

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Building on 120 years of industry experience and driven by its commitment to sustainable growth, Titan Cement Group has become an international cement and building materials producer, serving customers in more than 25 markets worldwide through a network of 14 integrated cement plants and three cement grinding plants in 10 countries (the USA, Greece, Albania, Bulgaria, North Macedonia, Kosovo, Serbia, Egypt, Turkey and Brazil) as well as quarries, ready-mix plants, terminals and other production and distribution facilities. TITAN generated in 2022 a consolidated revenue of €2,282.2 million and EBITDA of €331.2 million. At year-end TITAN employed 5,486 people in total.

We serve society's need for safe, durable, resilient and affordable housing and infrastructure and create value by transforming raw materials into products - cement, concrete, aggregates, fly ash, mortars and other building materials - distributing them to customers and providing related services. Main raw materials used include limestone, clay, gypsum, mineral aggregates, energy and water.

Climate change is one of the most pressing issues and a key element in the long-term sustainability of our business, given the high carbon-intensity of the cement-making process. We are actively engaged in the global efforts to mitigate climate change, placing the reduction of our carbon footprint at the forefront of our sustainability agenda, while participating in the decarbonization of the construction value chain.

TITAN Group stands at the forefront of the cement industry's commitment to combat climate change. With a steadfast dedication to global agreements like COP21 Paris, UN Sustainable Development Goals, and the European Green Deal, TITAN has emerged as a leader in the journey towards a carbon-neutral future. Actively participating in global campaigns like "Business Ambition for 1.5°C" and "Race to Zero," TITAN embraces its responsibility to create a planet with zero carbon emissions.

Under the supervision of TITAN's main governance body for climate related issues (ExCo Sustainability) and in collaboration with recognized climate risk experts, the Group has worked on identifying, assessing and managing the risks from climate change, and the opportunities from the transition to a low-carbon economy, in alignment with the TCFD Framework.

TITAN Group was among the first three cement companies worldwide to have its CO2 emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2), but also other indirect emissions of the supply chain (Scope 3).

Overall Net-Zero Target

TITAN is committed to reach net-zero GHG emissions across the value chain by 2050 from a 2020 base year.

Near-term validated targets

TITAN is committed to:

- Reducing gross Scope 1, 2 and 3 GHG emissions, covering produced and purchased cement and clinker by 25.1% per tonne of cementitious product sold by 2030 from a 2020 base year
- Reducing gross Scope 1 GHG emissions by 22.8% per tonne of cementitious product by 2030 from a 2020 base year. This target is in alignment with the 35% CO2 reduction target on net emissions by 2030 from a 1990 base year, announced by TITAN in 2020
- Reducing Scope 2 GHG emissions by 58.1% per tonne of cementitious product from a 2020 base year
- Reducing absolute Scope 3 GHG emissions from the use of sold fossil fuels by 80.9% by 2030 from a 2020 base year

Long-term validated targets

TITAN is committed to:

- Reducing gross Scope 1, 2 and 3 GHG emissions, covering produced and purchased cement and clinker by 95.6% per tonne of cementitious product sold by 2050 from a 2020 base year
- Reducing other absolute Scope 3 GHG emissions by 90.0% within the same timeframe

In February 2022, TITAN revisited its Scope 1 decarbonization roadmap for the achievement of our 2030 target. Participation in this process was universal and cross-departmental: senior as well as middle management from the commercial and technical departments of all business units were involved in the development of this roadmap, which covers all traditional CO2 emission reduction levers: 1. Reducing clinker content in the final product (clinker-to-cement ratio) 2. Increasing the thermal substitution rate (TSR) of fossil fuels with alternative fuels (AF) 3. Increasing energy efficiency by reducing specific heat consumption through process optimization The outcome did indeed confirm the Group's ability to reach its stated targets as validated by the SBTi.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

January 1 2022

End date

December 31 2022

Indicate if you are providing emissions data for past reporting years

No

Select the number of past reporting years you will be providing Scope 1 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 2 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 3 emissions data for

<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

Albania
Brazil
Bulgaria
Egypt
France
Greece
Italy
North Macedonia
Serbia
Turkey
United Kingdom of Great Britain and Northern Ireland
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Equity share

C-CE0.7

(C-CE0.7) Which part of the concrete value chain does your organization operate in?

