible as well as aligned OPEX driven by mainly one economic activity performed by 6 firms

### EU Taxonomy OPEX activity coverage, 2022

**Economic activity coverage by EURO STOXX sample, 2022** (# of activities)



### 3 most frequently performed economic activities

<b>Activity name</b>	<b>% of firms<sup>1</sup></b>	<b>% of eligible OPEX<sup>2</sup></b>	<b>% of aligned OPEX<sup>2</sup></b>
Activity 3.3 - Manufacture of low carbon technologies for transport	17%	87%	74%
Activity 6.5 - Transport by motorbikes, passenger cars and light commercial vehicles	17%	1%	0%
Activity 4.1 - Electricity generation using solar photovoltaic technology	14%	0%	1%
<b>Total</b>		<b>88%</b>	<b>75%</b>

- ❑ The studied EURO STOXX firms incur in operational expenditure related to 54% of the currently available economic activities under environmental objective (1) and (2).
- ❑ The 3 most frequently classified activities within the EURO STOXX sample belong to sectors 'Transport' and 'Manufacturing' and 'Energy'.
- ❑ While these activities account for in total 88% of eligible and 75% of aligned OPEX spend, attention must be paid on the first activity 'Manufacture of low carbon technologies for transport'.
- ❑ This activity represents 87% of eligible and 74% of aligned OPEX spend and is performed by 6 of 35 firms.
- ❑ To increase the taxonomy-aligned OPEX of the EURO STOXX sample introduced on page 13 of this report, the fulfillment of the technical screening criteria related to activity 3.3 will be crucial.

1. % of firms that reported eligible OPEX for specified economic activity | 2. May be affected by rounding inaccuracies | 3. 102 economic activities are listed in the delegated act. Thereof 94 activities can be associated with environmental goal 1 and 101 activities can be associated with environmental goal 2

Source: Firms annual reports FY2021 and FY2022, own calculation

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## 5.3 | CAPEX: Firm's eligible CAPEX on average >10% across industries, aligned CAPEX varies

### EU Taxonomy CAPEX per industry, 2022

Eligible firms per industry, % of total firms	# of firms	Average <sup>1</sup>	
		Eligibility	Alignment
Mechanical engineering, transport, logistics	6	77%	21%
Energy and raw materials	3	42%	38%
Retail and consumption	9	37%	5%
Technology	6	15%	5%
Chemical, pharma, bio and medical technology	4	17%	1%
Food and beverages	2	10%	0%
Other	5	55%	30%
<b>Total EURO STOXX sample</b>	<b>35</b>	<b>39%</b>	<b>13%</b>

1. Firms with eligibility >0  
Source: Firms annual reports FY2021 and FY2022, own calculation

- ❑ In 2022, all firms, except one classify themselves as taxonomy-eligible with regards to their CAPEX spend.
- ❑ The level of alignment still varies significantly between 1% and 72% among eligible firms.
- ❑ As for OPEX, the numerator of the CAPEX KPI includes expenditures that a) relate to assets/processes associated with taxonomy-eligible economic activities; b) relate to the purchase of output from taxonomy-aligned economic activities or c) are part of a roadmap to expand taxonomy-aligned economic activities.
- ❑ The heterogeneity of the eligible CAPEX among industries, ranging from 10% to 77%, can partially be explained by the fact that firms whose business model does not currently count as eligible cannot report a CAPEX spend according to item a) of the numerator definition.
- ❑ By expanding the EU Taxonomy to include environmental 3-6 and the associated expansion of activities, the share of eligible CAPEX is expected to increase in the coming years through increases in items a) and b).
- ❑ CAPEX-intensive firms should consider the technical criteria that are now available, especially for CAPEX projects, which are usually very long-term and hardly reversible in nature.

