Methodology: EU Taxonomy Alignment Screening

Version 1
15 October 2021

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Product Overview

Moody's ESG Solutions' European Union (EU) Taxonomy Alignment Screening provides a comprehensive view of companies' degree of alignment with the EU Taxonomy's framework. Our methodology builds on the EU Taxonomy Climate Delegated Act (first delegated act) which covers two objectives under the Taxonomy Regulation: climate change mitigation and climate change adaptation[1].

For each company, we provide assessments:

- » At company level: In addition to an overall EU Taxonomy alignment assessment, we assess the company's proportion of turnover that is EU Taxonomy-eligible and aligned2. We also assess company compliance with the EU Taxonomy's Minimum Social Safeguards (MSS).
- » At activity level: We provide a complete and transparent view of each company's eligible activity, including its substantial contribution to climate change mitigation and/or adaptation objective and the respect for the Do No Significant Harm (DNSH) principle for the other objectives.

This document explains the methodology and process used to assess companies' alignment with the EU Taxonomy. This methodology applies to listed and unlisted companies across 39 industrial sectors globally.

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[1] The EU Taxonomy Climate Delegated Act aims to support sustainable investment by making it clearer which economic activities most contribute to meeting the EU's (six) environmental objectives. The first Delegated Act adopted on 4 June 2021 introduces a set of technical screening criteria to define which activities contribute substantially to two environmental objectives under the Taxonomy Regulation: climate change adaptation and climate change mitigation.
[2] Taxonomy-eligible activity is an economic activity that is included in the Taxonomy. Taxonomy-aligned activity is an eligible activity that complies with the requirements laid down in the Regulation and delegated acts.

EU Taxonomy

The EU has been committed to achieving climate and energy targets by 2030 with a long-term strategy to achieve climate-neutral or net-zero Green House Gas (GHG) emissions by 2050. This objective is at the heart of the European Green Deal and in line with the EU's commitment to global climate action under the Paris Agreement[3], as well as the 2030 Sustainable Development Goals ('the SDGs') set by the United Nations.[4]

In 2018, the European Commission ('the Commission') published an Action Plan on Financing Sustainable Growth. The action plan has been built on recommendations made by the High-Level Expert Group on sustainable finance to develop an EU strategy on sustainable finance to redirect capital flows towards sustainable investment, mainstream sustainability in risk management and foster transparency and long-termism.

The EU Taxonomy ('the Taxonomy') forms part of the implementation of this action plan. The Taxonomy Regulation ('the Regulation') was adopted by the European Parliament and Council on 4 June 2021 and entered into force on 12 July 2021[5]. The Regulation established six environmental objectives:

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

The Taxonomy is a tool to translate these objectives into clear criteria as a reference for investors and companies. It has been designed to provide a common language for all market participants and introduce standards that align with the ambitions of the Commission's Action Plan on Financing Sustainable Growth. The Taxonomy defines three criteria for environmentally sustainable economic activities ('Taxonomy-aligned activities'). They must:

» substantially contribute to at least one of the six objectives (meet technical screening criteria)
» do no significant harm (DNSH) to any of the other objectives
» comply with the Minimum Social Safeguards (MSS)

[3] The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.

[4] Adopted by the UN in September 2015, the SDGs represent an integrated agenda of 17 global goals and 169 associated targets to promote economic growth, social inclusiveness, and environmental sustainability. SDG 13 is to take urgent action to combat climate change and its impacts.

[5] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (Text with EEA relevance). PE/20/2020/INIT.

The Regulation identifies environmentally sustainable economic activities based on technical screening criteria set out in the Commission's delegated acts developed under this Regulation.[6] The EU Taxonomy Climate Delegated Act[7] ('the Climate Delegated Act), a first delegated act on sustainable activities for climate change adaptation and mitigation objectives was approved in principle on 21 April 2021, and formally adopted on 4 June 2021.

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[6] Article 3, point (d) of Regulation (EU) 2020/852.

[7] 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. C/2021/2800 final.

Methodological Framework

Our EU Taxonomy Alignment Screening comprises expert-led assessments of the following elements:

- Eligible activities: We first identify companies' economic activities which potentially make a substantial contribution to climate change mitigation objective and/or adaptation objective ('eligible activities'). They are typically activities that are covered by the Taxonomy.
- Substantial contribution: We then determine whether each eligible activity actually makes a substantial contribution to any of these objectives. An economic activity is considered making a substantial contribution to an EU Taxonomy's environmental objective when predefined technical screening criteria for that objective are met by the given activity.
- Do No Significant Harm (DNSH): We assess if the activity, while contributing to one objective, does not cause significant harm to the other objectives.
- Minimum Social Safeguards (MSS): We assess company compliance with minimum (social) safeguards stipulated in the Regulation.
- EU Taxonomy alignment: We provide an overall EU Taxonomy alignment assessment as well as the proportion of company turnover that is EU Taxonomy-eligible and aligned whenever possible.

We typically update companies' Substantial Contribution annually with monthly deliveries of new researched companies.

A company is considered aligned with EU Taxonomy if the company:

- has at least one economic activity that contributes substantially to an EU Taxonomy objective without causing significant harm to any of the other environmental objectives (DNSH), and
- complies with all the MSS.

The high-level flow of our EU Taxonomy Alignment Screening is summarized as below.

Eligible Activities
Screening economic activities to check which activities are included in the EU Taxonomy

Activity's Substantial Contribution	Activity's DNSH Compliance	Company's MSS Compliance
Meeting technical screening criteria[8] for an environmental objective (Yes/No)	Respecting DNSH criteria for other 5 objectives (Yes/No)	Human Rights safeguards (Yes/No) Labor safeguards (Yes/No) Anti-corruption (Yes/No)

Overall EU Taxonomy Alignment

[8] The EU Taxonomy Climate Delegated Act has set technical screening criteria which are specific performance criteria for each economic activity.