Limestone quarrying
Clinker production
Portland cement manufacturing
Blended cement
Belite cements
Alternative 'low CO2' cementitious materials production
Aggregates production
Concrete production

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	BE0974338700
Yes, a Ticker symbol	TITC

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	<p>The Board of Directors has the overall responsibility to set the company's sustainability strategy and take policy decisions, having placed climate change at the forefront of its sustainability agenda. It has appointed the responsibility of monitoring the implementation of the Group's Sustainability strategy to the Group Executive Committee-Sustainability (ExCom-Sustainability), a Board-level committee composed of certain executive directors of the Company, the heads of the main Group regions and other senior managers of the Group. 6 out of 11 members of the ExCom-Sustainability are also executive members of the Board:</p> <ul style="list-style-type: none"> - the Chair of the ExCom-Sustainability and the Deputy Chair - the convener of the Committee who is the Chief Sustainability Officer - the Group Executive Director Europe and - the Group Chief Operating Officer and the Group CFO. <p>The purpose of this Committee is to strengthen and support the management's long-term approach to addressing environmental, social, and governance issues and to monitor the implementation of the sustainability strategy set by the Board.</p> <p>As regards the climate-related risks in particular, the Board's Audit and Risk Committee receives regularly management reports on the key risks to the business and the steps taken to mitigate such risks (climate-related risks included) and to consider whether the significant risks faced by the Group are being properly identified, evaluated and managed. The Board of Directors as a whole reviews climate-related issues every year, as part of the risk assessment and for strategic planning process. At least four times per year, the Board of Directors reviews the Group's sustainability performance as reported by ESG Performance Department and disclosed in the Integrated Annual Report and the quarterly media release of financial results and ESG performance to stakeholders.</p> <p>Examples of climate-related decisions made in 2021 & 2022 by ExCom- Sustainability and the BoD:</p> <ul style="list-style-type: none"> - Decision to submit updated 2030 GHG reduction targets for validation by the Science Based Targets initiative (SBTi) as consistent with the levels required to limit the global temperature increase to 1.5°C. - Decision to sign SBTi "Business Ambition for 1.5°C" joining the UNFCCC "Race to Zero" global campaign - Remuneration link with CO2. - Approval on TITAN's roadmap "Future-ready for a net zero world" - Decisions to implement decarbonization investments in Greece, Kamari, and the USA, Pennsuco.
Chief Sustainability Officer (CSO)	<p>The Chief Sustainability Officer is an Executive Director of the Board that has the leading role in the Group's efforts to adapt its products, processes, and business models to the aspirations of carbon neutrality, responsible for overseeing the implementation of the sustainability strategy on behalf of the Board. He also has the responsibility for Group Corporate Affairs (including Decarbonization, Communication & ESG Departments) as regards the management of the organization. The Chief Sustainability Officer (CSO) is the convener of the ExCom-Sustainability Committee and both the Group decarbonization team and the Group ESG performance department report to the CSO.</p> <p>Examples of climate-related decisions made in 2021 & 2022 by the Chief Sustainability Officer :</p> <ul style="list-style-type: none"> - Commitment to set CO2 targets and to have them validated by SBTi - Decision to measure, report and verify Scope 3 GHG emissions - Increase the frequency of internal monitoring of CO2 at the Group level - Continue cooperation with an external resource of the required expertise in the framework of TCFD on climate-related risk assessment. - Set intermediate target also for 2025.