## 5.3 | CAPEX: Top 10 CAPEX-aligned firms classified between 15% and 87% of their CAPEX as sustainable

Top 10 firms ranked by highest % of aligned CAPEX, 2022

! Best performance per category

Firm	Industry	Eligibility, %	€bn	Alignment, %	€bn	Discrepancy <sup>1</sup> , %	
Firm 1	Energy and raw materials	90%	9.6	87%	9.3	-3%	Highest alignment in % and lowest discrepancy
Firm 2	Conglomerates	88%	13.3	82%	12.4	-7%	
Firm 3	Mechanical engineering, transport, logistics	100%	48.9	35%	16.9	-65%	Highest eligibility in %/€bn, alignment in €bn
Firm 4	Miscellaneous	96%	2.4	31%	0.8	-68%	
Firm 5	Technology	54%	0.9	27%	0.4	-50%	
Firm 6	Mechanical engineering, transport, logistics	63%	5.4	25%	2.2	-60%	
Firm 7	Mechanical engineering, transport, logistics	100%	18.4	22%	4.1	-78%	Highest eligibility in %
Firm 8	Mechanical engineering, transport, logistics	99%	8.8	22%	2.0	-78%	
Firm 9	Mechanical engineering, transport, logistics	100%	24.1	21%	5.1	-79%	Highest eligibility in %
Firm 10	Retail and consumption	59%	1.6	15%	0.4	-75%	

Source: Firms annual reports FY2021 and FY2022, own calculation

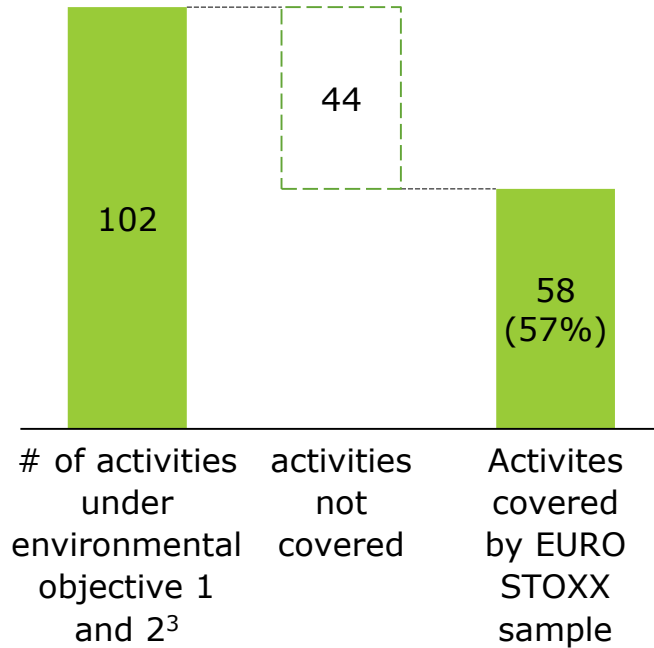
1. Eligibility-alignment gap

- ❑ The list of the top 10 firms shows EU Taxonomy performance not only is heterogenous for turnover but also for CAPEX related activities.
- ❑ Once again, the current business model highly impacts the reported KPIs.
- ❑ Similar to the turnover KPI, the performance of firms belonging to the mechanical, engineering, transport, logistics industry show similar levels of relative eligibility and alignment.
- ❑ Eligible CAPEX ranges from 54% to 100% among the top 10 firms. Aligned CAPEX ranges from 15% to 87% indicating a promising starting point for the upcoming years.
- ❑ A possible target vision of the EU Taxonomy corresponds to the first of the top 10 CAPEX-aligned firms. While 90% of current CAPEX spend are already classified as taxonomy-eligible, 87% of their current spend also classifies as taxonomy-aligned.

