This paper has been prepared by the EFRAG Secretariat for discussion at a public meeting of EFRAG SR TEG. The paper forms part of an early stage of the development of a potential EFRAG position. Consequently, the paper does not represent the official views of EFRAG or any individual member of the EFRAG SRB or EFRAG SR TEG. The paper is made available to enable the SRT members to follow the discussions in the meeting. Given that the first sector-specific working paper is Mining, Quarrying and Coal, the purpose of this paper is twofold. On the one hand, to have the first discussion on the architecture and approach on sector-specific working papers and, on the other, to discuss the technical content for Mining, Quarrying and Coal.

Potential disclosures for quarries
Issues Paper

Objective

1 This paper presents a number of potential disclosures for quarrying activities to be added to the ESRS Mining, quarrying and coal operations working paper.

Sustainability matters affected

2 The following table provides an overview of the sustainability matters that are found relevant for undertakings in the quarrying sector, subsector of the Mining, quarrying and Coal sector.

3 In accordance with the draft ESRS Mining, quarrying and coal operations, undertakings in the sector shall assess all sustainability matters relevant for them for materiality and subject to that materiality assessment, apply all disclosures related to material sustainability matters, not only the disclosure requirements mentioned in a subchapter such as Coal operations or Quarrying.

Environmental	Social	Governance
E1: Greenhouse gas emissions (*)	S1: Workforce – health and safety	G1 Pricing integrity and transparency
E1: Energy management (*)		
E2: Air quality		
E2: Waste management		
E3: Water management (*)		
E4: Biodiversity impacts		
E4: Product innovation		
(*) Sustainability matter covered by Disclosure Requirements in the topical sector-agnostic ESRS (see ESRS 1 Appendix B table in paragraph AR 12.)		

Potential disclosures

Disclosure requirement related to ESRS 2 SBM 1 market position, strategy, business model(s) and value chain

4 **The undertaking shall disclose its market share of products**

5 The objective of this disclosure requirement is to get overview of the undertakings market for products that show reduced environmental impact.

6 The undertaking shall disclose the total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production. The undertaking shall provide an estimation of the total addressable market for products that show reduced environmental impacts at various lifecycle stages, including during material sourcing, manufacturing, and product usage (hereafter, "reduced environmental impact products"). Total addressable market is defined as potential revenue (in billions of EUR) should the undertaking capture 100 percent of the market share of the product category (e.g., the global market for reduced environmental impact building products).

Disclosure requirement on MIN XX – E2 Disclosure of nitrogen oxides, sulphur oxides and other significant air emissions

7 **The undertaking shall disclose its air emissions pollutants.**

8 The objective of this disclosure requirement is to provide insight in the volume of significant air emissions caused by each operational site of the undertaking.

9 The undertaking shall disclose, [per operational site/per key operational sites – TO BE DISCUSSED], the volume of nitrogen oxides, sulphur oxides, mercury and other significant air emissions over the last 12-month period as well as in total for the entire duration of the operational site. The Disclosure Requirement is to be fulfilled at operational site level. The undertaking shall report the following information:

(a) NOx (excluding N2O),

(b) SOx,

(c) particulate matter (PM10),

(d) dioxins/furans,

(e) volatile organic compounds (VOCs),

(f) polycyclic aromatic hydrocarbons (PAHs),

(g) heavy metals

10 The undertaking shall disclose its emissions of air pollutants, in metric tons per pollutant, that are released into the atmosphere. The scope of disclosure includes air pollutants associated with the undertaking's direct air emissions resulting from all of the undertaking's activities and sources of emissions, including, but not limited to, stationary and mobile sources, production facilities, office buildings, and transportation fleets.

Disclosure requirement related to ESRS E4-2 -policies related to biodiversity and ecosystems

11 **The undertaking shall disclose its land use policy.**

12 The objective of the disclosure requirement is to understand which actions the undertaking is taking to restore land areas affected by its activities.

13 The undertaking shall disclose:

(a) terrestrial acreage disturbed,

(b) percentage of impacted area restored

(c) the total acreage of disturbed land, where the scope includes land in the exploration, development and production, or quarry/mine closure, and post-closure project phases. This disclosure shall be a cumulative total of all currently active sites and sites being restored; it is not limited to land newly disturbed during the reporting period. Land shall no longer be considered disturbed once post-closure restoration and remediation efforts are substantially complete (even if monitoring is ongoing).

Disclosure requirement related to ESRS E5-3 Targets related to resource use and circular economy

14 **The undertaking shall disclose its amount of waste generated.**

15 The objective of this disclosure requirement is to disclose the amounts of the amounts of waste generated and recycled.