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding annual budgets Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan Overseeing and guiding scenario analysis Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process	<Not Applicable>	<p>The Board of Directors has the overall responsibility to set the company’s sustainability strategy and take policy decisions. In 2021, the Board approved the connection of an intermediate CO2 target or 2024 with the compensation of the Exec. Directors.</p> <p>The principal Board-level committee with oversight for climate-related issues is the ExCom-Sustainability committee, where climate-related issues are scheduled agenda subjects at every meeting.</p> <p>The Chief Sustainability Officer is the convener of this Committee and both the Group decarbonization team and the Group ESG performance department report to the CSO.</p> <p>The purpose of this Committee is to strengthen and support the management’s long-term approach to addressing environmental, social, and governance issues and to monitor the implementation of the sustainability strategy set by the Board. In particular, its role is to</p> <ul style="list-style-type: none"> • oversee and monitor the implementation of the Company’s sustainability strategy • monitor performance vs. the targets set for addressing overall ESG and in specific climate-related issues and • decide on corrective actions, review and revise the areas of focus, set appropriate targets, and review the corporate materiality assessment. <p>The ExCom Sustainability is reviewing and guiding annual budgets and business plans, overseeing capital expenditures, acquisitions, and /or divestitures where climate considerations are included (eg. CO2 pricing in CapEx policy) and for which ultima responsibility is with the Board. Beginning of 2022, the decision to expand the Group’s effective capacity in the USA was taken, with a new \$37 million investment in our Norfolk import terminal in Virginia that will upgrade our import capacity in the country while also allowing us to continue expanding our offering of low carbon cement and cementitious products, contributing to the Group’s net zero goal.</p> <p>The Group CSO and all the ExCom-Sustainability members are informed on a regular basis on performance against key climate-related indicators.</p> <p>As regards the risk management policies in particular, starting in 2020, the ExCom – sustainability focused on reviewing the steps to be taken in order for the Group to align with the TCFD recommendations for climate-related risks, and in 2021 a specific scenario-modeling assessment of the Group’s climate-related risks and opportunities took place implementing the TCFD framework. In 2022, the Group further evaluated climate-related risks and opportunities and updated its ERM. The Board’s Audit and Risk Committee also receives on a regular basis management reports on the key risks to the business and the steps taken to mitigate such risks (climate-related risks included) and to consider whether the significant risks faced by the Group are being properly identified, evaluated, and managed.</p>

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	The expertise of the BoD on climate-related issues is based on the following criteria: 1. Participation in international fora/expert groups related to climate - change 2. Participation in climate-related decision making 3. Scientific background 4. Industry expertise	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Chief Sustainability Officer (CSO)

Climate-related responsibilities of this position

- Managing annual budgets for climate mitigation activities
- Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
- Developing a climate transition plan
- Implementing a climate transition plan
- Integrating climate-related issues into the strategy
- Conducting climate-related scenario analysis
- Setting climate-related corporate targets
- Monitoring progress against climate-related corporate targets
- Assessing climate-related risks and opportunities
- Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The Chief Sustainability Officer (CSO) is the Board member that takes a leading role in the Group's efforts to adapt its products, processes, and business models to the aspirations of carbon neutrality and is responsible for overseeing the implementation of the sustainability strategy at the management level, on behalf of the Board. The role of CSO is of vital importance for the whole organizational structure linked to the development and implementation of a climate transition plan, as per which, the Decarbonization Strategy Director, the Manufacturing Decarbonization Director, the Commercial Decarbonization Manager, and the Group ESG Performance Director report directly to the CSO. The CSO is also the Chair of the Sustainability Working Group (SWG), which is the sustainability committee that has been assigned management-level responsibility for climate-related issues, and the Chair of the Decarbonization Task Force, which is the dedicated Task Force that leads the acceleration of the Group's decarbonization efforts. In 2022, TITAN published an updated decarbonization roadmap, including TITAN's updated GHG emissions reduction targets validated as consistent with the 1.5oC scenario by SBTi. Also, as decided by the CSO, in 2022 the Group further evaluated climate-related risks and opportunities according to the TCFD Framework.