# 5.3 | CAPEX: 5 most frequently performed economic activities by sample firms account for 27% of eligible CAPEX spend

## EU Taxonomy CAPEX activity coverage, 2022

**Economic activity coverage by EURO STOXX sample, 2022 (# of activities)**



## 5 most frequently performed economic activities, 2022

<b>Economic activity name</b>	<b>% of firms<sup>1</sup></b>	<b>% of eligible CAPEX<sup>2</sup></b>	<b>% of aligned CAPEX<sup>2</sup></b>
Activity 7.3 - Installation, maintenance, repair of energy efficiency equipment	60%	0%	1%
Activity 7.7 - Acquisition and ownership of buildings	51%	9%	3%
Activity 6.5 - Transport by motorbikes, passenger cars and light commercial vehicles	46%	16%	2%
Activity 7.2 - Renovation of existing buildings	43%	1%	0%
Activity 7.5 - Installation, maintenance and repair of devices for controlling energy performance of buildings	34%	0%	0%
<b>Total</b>		<b>27%</b>	<b>6%</b>

- ❑ The studied EURO STOXX firms carry out long-term investments related to 57% of the currently available economic activities under environmental objective (1) and (2).
- ❑ The 5 most frequently classified activities within the EURO STOXX sample belong to sectors 'Transport' and 'Construction and Real Estate' and account for 27% of the samples taxonomy-eligible CAPEX spend.
- ❑ Activities 'Acquisition and ownership of buildings' and 'Transport by motorbikes, passenger cars and light commercial vehicles' are performed by 51% and 46% of the eligible firms, respectively. While these activities account for 9%/16% of the sample's total eligible CAPEX, they only account for 3%/2% of the sample's taxonomy-aligned CAPEX.
- ❑ The three remaining activities mentioned are frequently performed (34%-60%) but are not material for the taxonomy-eligible (0%-1%) as well as taxonomy- aligned (0%-1%) CAPEX spend.

1. % of firms that reported eligible CAPEX for specified economic activity | 2. May be affected by rounding inaccuracies | 3. 102 economic activities are listed in the delegated act. Thereof 94 activities can be associated with environmental goal 1 and 101 activities can be associated with environmental goal 2