16 The undertaking shall disclose

(a) Amount of waste generated, percentage hazardous, percentage recycled

(b) The undertaking shall disclose the amount of waste generated in metric tons. Waste is defined as anything for which the undertaking has no further use and which is discarded or is released to the environment. The scope includes slags, dusts, sludges, used oil, and other solid wastes that meet the above definition. The scope excludes gaseous wastes.

Disclosure requirement related to ESRS S1-14 health and safety indicators

17 **The undertaking shall disclose its workforce and safety measures.**

18 The objective of this disclosure requirement is to know the impacts of silicosis for the undertakings' workforce.

19 The undertaking shall disclose the number of reported cases of silicosis.

20 The undertaking shall disclose the number of reported cases of silicosis affecting the undertaking's current workforce or past employees. The scope of disclosure includes cases of chronic, acute, or accelerated silicosis.

Disclosure requirement MIN XX - Product innovation

21 **The undertaking shall disclose its building design and construction certifications.**

22 The objective of this disclosure requirement is to understand the undertakings design and construction certifications.

23 The undertaking shall disclose the percentage of products that qualify for credits in sustainable building design and construction certifications. The undertaking shall calculate the percentage as the revenue during the reporting period from products that qualify for credits in recognized sustainable design and construction certifications divided by the total revenue from building products. The scope of products excludes raw or intermediate materials that would require additional manufacturing before being incorporated into a building; the undertaking shall exclude these products from the numerator and denominator of its calculations.

Application requirements

Application requirement related to ESRS 2 SBM 1 market position, strategy, business model(s) and value chain

24 The scope of products includes those:

(a) With product attributes that reduce energy consumption or increase energy efficiency for users, such as by providing improved insulation as compared to typical products

(b) With process or product attributes that reduce the amount water required in manufacturing, during product assembly, or product usage.

(c) That use secondary or recycled materials in place of virgin materials such that upstream impacts are reduced Made with design innovations that lower carbon emissions during manufacturing, such as use of renewable fuels, energy efficiency improvements, or the use of materials requiring less processing If there is a significant difference between the total addressable market and the market that the undertaking can serve through its existing or planned capabilities, sales channels, or products (i.e., the serviceable available market) then the undertaking should disclose this information.

25 The undertaking shall disclose the share of the total addressable market for reduced environmental impact products that it currently captures with its products. Market share shall be calculated as revenues from these products divided by the size of the total addressable market. The undertaking may provide a projection of growth of this market, where the projected addressable market is represented – based on a reasonable set of assumptions about changes in market conditions – as a percentage of year-on-year growth or as an estimate of the market size after a defined period (i.e., the market size in 10 years). The undertaking may disclose its target three-year market share as a measurement of targeted growth, where the target is the percentage of the total addressable market that the undertaking plans to address over a three-year time horizon.

Application requirement on MIN XX – E2 Disclosure of nitrogen oxides, sulphur oxides and other significant air emissions

26 The undertaking shall disclose its emissions of (1) oxides of nitrogen (NOX), reported as NOX. The scope of NOX includes NO and NO2, but excludes N2O.

27 The undertaking shall disclose its emissions of (2) oxides of sulfur (SOX), reported as SOX. The scope of SOX includes SO2 and SO3.

28 The undertaking shall disclose its emissions of particulate matter 10 micrometers or less in diameter (PM10), reported as PM10.

29 The undertaking shall disclose its emissions of (4) dioxins/furans. Dioxins/furans include, but are not limited to the sum of the 17 congeners of polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) that contain chlorine

30 The undertaking shall disclose its emissions of non-methane volatile organic compounds (VOCs).

31 The undertaking shall disclose its emissions of (6) polycyclic aromatic hydrocarbons (PAHs).

32 PAHs include, but are not limited to those listed in Table 1 of the European Commission Joint Research Centre's Institute for Reference Materials and Measurements PAH Factsheet. These include compounds frequently monitored by the Scientific Committee for Food (SCF), the European Union (EU).

33 The undertaking shall disclose its emissions of heavy metals. The scope of heavy metals includes Lead (Pb), mercury (Hg), and cadmium (Cd). The undertaking may discuss the calculation methodology for its emissions disclosure, such as whether data are from continuous emissions monitoring systems (CEMS), engineering calculations, or mass balance calculations.