The CSO is also the chair of the Decarbonization Task Force which is the committee formed to accelerate decarbonization in the Group, consisting of the CSO, two ExCom-Sustainability members, and the Decarbonization Strategy Director. The latter oversees the major Group decarbonization projects and supports the CSO in the development and execution of the Group's decarbonization strategy. In 2022 decarbonization roadmap was revised and "Future-ready for a net-zero world" was published. Supervised by the CSO and in collaboration with the Manufacturing Decarbonization Director, the Group Innovation and Technology (GIT), and the Business Units regional decarbonization blueprints for manufacturing, were developed, best practices were developed, and successful pilots rolled out. Based on the roadmap an intermediate target for 2025 was also set to ensure the accomplishment of the 2030 target. The Commercial Decarbonization Manager, also reporting to the CSO supports our efforts to expand our portfolio of products and services with innovative and sustainable solutions and relevant CapEx and OpEx decisions, taken by the CSO.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	TITAN recognizes that linking ESG performance to executive pay can help hold executive management to account for the delivery of the Group's ESG targets while strengthening the oversight of the sustainability agenda at the Board level. As per the Group's remuneration policy, a three-year target that is compatible with the path to reduce our net CO ₂ emissions to 500 kg per tonne of cementitious product by 2030, and as validated by the SBTi under the 1.5oC pathway, is included in the performance objectives of the deferred compensation plan (DCP) for executive members of the Board and the members of the Executive Committee. Furthermore, CO ₂ reduction targets are linked also to the business unit managers' annual performance appraisal and reward system (salary/bonus).

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Board/Executive board

Type of incentive

Monetary reward

Incentive(s)

Shares

Performance indicator(s)

Progress towards a climate-related target

Incentive plan(s) this incentive is linked to

Long-Term Incentive Plan

Further details of incentive(s)

The Deferred Compensation Plan was launched in 2021 with the aim to further align Senior Executives' long-term interests with those of shareholders. DCP substitutes 20% of the LTIP for the eligible Executive Directors of the Board and Management Committee members and the award granted can be defined up to 25% of Annual Base Salary. DCP awards are granted in the form of a conditional grant of a number of TCI shares. The value of each "conditionally granted share" is equal to the average TCI share closing price on Euronext Brussels during the last 7 trading days of March of the grant year. DCP awards vest three years from the date of grant, as long as certain, pre-set performance criteria are met. The number of vesting awards ranges from 0% if the threshold target is not met, to 50% if the threshold is achieved, to 100% for target performance, to a maximum of 160% in case of over-achievement.

Performance Criteria:

- 50% linked to Sustainability KPI: 3-year CO₂ target supporting the decarbonization priority of the Group; reduction of net direct CO₂ emissions/t cementitious product (50%).

- 50% linked Total Shareholder Return (TSR) performance vs a Peer Group Index (50%).

The peer group which formulates the index is the following (as set by the Board of Directors and may change, if required):

1. Holcim 2. Heidelberg 3. Cemex 4. Cementir 5. CRH 6. Buzzi 7. Argos 8. Vicat

The vested number of TCI shares is transferred to the participant. The benefit for the participant is determined based on the value of the TCI share at the time of vesting.

DCP provides flexibility in the ways to receive vested benefit, other than TCI shares, upon participant's request (e.g. cash, pension plan contributions).

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

TITAN recognizes that linking environmental, social, and governance (ESG) performance to executive pay can help hold executive management to account for the delivery of the Group's ESG targets while strengthening the oversight of the sustainability agenda at the Board level. As per the Group's remuneration policy, a three-year target that is compatible with the path to reduce our net CO₂ emissions to 500 kg per tonne of cementitious product by 2030, approved by SBTi under the 1.5oC pathway, is included in the performance objectives of the deferred compensation plan (DCP) for executive members of the Board and the members of the Executive Committee., contributing directly to the successful implementation of TITAN's climate transition plan.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	1	3	We address the short-term risks and opportunities through our annual budget cycle and mid-year reviews, and the regular CAPEX (investment) committee meetings for capital allocation decisions
Medium-term	3	10	Risks and opportunities identified as mid-term are addressed through an annual rolling strategic plan for the next 3-10 years through. TITAN is active in a diverse geographical, business, and operational landscape. This results in a multitude of potential risk exposures, including strategic, financial, sustainability (ESG) and operational risks. Risks are categorized using established risk taxonomies relevant to the Group's business and are assessed in terms of probability, impact, and preparedness, in line with industry best practices.
Long-term	10	30	Issues identified as related to long term horizons and influenced by macro-trends are identified in the annual Group strategic planning process and addressed through setting of targets and monitoring the implementation of long-term performance indicators (indicative example is our CO ₂ emissions reduction initiative with targets up to 2030 and carbon neutrality by 2050).