Source: Firms annual reports FY2021 and FY2022, own calculation

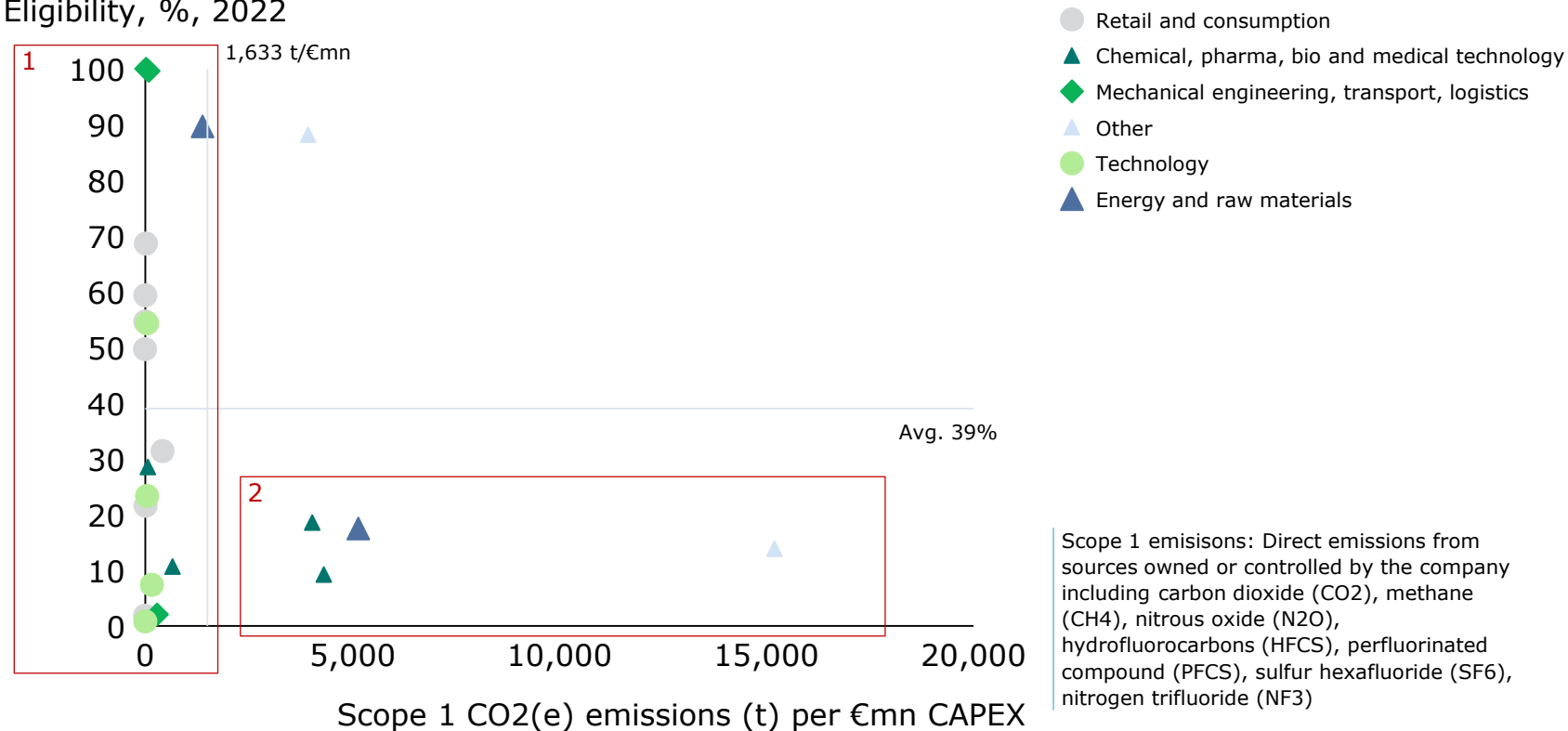


# 5.3 | CAPEX: Above-average emission intensity does not result in above average CAPEX-related taxonomy-eligibility

## EU Taxonomy CAPEX: Firm Scope 1 CO2e emissions per €mn CAPEX<sup>1</sup> and level of CAPEX eligibility

n = 22 (firms with available emissions data)

Eligibility, %, 2022



1. Calculated as Scope 1 CO<sub>2</sub>(e) emissions divided by total CAPEX as defined in EU Taxonomy (i.e., denominator of KPI); KPI as of FY21; Source: Refinitiv (extracted January 2023)

Source: Firms annual reports FY2021 and FY2022, own calculation

- ❑ If emission-intensive business models currently have a higher probability that their economic activities have already been considered in the EU Taxonomy, these firms should also have a higher share of eligible CAPEX.
- ❑ However, for the EURO STOXX sample eligible CAPEX does not seem to be related to a firm's CO<sub>2</sub> equivalent scope 1 emissions per CAPEX.
- ❑ (1) The first quadrant clearly shows that the level of CAPEX related taxonomy-eligibility does not depend on the emission intensity of the firms.
- ❑ (2) The firms that have an above-average emission intensity, still show a below-average share of taxonomy-eligible CAPEX.
- ❑ Ultimately, it remains to be seen whether a relation will emerge as soon as firms decide to actively make decisions along the EU Taxonomy screening criteria.