The company is considered aligned with the EU Taxonomy if all criteria above are met.
The Alignment rate is defined as the share of the company's turnover that is aligned with the EU Taxonomy (percentage).

Eligible activities

We first screen and analyze companies' business activities to identify activities which can contribute to climate change mitigation and adaptation objectives, referred to as eligible activities. We typically check if a given economic activity is included in the EU Taxonomy's classification system. The screening is conducted using public information.

Climate change mitigation refers to efforts to reduce or prevent emissions of GHG. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior.[9] An economic activity pursuing this objective should contribute substantially to the stabilization of GHG emissions by avoiding or reducing them or by enhancing GHG removals. The economic activity should be consistent with the long-term temperature goal of the Paris Agreement5.

Climate change adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change.[10] An economic activity pursuing this objective should contribute substantially to reducing or preventing the adverse impact of the current or expected future climate, or the risks of such adverse impact, whether on that activity itself or on people, nature or assets[5].

Eligible activities are activities that are included in the EU Taxonomy's classification of environmentally sustainable economic activities under specific delegated acts. The Climate Delegated Act has classified 101 environmentally sustainable economic activities including 88 activities that contribute substantially to climate change mitigation and 95 activities that contribute substantially to climate change adaptation. [11] These activities are classified according to the industry-standard statistical classification of Economic Activities in the European Community, commonly referred to as NACE (Revision 2) classification system.[12] They are selected from sectors that are most relevant for achieving climate neutrality and delivering on climate change adaptation. These sectors are macro-sectors that represent a minimum of 93.5% of NACE-based scope 1 emissions in the EU (based on 2018 data), although this figure is likely to be an underestimate as it does not consider buildings emissions in all sectors.[13]

The list of environmentally sustainable economic activities classified by the Climate Delegated Act is provided in Appendix 1.

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[9] United Nations Environment Program

[10] United Nations Climate Change

[11] Annex 1 and Annex 2 to the EU Taxonomy Climate Delegated Act, 4 June 2021.

[12] Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains (OJ L 393, 30.12.2006, p. 1).

[13] Taxonomy Report: Technical Annex, Updated methodology & Updated Technical Screening Criteria - March 2020.

Type of contribution

For each identified eligible activity, we specify the type of contribution to the environmental objective(s) based on the Taxonomy's classification. The Taxonomy has defined three types of contribution:

- Own performance: activity which already contributes to environmental objectives
- Transitional activity: activity which potentially contributes to climate change mitigation as it supports the transition to climate-neutral economy
- Enabling activity: activity which enables other activities to contribute to environmental objectives

Below is a summary of the types of contribution to climate change mitigation and adaptation.

Type of contribution	Climate change mitigation	Climate change adaptation
Own performance	Climate change mitigation or low-carbon activity is an activity which already contributes to climate change mitigation through its own performance. This refers to the operations within the activity, reflecting the activity boundary for the technical screening criteria. For example, the generation of electricity from renewable energy, manufacturing of electric vehicles, forest restoration and rehabilitation.	Climate change adaptation or 'adapted' activity is an activity which is already adapted to address material physical climate risks identified for the activity to the highest extent possible and on a best effort basis. For example, the purchase and installation of early warning systems to reduce the risk of flood of a water utility company's facility.
Transitional activity	Activity for which technologically and economically feasible low-carbon alternative are not yet in place, but supports the transition to a climate-neutral economy. This can mean substantially reducing its currently high carbon footprint, including by helping to phase out reliance on fossil fuels. The activity should: » have GHG emission levels that correspond to best-in-class performance in the sector/industry, » not hamper the development and deployment of low-carbon alternatives, » not lead to a lock-in of carbon-intensive assets. For example, best-in-class cement manufacturing which has highest GHG emission reduction level compared to the sector.	N/A
Enabling activity	Activity enabling climate change mitigation is an activity that directly enables other activities or sectors to contribute to climate change mitigation through GHG emissions reductions. For example, installing highly efficient boilers in buildings, manufacturing of renewable energy technologies.	Activity enabling climate change adaptation is an activity that reduces material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation and is itself also adapted to physical climate risks. For example, developing early warning systems for flood risk.

In some cases, the type of contribution may be determined depending on the performance of the company.

For example, the provision of hybrid power trains can be considered an eligible activity for the 'passenger interurban rail transport' category under the Climate Delegated Act. Although this activity does not fulfill the substantial contribution criterion (zero-emissions performance), it can be considered a transitional activity, provided it complies with the remaining technical screening criteria.

Substantial contribution

The next step is to determine if an eligible activity makes a substantial contribution to the EU Taxonomy's climate change mitigation objective and/or climate change adaptation objective. For each activity that is identified as EU Taxonomy-eligible, we assess if it qualifies as contributing substantially to the objectives using the Taxonomy's technical screening criteria.

Technical screening criteria

Technical screening criteria or performance criteria for substantial contribution to climate change mitigation and adaptation have been developed for each activity listed under the Climate Delegated Act.[14] These criteria include principles about the activity's contribution to these climate objectives as well as metrics and thresholds.

Principles are the underlying rationale for how the activity will result in a substantial contribution and/or avoidance of significant harm to the environmental objective in question.

Criteria, including both metrics and thresholds, are method(s) by which the environmental performance of the economic activity will be measured, including defining the boundary for this measurement and the qualitative or quantitative conditions which must be met to enable the performance of the activity in a way that is considered environmentally sustainable. These criteria vary from one activity to the other, depending on the climate objective (mitigation or adaptation) and the type of contribution (own performance, transition activity or enabling activity).[15] While climate change mitigation contribution criteria include qualitative and quantitative metrics specific to each activity, climate change adaptation contribution criteria consist merely of qualitative criteria.