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

The Board has overall responsibility for determining the nature and extent of the principal risks that the Group is willing to assume in achieving its strategic objectives.

In October 2022 the board held a meeting specifically dedicated to reviewing and updating the Group's strategic directions and priorities against the key business risks for the next three years (2023, 2024, and 2025). This exercise was performed in 2022 by a risk management committee consisting of senior managers from the Group's Strategic Planning, Legal and Internal Audit, Risk and Compliance departments, which identified the Group's main risks and categorized them as "strategic", "operational", "ESG", and

"financial" risks. In 2022, the Group further evaluated climate-related risks and opportunities according to the TCFD framework. The financial or strategic impact on our business is defined in the classification of the impact scale below among the following three dimensions, in line with industry best practices:

Probability: scale

from

1 (Rare: Risk highly unlikely; it may occur in exceptional circumstances, but most probably will not)

to

5 (Almost certain: when risk is expected to occur in most circumstances or there is a history of a regular occurrence in the business/industry), where :

Impact: scale.

from 1 (Incidental) to 5 (Extreme)

5 Extreme:

- Very severe financial implications potentially detrimental to the Group's health
- International long-term negative media coverage
- Significant prosecution and fines, litigation including class actions

4 Major:

- Serious financial implications potentially disrupting the Group's profitability/balance sheet for a period of time
- National long-term negative media coverage
- Report to regulator requiring major project for corrective action

3 Moderate:

- Meaningful, but manageable financial implications, impacting profitability/balance sheet but within the range of normal fluctuations
- National short-term negative media coverage
- Report the breach to the regulator with the immediate correction to be implemented

2 Minor

- Small financial implications with a minor impact on the Group's profitability/balance sheet
- Local reputational damage
- Reportable incident to the regulator, no follow-up

1 Incidental

- No or minimal financial implications, potentially not registering in the Group's profitability/balance sheet
- Local media attention quickly remedied
- Not reportable to the regulator

Preparedness: scale

from

1 (Low: Not prepared for respective risk event, no substantial risk transparency/ No mitigating action plan predefined/ Response to risk event is incidental/ No systems in place)

to

5 (High: All probable risks are exhaustively identified and studied/ Detailed and specific risk-mitigating action plans in place/ Proactive actions to address risks before occurrence/ Sophisticated monitoring and reporting systems/ A central function (Chief Risk Officer) owns and manages risks)

In 2022 our analysis was extended compared to 2021 to cover four climate change scenarios based on the Representative Concentration Pathways (RCPs) from the International Panel on Climate Change (IPCC), namely RCP8.5, RCP6.0, RCP4.5, and RCP2.6. The Climonomics® methodology begins with an analysis of the hazards facing specific assets. The asset's vulnerability to each hazard is then characterized based on asset type and the impact that given climate hazards have on the particular asset.

Finally, this information is combined to model the risk based on the hazard and the level of harmful exposure.

Absolute risk (in € millions) is a function of hazard x vulnerability x asset value. This reflects the expected financial impacts in dollar terms. A very valuable asset with low hazard exposure and vulnerability could still hold substantial risk due to its high asset value. In defining the financial impact of corporate risks or opportunities the most common metric that we use is the potential effect on the Group's total annual operational profitability (EBITDA p.a.). We define substantive financial or strategic impact as the extreme and significant risks assessed to impact 10%-50% on the Group's EBITDA i.e. above Euros15 million per year.