Application requirement related to ESRS E4-2 -policies related to biodiversity and ecosystems

34 The undertaking shall disclose the percentage of disturbed acreage that was restored during the reporting period Restoration may be further defined by local, regional, or national laws, industry standards, or the undertaking's own guidelines.

35 The undertaking shall disclose the definition of restoration and accompanying practices it follows.

Application requirement related to ESRS E5-3 Targets related to resource use and circular economy

36 The undertaking shall disclose the percentage of waste generated that was hazardous.

37 The percentage of hazardous waste shall be calculated as the weight of waste that meets the definition of hazardous waste under the EU Waste Framework Directive (Directive 2008/98/EC on waste, including its subsequent amendments) divided by the total weight of waste material.

38 Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

39 The undertaking shall disclose the percentage of waste generated that was recycled.

40 The percentage recycled shall be calculated as the weight of waste material that was reused, plus the weight recycled or remanufactured (through treatment or processing) by the undertaking, plus the amount sent externally for further recycling, divided by the total weight of waste material, where:

(a) Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.

(b) Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product or made into a component for incorporation into a product.

(c) The scope of recycled and remanufactured products include primary recycled materials, co-products (outputs of equal value to primary recycled materials), and by-products (outputs of lesser value to primary recycled materials).

(d) Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.

(e) Materials sent for further recycling include those materials which are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.

41 Materials incinerated, including for energy recovery, shall not be considered within the scope of recycled materials. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat. The undertaking may separately disclose the percentage of hazardous waste generated that was incinerated.

Application requirement related to ESRS S1-14 health and safety indicators

42 The undertaking shall disclose its efforts to minimize workers' exposure to crystalline silica, such as respirator programs, engineering controls, or safety training programs.

43 The undertaking shall describe its processes (e.g., rules and their enforcement), procedures, trainings, and technologies used to minimize its workforce's exposure to crystalline silica.

Application requirement MIN XX - Product innovation

44 Recognized sustainable building design and construction certifications and guidelines include: BREEAM® (BRE Global), Green Globes® (Green Building Initiative), LEED®. If the undertaking's products can be used to obtain credits in certifications other than those described above, it shall provide the name of the certification and evidence of why it is equal

to or more rigorous than those standards listed here. The undertaking may disclose and discuss which specific products contribute to sustainable building practices and future plans to address market demand for these types of products.

Sustainability matters descriptions

E1: Energy management

45 The production of construction materials requires a significant quantity of energy, sourced primarily from direct combustion of fossil fuels as well as from purchased electricity. Energy-intense production has implications for climate change, and electricity purchases from the grid can create indirect Scope 2 emissions. Construction materials undertakings also use alternative fuels for their kilns, such as scrap tires and waste oil—often waste generated by other industries. If properly managed, these can lower energy costs and greenhouse gas (GHG) emissions. However, there could be potentially negative impacts, such as releases of harmful air pollutants that undertakings need to minimize in order to obtain net benefits from using such fuels. Decisions about use of alternative fuels, renewable energy, and on-site generation of electricity (versus purchases from the grid) can play an important role in influencing both the costs and reliability of energy supply. Affordable, easily accessible, and reliable energy is an important competitive factor in this industry, with purchased fuels and electricity accounting for a significant proportion of total production costs. The way in which a construction materials company manages its overall energy efficiency, its reliance on different types of energy and associated sustainability risks, and its ability to access alternative sources of energy can influence its profitability.

E2: Air quality

46 On-site in fuel combustion and production processes in the quarrying sector emit air pollutants and hazardous chemicals, including, small quantities of organic compounds and heavy metals. Emissions of particular concern include nitrogen oxides, sulfur dioxides, particulate matter, heavy metals (e.g., mercury), lead, cadmium, dioxins, and volatile organic compounds, among others. In addition, the quarrying sector is one of the biggest users of dynamite to blast rock aiding the excavation, resulting in dust particles being spread in the air. These air emissions can have significant, localised human health and environmental impacts.

47 Financial impacts resulting from air emissions will vary depending on the specific location of operations and the applicable air emissions regulations but could include higher operating or capital expenditures and regulatory or legal penalties. Active management of the issue—through technological and process improvements—could allow undertakings to limit the impact of regulations and benefit from operational efficiencies that could lead to a lower cost structure over time.