For example, the EU Taxonomy has defined the manufacture of cement as an activity that can contribute to climate change mitigation and adaptation. Criteria for this activity's substantial contribution to climate change mitigation include precise quantitative performance thresholds of 0.722 tCO_2e/t of grey clinker (for grey cement clinker manufacture) and/or 0.469 tCO_2e/t of cement or alternative binder (for cement or alternative binder manufacture). Contribution criteria for its substantial contribution to climate change adaptation include adaptation solutions to reduce physical climate risks (such as risk assessment), without adversely affecting the adaptation efforts of other people, of nature, of cultural heritage, of assets and other economic activities.

We assess the contribution to climate change mitigation using the performance criteria and quantitative thresholds specific to each activity provided by the Climate Delegated Act. To assess the contribution to climate change adaptation, we have built a questioning framework and scoring scale to quantify the qualitative criteria provided by the Climate Delegated Act.

Substantial contribution to climate change mitigation

Article 10 of the Regulation lays down that an economic activity shall qualify as contributing substantially to climate change mitigation where that activity contributes substantially to the stabilization of greenhouse gas concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system consistent with the

[14] Annex 1 & 2 to the EU Taxonomy Climate Delegated Act, 4 June 2021.

[15] Taxonomy Report: Technical Annex, Updated methodology & Updated Technical Screening Criteria - March 2020.

long-term temperature goal of the Paris Agreement through the avoidance or reduction of greenhouse gas emissions or the increase of greenhouse gas removals, including through process innovations or product innovations.

To assess if an economic activity's contribution to climate change mitigation is substantial, we define if the performance of the given activity meets the performance thresholds specified in the Climate Delegated Act. We typically compare the activity's performance with these quantitative thresholds or qualitative indicators.

In case there is not enough information to determine a substantial contribution, the overall alignment cannot be determined, and a 'No information (N/I)' is indicated. No assumption will be made.

Substantial contribution to climate change adaptation

Article 11 of the Regulation lays down that an economic activity shall qualify as contributing substantially to climate change adaptation where that activity:

a) includes adaptation solutions that either substantially reduce the risk of the adverse impact of the current climate and the expected future climate on that economic activity or substantially reduce that adverse impact, without increasing the risk of an adverse impact on people, nature or assets; or
b) provides adaptation solutions that, in addition to satisfying the conditions set out in Article 16[16], contribute substantially to preventing or reducing the risk of the adverse impact of the current climate and the expected future climate on people, nature or assets, without increasing the risk of an adverse impact on other people, nature or assets.

In general[17], criteria for substantial contribution to climate change adaptation for most activities are summarized as followings:

1. The economic activity has implemented adaptation solutions that substantially reduce the most important physical climate risks that are material to that activity.
2. The physical climate risks that are material to the activity have been identified by performing a robust climate risk and vulnerability assessment.
3. The climate projections and assessment of impacts are based on best practices and available guidance and science-based.
4. The adaptation solutions implemented do not adversely affect the adaptation efforts of other people, nature, assets and other activities. These solutions should be monitored and measured against pre-defined indicators and remedial action is considered where they are not met, favor nature-based solutions and are consistent with local, sectoral, regional or national adaptation plans and strategies.

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[16] Article 16: An economic activity shall qualify as contributing substantially to one or more of the environmental objectives set out in Article 9 by directly enabling other activities to make a substantial contribution to one or more of those objectives, provided that such economic activity:
(a) does not lead to a lock-in of assets that undermine long-term environmental goals, considering the economic lifetime of those assets; and
(b) has a substantial positive environmental impact, on the basis of life-cycle considerations.

[17] The exceptions are Professional, scientific, and technical activities and Financial and insurance activities

To address the qualitative nature of the climate change adaptation contribution criteria for most activities, we use our in-house method to qualify the criteria.

We acknowledge that adaptation solutions should go beyond a single activity or operation. A local level implementation may lead to patchwork and incoherence of measures.

For example, the identification of physical climate risks that are material to the activity must result from a company-wide assessment. As another example, the adaptation of 'manufacture of cement' to physical risks of climate change requires human capital and technology, which should be considered at the company level.

Our determination of whether activities' contribution to climate change adaptation is substantial is therefore based on an assessment of the associated company's management approach to climate change risk adaptation. We evaluate the degree to which physical impacts of climate change are considered and managed within companies' operations. To conduct this analysis, we follow a three-pillar assessment framework containing leadership, measures and results pillars. We look at companies' acknowledgement of the potential physical impacts of climate change on their activities (leadership), their adaptation solutions to mitigate these consequences (measures) and if they report on relevant indicators (results). We have categorized adaptation solutions into three types:

- Risk and vulnerability assessment includes risk or vulnerability mapping for company assets, operations, supply chain.
- Short-term response includes measures to mitigate physical impacts of climate change on company activities such as facility/infrastructure maintenance, raw material substitution due to impact on availability, emergency response plan.
- Long-term response includes measures to reduce the exposure to physical impacts of climate change on company activities and reinforce adaptation capabilities such as divestment from locations at risk, adapting the production process in case of shortage of raw material, redesigning project and buildings.

In general, we have set the following requirements for an activity to be qualified as making a substantial contribution to climate change adaptation:

1. Regarding leadership, at least main physical impacts of climate change that are material to the activity/sector have been identified.
2. Regarding measures, at least risk assessment and short-term adaptation response measure(s) to mitigate the physical impacts of climate change on its activities are in place;
   or the company has implemented long-term adaptation response measures to reduce its exposure to physical impacts of climate change or reinforce its adaptation capabilities.
3. Regarding results, the company must report on indicators reflecting its solutions to anticipate and mitigate the physical impacts of climate change on its activities.

Each pillar is assessed and scored on a four-level scale based on companies' disclosure to reflect these requirements. The detailed scoring method and levels are described in Appendix 2.