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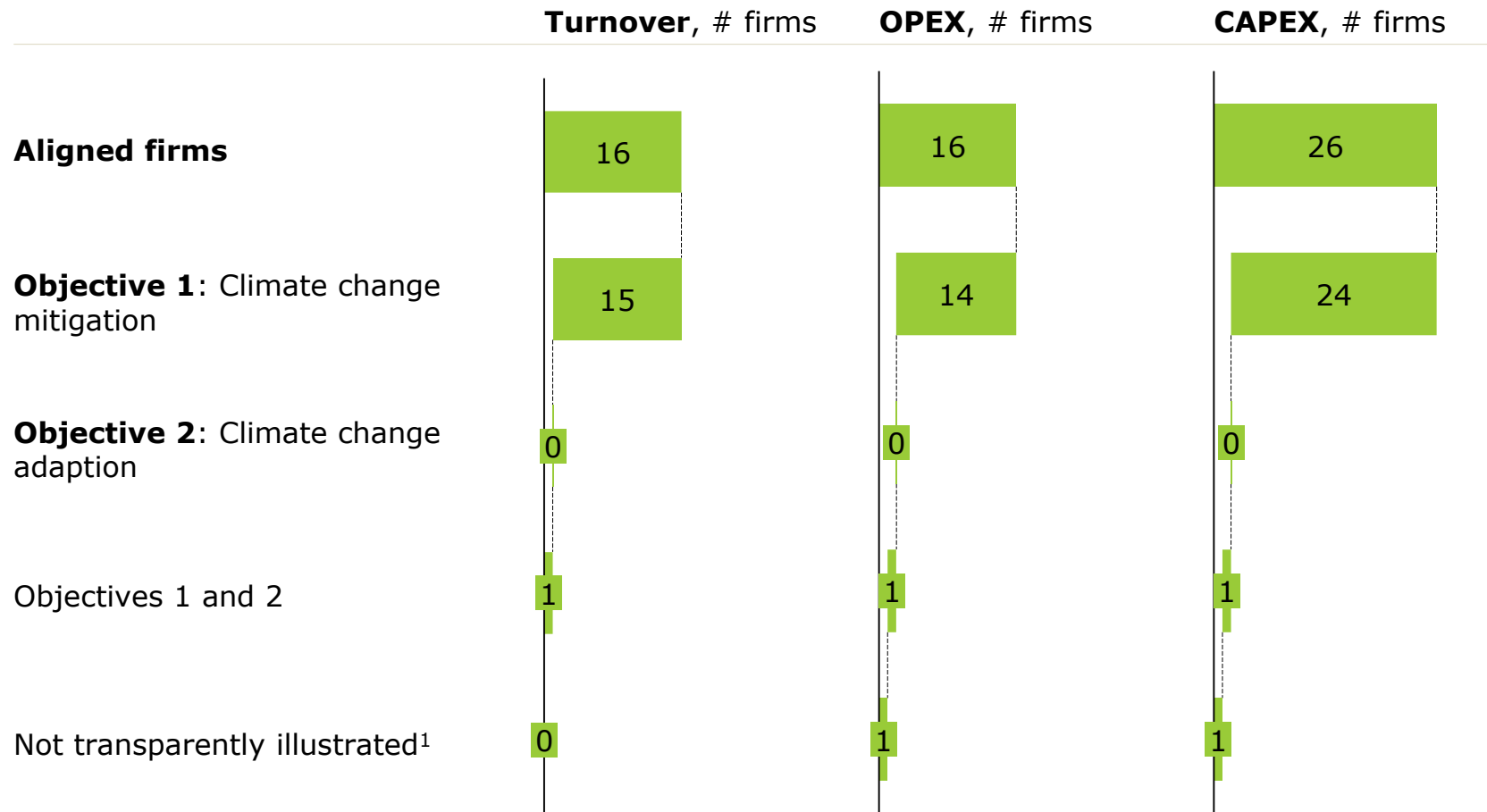
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# 6 | So far, firms see their “substantial contribution” in the area of Environmental Objective #1 (climate change mitigation)

## EU Taxonomy environmental objective allocability, 2022



1. Not all firms reported on the EU Taxonomy using the proposed template of the delegated act  
 Source: Firms annual reports FY2021, FY2022, own interpretation

- ❑ In summary for 2022, most taxonomy-aligned firms are contributing substantially to achieving the first environmental objective: climate change mitigation.
- ❑ None of the taxonomy-aligned firms is dedicated exclusively to the second objective: climate change adaption.
- ❑ While the economic activities can contribute to more than one environmental objectives, the technical screening criteria vary depending on the objective to which a significant contribution is made.
- ❑ Exemplary reasons for the high concentration of the first objective, as named by the firms under review are:
  - » Economic activities solely contribute to first goal, i.e., fulfil the technical screening criteria of the first environmental goal.
  - » Many identified activities are applicable to both objectives but allocated to the first one only to avoid double counting.
  - » A prerequisite for taxonomy-eligibility under the climate change adaption objective is the submission of an investment which not all firms developed.
- ❑ It remains to be seen whether the expansion of environmental objectives will result in a more fragmented picture in the coming years.