E3: Water management

48 The production of construction materials requires substantial volumes of water for the production process. Undertakings face operational, regulatory, and reputational risks due to water scarcity, costs of water acquisition, regulations on effluents or amount of water used, and competition with local communities and other industries for limited water resources. The use and spill of nitro-glycerine also may affect ground water or water basins as well as the animals living in it. Risks are likely to be higher in regions of water scarcity, due to potential water availability constraints and price volatility. Undertakings that are unable to secure a stable water supply could face production disruptions, while rising water prices could directly increase production costs. Consequently, the adoption of technologies and processes that reduce water consumption could lower operating risks and costs for undertakings by minimizing the impact of regulations, water supply shortages, and community-related disruptions on company operations.

E4: Biodiversity impacts

49 Construction materials undertakings often operate their own quarries close to processing facilities. Quarrying requires the removal of vegetation and topsoil. It also requires the blasting and crushing of underlying stone deposits. The process can lead to permanent alterations of the landscape, with associated impacts on biodiversity. The environmental characteristics of the land where quarrying takes place could increase extraction costs, due to increasing awareness and protection of ecosystems. The use and spill of nitro-glycerine also may affect ground water or water basins as well as the animals living in it. Undertakings could also face regulatory or reputational barriers to accessing sites in ecologically sensitive areas. This may include new protection status afforded to areas where reserves are located.

Ongoing quarrying operations may also be subject to laws protecting endangered species. Undertakings that have an effective environmental management plan for different stages of the project lifecycle—including restoration during site decommissioning—could minimize their compliance costs and legal liabilities. These undertakings could face less community resistance in quarrying at new sites and avoid difficulties in obtaining permits and delays in project completion.

E5: Waste management

50 Recycling rates in construction materials production are high. However, wastes from production processes, pollution control devices, and from hazardous waste management activities present a regulatory risk and can raise operating costs. Cement kiln dust (CKD)—consisting of fine-grained, solid, highly alkaline waste removed from cement kiln exhaust gas by air pollution control devices—is the most significant waste category in the industry. Regulatory risk remains from evolving environmental laws, including those at local and national levels and for other waste streams. Undertakings that reduce waste streams—hazardous waste streams in particular—and recycle by-products, can therefore lower regulatory and litigation risks and costs.

S1:S2: Workforce health and safety

51 Employees and contractors of construction materials undertakings face significant health and safety risks. Industry hazards include those arising from the use of heavy equipment and from quarrying operations. In addition to acute impacts, workers can develop chronic health conditions from silica dust inhalation, among other factors. Due to these hazards, the industry has relatively high fatality rates, and many undertakings have implemented a strong safety culture and health and safety policies to mitigate associated risks. Worker injuries, illnesses, and fatalities can lead to regulatory penalties, negative publicity, low worker morale and productivity, and increased healthcare and compensation costs.

E5: Product innovation

52 Innovations in building materials are a key component in the growth of sustainable construction. Consumer and regulatory trends are largely driving adoption of sustainable building materials and processes that are more resource efficient and can reduce health impacts of buildings throughout their lifecycle. This is creating new business drivers for construction materials undertakings, with an opportunity to increase revenues. Furthermore, some new products require less energy to produce, or use largely recycled inputs, reducing production costs. Sustainable construction materials, therefore, can contribute to a company's long-term growth and competitiveness.

Mapping with SASB disclosures

ESRS draft quarries	SASB Construction materials
Disclosure requirement related to ESRS 2 SBM 1 market position, strategy, business model(s) and value chain	EM-CM-410a.2
Disclosure requirement on MIN XX – E2 Disclosure of nitrogen oxides, sulphur oxides and other significant air emissions	EM-CM-120a.1
Disclosure requirement related to ESRS E4-2 -policies related to biodiversity and ecosystems	EM-CM-160a.2
Disclosure requirement related to ESRS E5-3 Targets related to resource use and circular economy	EM-CM-150a.1
Disclosure requirement related to ESRS S1-14 health and safety indicators	EM-CM-320a.2
Disclosure requirement MIN XX - Product innovation	EM-CM-410a.1

SASB disclosures not considered

Disclosure requirement	Nr.	reason
Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	EM-CM-110a.1	agnostic
Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	EM-CM-110a.2	agnostic
(1) Total energy consumed, (2) percentage grid electricity, (3) percentage alternative, (4) percentage renewable	EM-CM-130a.1	agnostic
(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	EM-CM-140a.1	agnostic
Description of environmental management policies and practices for active sites	EM-CM-160a.1	In combination with MIN 1- agnostic
(1) Total recordable incident rate (TRIR) and (2) near miss frequency rate (NMFR) for (a) full time employees and (b) contract employee	EM-CM-320a.1	agnostic
Total amount of monetary losses as a result of legal proceedings associated with cartel activities, price fixing, and anti-trust activities	EM-CM-520a.1	agnostic