Relative risk (in %) is a function of hazard x vulnerability and has also been examined. Reported as a percent of asset value (calculated as Modeled Average Annual Loss (MAAL)/asset value), it provides a perspective on exposure and vulnerability across assets, independent of their value. It is possible for low-value assets to have a high relative risk compared to more valuable assets. A relative impact higher than 15% of asset value is characterized as significant.

The outputs of the platform are fully aligned with TCFD, making the results appropriate for annual reporting requirements. The Climonomics® platform assesses not just exposure, but vulnerability and financial data.

Furthermore, a Water Risk Assessment is made with the use of the Aqueduct and the Water Risk Filter tools.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

We follow TCFD recommendations:

A. Processes for identifying and assessing climate-related risks:

A specific scenario-modeling assessment of the Group's climate-related risks and opportunities took place with the engagement of climate change risk experts. The methodology is built on principles similar to catastrophe risk models but is driven by climate model and socioeconomic model data on climate-related hazards, driving econometric models with hazard inputs and business data, and translating risk into financial terms to provide decision-relevant insights for the short, medium and long term horizon. Scenario details in C3. Risks are being addressed on a "day-to-day" basis. The regular frequency of the risk assessment processes by the relevant committees is once per month.

B. Processes for managing climate-related risks:

In TITAN Group, Risk is managed at three levels, in line with industry best practices.

Risks are managed daily by the Group's management at various levels of the organization according to the nature of each risk. Frontline management executes its risk management role in accordance with policies and standards, monitors and mitigates risks as part of performance management, and identifies and escalates risks as required. This first level of management includes the integration with key business processes (e.g., CAPEX reviews, strategic planning, budgeting process, etc).

At the second level of risk governance and control, the central risk team (i.e. the Internal Audit, Risk, and Compliance unit) ensures adherence to the ERM framework and internal policies and monitors its systematic assessment by aggregating risk insight, integrating input and analysis across the Group, and sharing policies and recommendations across the organization.

At the senior level, the Board has the overall responsibility for determining the nature and extent of the principal risks that the Group is willing to assume in achieving its strategic objectives.

The Board, through all its Committees, discusses and assesses on an annual basis the main areas of risk to which the Group is exposed, identify new risks, defines the risk appetite of the Group, and monitors the effectiveness of the risk management and internal controls. In parallel, the Group Executive and Sustainability Committee provides strategic direction, an independent view of risks among all operating units, and coordination among them as needed.

Climate change is a major risk relevant to the whole Group and its whole value chain and is assessed and managed centrally.

The effectiveness of the systems and policies implemented at the Group and business unit levels are systematically reviewed by the Group Executive Committee and the business units' management, including for compliance with the relevant standards of the Group. Whenever weaknesses are identified, corrective measures are taken.

Group Internal Audit, Risk and Compliance, ESG Performance and Decarbonization Dpt. report on the effectiveness of risk management to the Audit and Risk Committee regularly.

The Board and the Audit and Risk Committee receive regular management reports on climate change mitigation & adaptation and the steps taken to mitigate such risks and consider whether the significant risks faced by the Group are being properly identified, evaluated, and managed.

The Group closely monitors relevant regulatory developments and takes proactive measures to mitigate potential negative consequences. A scenario-modeling approach has been adopted for the examination of possible outcomes and the identification of appropriate roadmaps of mitigating actions for the safeguarding of the Group's business resilience. Such measures include the reduction of the amount of clinker used in the production of cement, the use of alternative fuels, energy efficiency measures, the development of new products, and innovation across the value chain. The Group is engaging in research collaboration with the scientific community on less carbon-intensive types of cement and concretes (e.g. using cementitious materials and chemical additives) to develop and promote the use of new "green" concretes and create a level playing field versus other building materials.