## 6 | Several reasons contribute to the eligibility-alignment gap

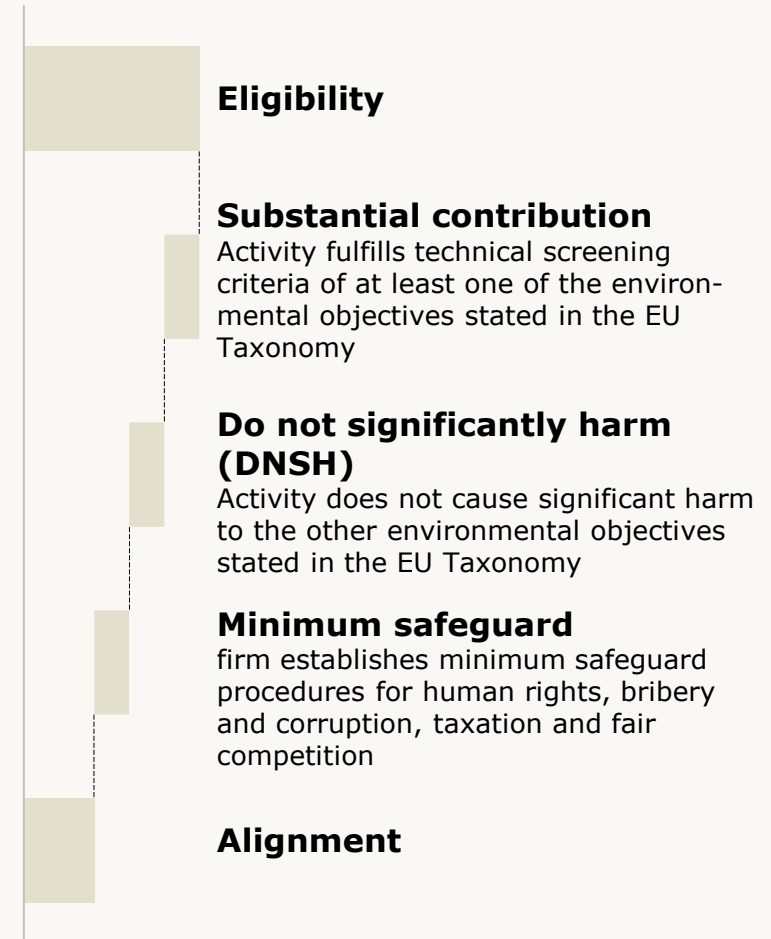
- ❑ What explains the eligibility-alignment gap, i.e., the difference between the level of taxonomy-eligible and taxonomy-aligned activities. There are three possible reasons why activities are considered eligible but not yet sustainable (see right side): Lack of substantial contribution, non-compliance with DNSH criteria, and lack of compliance with minimum safeguard procedures.
- ❑ During the research, we screened firms' annual reports for firms' explanations as to why some economic activities are classified taxonomy-eligible but not yet as sustainable. The analysis provides several reasons that contribute to the gap:
  - » First, there are several activities that do not comply with the "substantial contribution" requirements either because technical screening criteria are not met (e.g., threshold values are exceeded), or specified technical screening criteria are not applicable to the business model under review. One example is SAP<sup>1</sup> whose coolants used in data centers exceed a certain greenhouse gas potential. Alternatively, BASF<sup>2</sup> operates plants that were classified as taxonomy-eligible but not aligned as they do not perform emissions-trading.
  - » Second, some firms are still not prepared for the requirements of the EU Taxonomy from a process perspective. For example, some activities lack the external audits, life cycle analyses, or alignment of internal roadmaps with the CAPEX plan requirements required under the EU Taxonomy. One example is Telekom<sup>3</sup>, whose data centers must go through external audit processes to meet the EU Taxonomy requirements.
  - » Third, firms emphasize the problem of data availability (internal and public data), the restricted access to benchmarks or the missing granularity of data sets to meet due diligence process requirements.<sup>5</sup> Therefore, for several activities' taxonomy-alignment could not be reasonably documented. One example is Air Liquide<sup>4</sup>, whose business comprises 17 activities classified as taxonomy-eligible.
- ❑ Overall, even the very largest listed firms seem to face significant difficulties and challenges since the EU Taxonomy is still work in progress and there is ambiguity in the interpretation of the regulation. Moreover, preparing for the proper reporting is time consuming and requires cross-functional expertise. Lastly firms lack public and private data sets and face challenges with the level of data granularity required.