Unlike mitigation activities where a one-tonne reduction of CO2 emissions has the same impact regardless of where the mitigation activity takes place, climate change adaptation solutions are mostly location and context specific.[18] Our

[18] Taxonomy Report: Technical Annex, Updated methodology & Updated Technical Screening Criteria - March 2020.

framework is therefore customized to industrial sectors to consider these factors. Activities are assessed within a given sector and these assessments are entity specific.

For example, for a company's 'acquisition and ownership of buildings' activity, adaptation measures may include reinforcing building designs to mitigate flooding risks; for the 'manufacture of cement', measures can include processes to reduce the dependency on water as a raw material to consider the impact of changing weather patterns on water availability.

The exceptions to the application of the questioning framework are Professional, scientific and technical activities and Financial and insurance activities. The Climate Delegated Act has specified distinct criteria for these activities. In assessing activities in these categories, we conduct an expert-led qualitative analysis against each criterion.

Do No Significant Harm (DNSH)

The DNSH due diligence helps guarantee that an economic activity contributing substantially to one environmental objective does not negatively impact other objectives. This assessment ensures the environmental integrity of the classification of environmentally sustainable activities, meaning an activity's performance against an objective is not made at the expense of others. Effectively, even if an activity is considered bringing a substantial contribution to an objective, it will not be considered environmentally sustainable (aligned with the EU Taxonomy) if any of the other five objectives is significantly harmed.

The Climate Delegated Act has defined DNSH criteria and technical guidelines for activities to each environmental objective. To assess DNSH to climate change mitigation, we use the Climate Delegated Act's DNSH criteria given they are generally quantitative. For the other objectives, we analyze negative events (controversies) that harm the objectives.

DNSH to climate change mitigation

An economic activity shall be considered as causing significant harm to climate change mitigation when that activity leads to significant greenhouse gas emissions. For each eligible activity, the Climate Delegated Act provides specific thresholds for DNSH to climate change mitigation. These criteria can be either quantitative metrics or qualitative indicators.

For example, the 'manufacture of cement' activity is considered DNSH to climate change mitigation if the company's GHG emissions from the cement production processes are:

» lower than 0,816128 tCO_2e per tonne of grey cement clinker for grey cement clinker manufacture
» lower than 0,530129 tCO_2e per tonne of cement or alternative binder for cement manufacture

We conduct a comparative analysis for each activity. If an activity meets the thresholds for DNSH to climate change mitigation set by the Climate Delegated Act, it is considered fulfilling the DNSH to climate change mitigation. For qualitative DNSH criteria, we conduct an in-depth qualitative analysis to assess activities against these indicators.

DNSH to climate change adaptation

The Climate Delegated Act provides generic criteria for DNSH to climate change adaptation for all activities. Activities should reduce material physical climate risks while supporting system adaptation, meaning the activities and their adaptation should not adversely affect the adaptation efforts of other people, nature and assets.[19]

Due to the qualitative and generic nature of these criteria, we assess DNSH to climate change adaptation based on qualitative analysis.

DNSH to remaining objectives

The Climate Delegated Act does not systematically provide DNSH criteria for all activities across remaining objectives on water, waste, pollution and biodiversity. To ensure that an activity does not negatively impact these environmental objectives, we conduct a controversy risk assessment. We define a controversy as public information or contradictory

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[19] Appendix A to Annex 1 of the EU Taxonomy Climate Delegated Act, 4 June 2021.

opinions from reliable[20] sources that incriminate or make allegations against a company regarding how it handles Environmental, Social, and Governance (ESG) issues. Each controversy may relate to several facts or events, to their conflicting interpretations, legal procedures or non-proven claims. These adverse events are independent of economic activities.

We have defined six environmental criteria associated with these objectives (see table below). We screen public sources on a daily basis to identify company controversies on these criteria and their impacts on stakeholders.

EU Taxonomy's environmental objective	Moody's ESG Solutions' environmental criterion
Objective 3: Sustainable and protection of water and marine resources	Protection of water resources
Objective 4: The transition to a circular economy	Waste management
Objective 5: Pollution prevention and control	Pollution prevention and control (soil, accident)
	Minimizing environmental impacts from energy use
	Management of atmospheric emissions
Objective 6: The protection and restoration of biodiversity and ecosystems	Protection of biodiversity

Each identified controversy is associated with one or several criteria according to the fundamental principles affected.

For example, an oil spill is identified as a controversy concerning environmental accident which pollutes marine water, threatening wildlife, therefore impacts two criteria: Pollution prevention and control and Protection of biodiversity.

We then determine a severity level for each controversy based on the scale, scope and remedial/irremediable nature of the controversy for both stakeholders and companies. There are four severity levels in our quantification system: Critical, High, Significant and Minor. The methodology for assessing the severity level is detailed in Appendix 3.

We consider companies having controversies of a Critical or High severity (the highest levels) on the associated criteria as failing to meet the Taxonomy's DNSH criteria to the related objective. Consequently, they are excluded from being considered as Taxonomy-eligible.

For example, a company's cement manufacture activity is considered substantially contributing to climate change mitigation because its GHG emissions met the threshold required by the Climate Delegated Act. The company also faces a controversy of High severity concerning water mismanagement during its cement production process. In such case, the activity is considered failing to do no harm to the Protection of water resources objective.

[20] Moody's ESG Solutions considers reliable sources as sources with sufficient details to substantiate claims made, with due attention paid to the political dimension of news and the danger of misinformation to ensure cases are reported in an apolitical way. We draw on investigative journalism, business press, internationally recognized NGO's and trade union reports focusing on corporate behavior relating to ESG issues.

Minimum Social Safeguards (MSS)

The next step is to determine whether or not companies are in breach of the minimum social safeguards (MSS) as outlined by the Commission. We conduct a controversy risk assessment, considering companies' exposure to and management of controversies. This two-dimension assessment helps capture the full spectrum of companies' efforts to ensure minimum safeguards.

Article 18 of the Regulation stipulates that MSS are 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 Labor Organization on Fundamental Principles and Rights at Work and the International Bill of Human Rights. We have defined eight social and governance criteria associated with these MSS areas (see table below).

EU Taxonomy's MSS areas	Moody's ESG Solutions' social/governance criterion
Human Rights	Respect for human rights standards and prevention of violations
	Non-discrimination
	Integration of social factors in the supply chain
Labor	Respect for freedom of association and the right to collective bargaining
	Elimination of child labor and forced labor
	Non-discrimination
	Integration of social factors in the supply chain
Anti-corruption	Prevention of corruption

Each identified controversy is associated to one or several criteria according to the fundamental principles affected. We then determine a severity level for each controversy based on the scale, scope and remedial/irremediable nature of the controversy for both stakeholders and companies. There are four severity levels in our quantification system: Critical, High, Significant and Minor. The methodology for assessing the severity level is detailed in Appendix 3. We consider company involvement in controversies of Critical or High severity on these criteria as a breach of the MSS.

Another consideration for company compliance with MSS is the company's reactiveness and engagement plan when the company faces controversies (responsiveness). Unlike the DNSH criteria which focus only on the harm or impact, the MSS should consider both impact and remediation. Principle 22 of the UN Guiding Principles on Business and Human Rights provides that where "business enterprises identify that they have caused or contributed to adverse impacts, they should provide for or cooperate in their remediation through legitimate processes". A company having controversies of Critical or High severity is therefore expected to actively provide remediation. This can be done through voluntary corrective measures such as organizational changes or policy shifts.

We categorize the responsiveness of companies to controversies into four levels: Proactive, Remediative, Reactive and Non-Communicative.

Responsiveness	Definition
Proactive	The company demonstrates the implementation of corrective measures that are designed to prevent a reoccurrence of the event. These could constitute structural measures that substantially change the company's internal processes and policies. These types of proactive measures may involve the establishment of systematic channels of dialogue or communication and cooperation with affected stakeholders.
Remediative	The company demonstrates that it has implemented corrective measures that are designed to remedy the specific case it is confronted with and does so on a voluntary basis.
Reactive	The company reports transparently on the controversy it is confronted with providing additional elements and concrete explanations (even if these are denials of the allegations) on its position relative to the case. In the case of a settlement, the company has already started to implement corrective measures involuntarily (imposed by a third party such as judge).
Non - Communicative	The company is completely silent on the controversy and demonstrates no visible or public reaction. Alternatively, there is a lack of transparency on key details related to the controversy or the company only reports in a general fashion that is of no added value to interested stakeholders.

A company is considered meeting the MSS criteria if:

» The company is not involved in controversies of Critical or High severity on any of the social and governance criteria above; or
» The company is involved in controversies of Critical or High severity on these criteria but demonstrates a Remediative or Proactive responsiveness to the controversy.

EU Taxonomy Alignment

According to the Taxonomy, an economic activity is considered environmentally sustainable (Taxonomy-aligned) when:

- » the company has at least one activity which substantially contributes to climate change mitigation and/or climate change adaptation (meet technical screening criteria)
- » this activity does no significant harm (DNSH) to any of the other objectives
- » the company respects the Minimum Social Safeguards (MSS)

Substantial contribution	DNSH	MSS		
Substantial contribution to climate change mitigation	» Climate change adaptation » The sustainable use and protection of water and marine resources » The transition to a circular economy » Pollution prevention and control » The protection and restoration of biodiversity and ecosystems	1. Human Rights safeguard 2. Labor safeguard 3. Anti-corruption	→	EU Taxonomy Alignment
Substantial contribution to climate change adaptation	» Climate change mitigation » The sustainable use and protection of water and marine resources » The transition to a circular economy » Pollution prevention and control » The protection and restoration of biodiversity and ecosystems			

Only economic activities included in the scope of companies consolidated financial statements are considered in the assessment.

Alignment rate

For each EU Taxonomy-aligned activity, we determine the alignment rate, which is the turnover derived from the activity as a percentage of the company's total turnover.

The EU Taxonomy alignment rate for a company is the sum of alignment rates of all aligned activities.

We use turnover information reported by companies to calculate these rates. Where no information is found for a given company, an assessment of No information (N/I) is given. No assumption or estimate will be made. When turnover is reported by the company but there is no breakdown into activity categories, we will estimate the turnover generated from each eligible activity using relevant sector-specific indicators.

For example, if a company reports turnover from electricity generation using renewable energy sources of solar and wind, but the breakdown into the respective energy sources is not available, then we will calculate the revenue generated from renewables according to the proportionate energy source. To illustrate this example, when solar electricity generation represents 100 GWh of 200 GWh in terms of renewable energy generation, then solar would constitute 50% of the revenue from this energy segment.

Research process

Our EU Taxonomy Alignment Screening follows a 4-step process.

Screening and data collection

Our EU Taxonomy Alignment Screening team collects information from corporate reporting to identify economic activities that are included in the EU Taxonomy. Data and news are screened daily to identify controversies. This step is to identify activities and associated companies that are eligible for the Taxonomy alignment assessment. We also collect information from corporate and public sources to support our analysis of technical criteria.

Alignment assessment and quantification

Our expert team will then analyze each eligible activity's alignment with the EU Taxonomy against the criteria set by the Taxonomy and Climate Delegated Act according to our methodology. For each company, the team also quantifies the alignment rate (as a percentage of overall turnover) for each activity and overall level for the company. To do this, we collect data on companies' total turnover and turnover from relevant activities as reported by the companies. We do not estimate or make any assumptions.

Quality

The assessments made by the expert team are quality controlled and validated by accredited personnel.