1. Annual report, S. 107 | 2. Annual report, p. 96 | 3. Annual report, p.104 | 4. Annual report, p. 376

5. While initial ambiguities were clarified by the EU after the first reporting period 2021, 2022 annual reports still indicate that there are difficulties with the interpretation of the technical screening criteria. E.g., generic criteria, without specific threshold values

Source: Firms annual reports FY2021, FY2022, own interpretation

### From eligibility to alignment as of Article 3 of the EU Taxonomy regulation



## 6 | Summary

- ❑ While European companies falling within the scope of the NFRD/CSRD must report about the conformity of their economic activities with the EU Taxonomy, the EU Taxonomy has yet not been fully developed. Indeed, so far, the EU Taxonomy only considers two (out of the six) environmental objectives and only the most *relevant* sectors, when it comes to CO2 emissions.
- ❑ Analyzing the very largest non-financial listed European firms, we document that only 51% of sample firms report taxonomy-eligible turnover. In the aggregate, only 39% of revenues are taxonomy-eligible, and 6% are taxonomy-aligned. In other words, firms classify only 156 €bn (of their 2,443 €bn total turnover) as taxonomy-aligned, i.e., sustainable under the EU Taxonomy.
- ❑ With respect to investments 35% for OPEX, and 55% for CAPEX is considered taxonomy-eligible, and 13% (or 13 €bn out of 103 €bn) of OPEX, and 21% (or 59 €bn out of 276 €bn) of CAPEX are classified as taxonomy-aligned.
- ❑ While currently firms see their “substantial contribution” in the area of the first environmental objective of the EU Taxonomy (“Climate change mitigation”), there is significant industry and firm heterogeneity. For instance, energy and raw materials as well as mechanical engineering, transport, logistics display relatively high levels of eligibility and alignment. In contrast, retail and consumption as well as food and beverages report zero taxonomy-eligibility when it comes to turnover.
- ❑ While the EU Taxonomy is targeting the most relevant sectors with respect to CO2 footprint, our research suggests that so far there is very limited correlation between the level of taxonomy-aligned activities and measures such as CO2 emissions per turnover.

## Conclusion

- ❑ Currently, the EU Taxonomy addresses only the first two of the six environmental objectives of the Green Deal and covers sectors considered most relevant with respect to CO2 footprint. To ensure a fair and level playing field for companies the EU Taxonomy should be developed and extended in due time. Relatedly, ambiguity in criteria definition and data availability issues should be addressed.
- ❑ The EU Taxonomy requires significant efforts from firms, as they have to (re)organize their data-collection and reporting processes along the EU Taxonomy sectors. Thereby, most of the firms encounter data availability and granularity issues. Therefore, it is important for firms that will be exposed to the EU Taxonomy to prepare properly.
- ❑ As with every regulation, the EU Taxonomy will come with intended, but also unintended consequences. While it is arguably intended that some business models will receive less funding in the future, the question is what should and what will happen to long-living assets generating revenues not eligible under the EU Taxonomy but (currently) financed by public equity (e.g., residential real estate). The public and the EU Commission should carefully monitor the consequences of the EU Taxonomy.

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### **Prof. Dr. Marc Steffen Rapp**

is a professor and co-director of the Marburg Centre for Institutional Economics, Philipps-Universität Marburg (Germany).

**E-mail:** [rappm@uni-marburg.de](mailto:rappm@uni-marburg.de)



### **Melina Roser**

is a researcher at the School of Business and Economics, Philipps-Universität Marburg (Germany).

**E-mail:** [roser@uni-marburg.de](mailto:roser@uni-marburg.de)

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