Validation and Delivery

After the quality checks have been performed, the datafiles for the product are delivered to clients once a month.

Sources of information

We ensure that all companies are analyzed and rated impartially, using the most up-to-date, open-source information coming from companies (websites, annual reports, press releases, brochures, catalogues, investor presentations, etc.).

Examples of the primary sources of information are:

- Corporate reporting: CSR Reports, Sustainability Reports, ESG Reports, GRI Index Reports, Annual Reports, 10K forms, Environmental Technical Reports, Sustainability plans & policies, ESG/Sustainability scorecards, etc.
- Direct company contact: non-confidential information provided by companies in response to the questionnaires, or during the natural course of the assessment process.
- Stakeholder websites: information from key stakeholder sources including the Intergovernmental Panel on Climate Change (IPCC) and their reports.
- Factiva press database: The Factiva Dow Jones database provides our analysts with access to news stories about companies extracted from global press sources.[21]

Confidential information is not used in our research. Should Moody's ESG Solutions be challenged by third parties on the integrity of the opinion delivered, it is vital that we are able to share the sources of information publicly and transparently. Since the use of confidential information would undermine our ability to do this, it is not permitted.

[21] Through our partnership with Factiva Dow Jones, we have access to over 33,000 publications worldwide from financial newspapers, sector-focused magazines and local publications.

Appendix 1 – Environmentally sustainable economic activities classified by the EU Taxonomy Climate Delegated Act

Below is the list of economic activities that potentially contribute to climate change mitigation (M) and climate change adaptation (A).

NACE Code	Economic activity	Climate change objective (M/A)
	Forestry	
A2	Afforestation	M, A
A2	Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event	M, A
A2	Forest management	M, A
A2	Conservation forestry	M, A
	Environmental protection and restoration activities	
No dedicated NACE code	Restoration of wetlands	M, A
	Manufacturing	
C25, C27, C28	Manufacture of renewable energy technologies	M, A
C25, C27, C28	Manufacture of equipment for the production and use of hydrogen	M, A
C29.1, C30.1, C30.2, C30.9, C33.15, C33.17	Manufacture of low carbon technologies for transport	M, A
C27.2, E38.32	Manufacture of batteries	M, A
C16.23, C23.11, C23.20, C23.31, C23.32, C23.43, C.23.61, C25.11, C25.12, C25.21, C25.29, C25.93, C27.31, C27.32, C27.33, C27.40, C27.51, C28.11, C28.12, C28.13, C28.14	Manufacture of energy efficiency equipment for buildings	M, A
C22, C25, C26, C27, C28	Manufacture of other low carbon technologies	M, A
C23.51	Manufacture of cement	M, A
C24.42, C24.53	Manufacture of aluminum	M, A
C24.10, C24.20, C24.31, C24.32, C24.33, C24.34, C24.51, C24.52	Manufacture of iron and steel	M, A
C20.11	Manufacture of hydrogen	M, A
C20.13	Manufacture of carbon black	M, A
C20.13	Manufacture of soda ash	M, A
C20.13	Manufacture of chlorine	M, A
C20.14	Manufacture of organic basic chemicals	M, A
C20.15	Manufacture of anhydrous ammonia	M, A
C20.15	Manufacture of nitric acid	M, A
C20.16	Manufacture of plastics in primary form	M, A
	Energy	
D35.11, F42.22	Electricity generation using solar photovoltaic technology	M, A
D35.11, F42.22	Electricity generation using concentrated solar power (CSP) technology	M, A
D35.11, F42.22	Electricity generation from wind power	M, A
D35.11, F42.22	Electricity generation from ocean energy technologies	M, A
D35.11 and F42.22	Electricity generation from hydropower	M, A
D35.11 and F42.22	Electricity generation from geothermal energy	M, A
D35.11 and F42.22	Electricity generation from renewable non-fossil gaseous and liquid fuels	M, A
D35.11	Electricity generation from bioenergy	M, A

NACE Code	Economic activity	Climate change objective (M/A)
D35.12, D35.13	Transmission and distribution of electricity	M, A
No dedicated NACE code	Storage of electricity	M, A
No dedicated NACE code	Storage of thermal energy	M, A
No dedicated NACE code	Storage of hydrogen	M, A
D35.21	Manufacture of biogas and biofuels for use in transport and of bioliquids	M, A
D35.22, F42.21, H49.50	Transmission and distribution networks for renewable and low-carbon gases	M, A
D35.30	District heating/cooling distribution	M, A
D35.30, F43.22	Installation and operation of electric heat pumps	M, A
D35.11, D35.30	Cogeneration of heat/cool and power from solar energy	M, A
D35.11, D35.30	Cogeneration of heat/cool and power from geothermal energy	M, A
D35.11, D35.30	Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels	M, A
D35.11, D35.30	Cogeneration of heat/cool and power from bioenergy	M, A
D35.30	Production of heat/cool from solar thermal heating	M, A
D35.30	Production of heat/cool from geothermal energy	M, A
D35.30	Production of heat/cool from renewable non-fossil gaseous and liquid fuels	M, A
D35.30	Production of heat/cool from bioenergy	M, A
D35.30	Production of heat/cool using waste heat	M, A
	Water supply, sewerage, waste management and remediation activities	
E36.00, F42.99	Construction, extension and operation of water collection, treatment and supply systems	M, A
E36.00, F42.99	Renewal of water collection, treatment and supply systems158	M, A
E37.00, F42.99	Construction, extension and operation of waste water collection and treatment	M, A
E37.00	Renewal of waste water collection and treatment	M, A
E38.11	Collection and transport of non-hazardous waste in source segregated fractions	M, A
E37.00, F42.99	Anaerobic digestion of sewage sludge	M, A
E38.21, F42.99	Anaerobic digestion of bio-waste	M, A
E38.21, F42.99	Composting of bio-waste	M, A
E38.32, F42.99	Material recovery from non-hazardous waste	M, A
E38.21	Landfill gas capture and utilization	M, A
F42.21, H49.50	Transport of CO2	M, A
E39.00	Underground permanent geological storage of CO2	M, A
	Transport	
H49.10, N77.39	Passenger interurban rail transport	M, A
H49.20, N77.39	Freight rail transport	M, A
H49.31, H49.3.9, N77.39, N77.11	Urban and suburban transport, road passenger transport	M, A
N77.11, N77.21	Operation of personal mobility devices, cycle logistics	M, A
H49.32, H49.39, N77.11	Transport by motorbikes, passenger cars and commercial vehicles	M, A
H49.4.1, H53.10, H53.20, N77.12	Freight transport services by road	M, A
H50.30	Inland passenger water transport	M, A
H50.4	Inland freight water transport	M, A
H50.4, H50.30, C33.15	Retrofitting of inland water passenger and freight transport	M, A
H50.2, H52.22, N77.34	Sea and coastal freight water transport, vessels for port operations and auxiliary activities	M, A
H50.10, N77.21, N77.34	Sea and coastal passenger water transport	M, A
H50.10, H50.2, H52.22, C33.15, N77.21, N.77.34	Retrofitting of sea and coastal freight and passenger water transport	M, A
F42.11, F42.12, F43.21, F71.1, F71.20	Infrastructure for personal mobility, cycle logistics	M, A
F42.12, F42.13, M71.12, M71.20, F43.21, H52.21	Infrastructure for rail transport	M, A
F42.11, F42.13, F71.1, F71.20	Infrastructure enabling road transport and public transport	M, A

NACE Code	Economic activity	Climate change objective (M/A)
F42.91, F71.1 or F71.20	Infrastructure for water transport	A
F42.91, F71.1 or F71.20	Infrastructure enabling low carbon water transport	M
F41.20, F42.99	Low carbon airport infrastructure	M
F41.20, F42.99	Airport infrastructure	A
	Construction and real estate	M, A
F41.1, F41.2	Construction of new buildings	M, A
F41, F43	Renovation of existing buildings	M, A
F42, F43, M71, C16, C17, C22, C23, C25, C27, C28, S95.21, S95.22, C33.12	Installation, maintenance and repair of energy efficiency equipment	M, A
F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28	Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	M, A
F42, F43, M71, and C16, C17, C22, C23, C25, C27, C28	Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	M, A
F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28	Installation, maintenance and repair of renewable energy technologies	M, A
L68	Acquisition and ownership of buildings	M, A
	Information and communication	M, A
J63.11	Data processing, hosting and related activities	M, A
J61, J62, J63.11	Data-driven solutions for GHG emissions reductions	M
J62	Computer programming, consultancy and related activities	A
J60	Programming and broadcasting activities	A
	Professional, scientific and technical activities	M, A
M71.1.2, M72, M72.1	Close to market research, development and innovation	M, A
M71.1.2, M72.1	Research, development and innovation for direct air capture of CO2	M
M71.12	Engineering activities and related technical consultancy dedicated to adaptation to climate change	A
M71	Professional services related to energy performance of buildings	M
	Financial and insurance activities	A
K65.12	Non-life insurance: underwriting of climate-related perils	A
K65.20	Reinsurance	A
P85	**Education**	A
	Human health and social work activities	A
Q87	Residential care activities	A
	Arts, entertainment and recreation	A
R90	Creative, arts and entertainment activities	A
R91	Libraries, archives, museums and cultural activities	A
J59	Motion picture, video and television programme production, sound recording and music publishing activities	A

Appendix 2 – Questioning framework and scoring of companies' management physical impacts of climate change

We first define a set of 'Principles of Action' for the management of physical impacts of climate change. These determine the content of our analysis and articulate the actions that we would expect a high-performing company to undertake on this topic. We derive these principles from universally recognized norms and standards emanating from organizations amongst others as stipulated in the Taxonomy. These Principles of Action are:

- Company's vulnerability to the physical impacts of climate change
- Adequate measures to mitigate the potential consequences the physical impacts of climate change could have on its activities
- Action to reinforce its capacity to adapt and reduce its exposure to such changes
- Report performance indicators reflecting the result of its efforts to anticipate and mitigate the consequences that physical impacts of climate change could have on its activities

We have developed a questioning framework that contains three pillars: leadership, implementation, and results.

Leadership

We assess how companies take into account the physical impacts that climate change could have on its activities.

Score level 1	There is no information from company and public sources on the company's acknowledgement of the physical impacts that climate change could have on its activities.
Score level 2	The company generally acknowledges the physical impacts that climate change could have on its activities; or the company has identified some potential physical impacts that are material to the activity/sector that climate change could have on its activities.
Score level 3	The company has identified the main potential physical impacts that are material to the activity/sector that climate change could have on its activities.
Score level 4	The company has identified the main potential physical impacts that are material to the activity/sector that climate change could have on its activities. In addition, the company has quantified the potential financial impact.

Implementation

We look at the means allocated to anticipate and manage the physical impacts of climate change on its activities.

Score level 1	There is no information from company and public sources on the company's measures to anticipate and mitigate the physical impacts of climate change on its activities.
Score level 2	The company has implemented limited measures to mitigate the physical impacts of climate change on its activities. However, these do not seem to go beyond the assessment of its vulnerability.
Score level 3	The company has implemented significant measures to mitigate the physical impacts of climate change on its activities; or the company has implemented some measures to reduce its exposure to physical impacts of climate changes or reinforce its adaptation capabilities.
Score level 4	The company has implemented comprehensive measures to mitigate the physical impacts of climate change on its activities, in addition to some measures to reduce its exposure to physical impacts of climate changes. OR The company has implemented significant measures to reduce its exposure to physical impacts of climate changes or reinforce its adaptation capabilities.

Results

We assess company disclosure of the results of its efforts to anticipate and mitigate the physical impacts of climate change on its activities.

Score level 1	There is no information from company and public sources on the result of the company's efforts to anticipate and mitigate the physical impacts of climate change on its activities.
Score level 2	The company reports on indicators reflecting the result of its efforts to anticipate and mitigate the physical impacts of climate change on its activities, but the lack of historical data does not allow to define a trend.
Score level 3	The company reports on a 3-year or more history of indicators reflecting the result of its efforts to anticipate and mitigate the physical impacts of climate change on its activities.
Score level 4	The company reports on a 3-year or more history of indicators reflecting the result of its efforts to anticipate and mitigate the physical impacts of climate change on its activities. In addition, these indicators show a positive trend over time.

The analysis of substantial contribution to climate change adaptation considers all three pillars. For an activity to be considered as making a substantial contribution to climate change adaptation, the company must obtain:

» a score of at least 3 out of 4 in leadership
» a score of at least 3 out of 4 in implementation
» a score of at least 2 out of 4 in results.

Appendix 3 – Controversy severity assessment methodology

We refer to the framework set out by the Office of the United Nations High Commissioner for Human Rights[22] which calls for an assessment of the scale, scope and remedial/irremediable nature of a controversy. The severity level is defined based on the **scale**, the scope and remedial/irremediable nature of the controversy for both stakeholders and companies. Each element is assessed and graded according to a three-level scale.

Severity Assessment		On stakeholders	On companies
	Scale of the Impact	» Fundamental (3) » Essential (2) » Promotional (1)	» Condemnation/ Historical settlement (3) » Campaign/Legal proceeding/Incident/Settlement (2) » Allegation/Inquiry (1)
	Scope of the Impact	» High (3) » Average (2) » Limited (1)	» High (3) » Average (2) » Limited (1)
	Reversibility/ Materiality of the Impact	» Irreversible/Lethal (3) » Reversible (2) » Aesthetic (1)	» Critical (3) » Significant (2) » Limited (1)

By multiplying the grades of all elements, the overall severity value is obtained. Based on this global value, the Severity level is then categorized into four levels: Critical, High, Significant and Minor.

Severity level	Lowest Value	Highest Value
Critical	217	729
High	65	216
Significant	19	64
Minor	1	18

[22] "A negative human rights impact that is severe by virtue of one or more of the following characteristics: its scale, scope or irremediability. Scale means the gravity of the impact on the human right(s). Scope means the number of individuals that are or could be affected. Irremediability means the ease or otherwise with which those impacted could be restored to their prior enjoyment of the right(s)" – United Nations Guiding Principles on Business and Human Rights.

The highest possible value obtained is 729 (Critical level) if all elements are graded at the highest level (3), according to the formula: 3 x 3 x 3 x 3 x 3 x 3 = 729.

The lowest possible value obtained is 1 (Minor level) if all elements are graded at the lowest level (1), according to the formula: 1 x 1 x 1 x 1 x 1 x 1 = 1.

The table below provides the definition of each of the scale, scope and materiality of the impact on companies and stakeholders.

Scale of the Impact on stakeholders	
Fundamental (3)	The controversy impacts a criterion where stakeholder interests are considered fundamental in nature.
Essential (level 2)	The controversy impacts a criterion where stakeholder interests are considered essential in nature.
Promotional (level 1)	The controversy impacts a criterion where stakeholder interests are considered promotional in nature.
Scope of the Impact on stakeholders	
High (3)	A high number of stakeholders are assessed to be impacted by the controversy.
Average (2)	A relatively average number of stakeholders are assessed as being impacted by the controversy.
Limited (1)	A relatively limited number of stakeholders are assessed as being impacted by the controversy.
Reversibility of the Impact on stakeholders	
Irreversible/Lethal (3)	The controversy has long lasting impacts to stakeholders or results in death or multiple fatalities.
Reversible (2)	The controversy has no long-lasting negative impacts. There is return to the status quo after compensation is provided.
Aesthetic (1)	The controversy causes only aesthetic damage to stakeholders or has impacts in extremely limited duration.
Scale of the Impact on companies	
Condemnation/Historical settlement (3)	A condemnation or similar level of censure from legal authorities relative to the actions of the issuer. A settlement of historical proportions in terms of the impact on the company.
Campaign/Legal proceeding/Incident/Settlement (2)	A campaign constitutes a series of actions that are meant to achieve a purpose, namely, to change corporate behavior, influence the company's strategy or protest in an organized manner against the company.
Allegation/Inquiry (1)	Allegations consist of a sufficient level of detail but are non-proven. Inquiries are not necessarily legal in nature or formalized. They can be carried out by public bodies.
Scope of the Impact on companies	
High (3)	The Board of Directors, executives, senior management are directly involved or implicated in the controversy. Corporate policies or products representing a major share of revenues are impacted by the controversy.
Average (2)	Line management or middle management are directly involved or implicated in the controversy. The Board, Executives and Senior Management are considered indirectly involved. The company is involved in the controversy indirectly (through a supplier or business line of lower revenue generation).
Limited (1)	Non managerial employees are involved or implicated in the controversy or the controversy impacts a product/service line that generates a very low share of revenues.
Materiality of the Impact on companies	
Critical (3)	The controversy results in irreversible damage to the company such as bankruptcy, mass restructuring or long-term negative impacts to its reputation or forced eviction from operations. The amount of the fine or financial loss represents an estimated 10% of its revenue.
Significant (2)	The controversy results in temporary financial and reputational damage to the company. The amount of the fine or financial loss represents less than 10% but more than 1% of its revenue.

Limited (1)	The controversy results in limited and only short-term damage to the company. The amount of the fine or financial loss represents less than 1% of its revenue.