With regards to the mitigation of the effects of possible physical impacts on the Group's assets from extreme natural events, the company is implementing a set of proactive protective measures for its assets and developing continuously updated emergency plans. Intending to protect its people and its operations, TITAN also invests systematically in equipment and systems to prevent or mitigate the effects of flooding, fire, hurricanes, etc. The Group also ensures adequate insurance policies against physical damage or temporary loss of business and the ready availability of sufficient liquidity to absorb any potential impacts.

C. Integration into overall risk management:

The Board has overall responsibility for determining the nature and extent of the principal risks that the Group is willing to assume in achieving its strategic objectives. Risks are addressed on a day-to-day basis by the Group's management at various levels in the organization according to the nature of each risk.

As a result, risks are identified and quantified using multiple sources and are reported in the course of the planning and performance management cycle of the Group, ensuring a quick and effective response. Complementing this risk management culture and approach that is integral to the Group's business processes and decision-making (both strategic and operational), the Group undertakes

regularly a systematic exercise to assess all material risks faced by the Group that could affect the Company's business model, performance, solvency, or liquidity. These risks are categorized as "strategic", "operational", "ESG" or "financial".

A committee consisting of senior managers from the Group's Strategic Planning, Legal and Internal Audit, Risk, and Compliance departments periodically assesses the Group's principal risks.

The risks are also assessed using a variety of techniques, including the benchmarking of sector practices, enriched with the advanced practices of other industries, the qualitative and quantitative assessment of the risk elements, the evaluation of possible outcomes against the Group's strategic objectives, the risk elaboration of the Group's material issues, the evaluation of risk ownership and the recording of mitigating actions that are adopted or planned. The initial assessment is iterated with input from key Group managers. The risks are cross-referenced with the output of the Group's materiality assessment exercise and reviewed by the Group Executive Committee. Finally, the Board validates the relevant risk assessment and monitors TITAN's risk management and internal control systems, reviewing their effectiveness (covering all material controls, including financial, operational, organizational, and compliance).

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	As the evidence of the effects attributed to climate change become more apparent, there is increased regulatory activity aiming to reduce greenhouse gas (GHG) emissions, especially CO2. The production of cement is characterized by high CO2 intensity and is therefore directly impacted by such regulatory changes. Within TITAN's geographical footprint, legally binding climate change regulations are implemented in the EU (Greece and Bulgaria) through the EU Emissions Trading System (ETS), and in Egypt through a CO2 emissions cap. Gross Scope 1 emission of our operations in these countries represent approximately 50% of our total Group Scope 1 emissions. Particularly in EU markets, the potential increase of production costs as free CO2 allowances will gradually be phased out starting from 2026 may lead to loss of sales to imports from non-CO2 constrained markets (a risk known as "carbon leakage"). Similarly, exports from markets with CO2 taxation in place are structurally disadvantaged versus exports from non-CO2 constrained markets, if no regulatory solution is applied to create a level playing field. Although an agreement between the EU Parliament and Council has been reached for the revision of the ETS Directive and the implementation of the Carbon Border Adjustment Mechanism (CBAM) to protect against "carbon leakage", there is no specific provision for exports and the overall effectiveness of such mechanism is still uncertain until 2026. The Group closely monitors relevant regulatory developments and takes proactive measures to mitigate potential negative consequences. A scenario-modeling approach has been adopted for the examination of possible outcomes and for the identification of appropriate roadmaps of mitigating actions to safeguard the Group's business resilience. Such measures include the reduction of the amount of clinker used in the production of cement, the use of alternative fuels with a lower CO2 footprint, energy efficiency measures, the development of new lower-carbon products, and continuous innovation across the value chain.
Emerging regulation	Relevant, always included	Changes in legislation, regulations, and obligations relating to climate change and emissions trading may result in additional capital expenditure and reduced profitability, due to increases in operating costs, or long-term prospects of certain of TITAN Group's production facilities. TITAN Group closely monitors relevant regulatory developments and takes proactive measures to mitigate potential negative consequences. Moreover, the surging climate agenda may promote the use of concrete substitutes for construction as less carbon-intensive. We monitor emerging regulations development in particular in the US, where is the concentration of a large proportion of TITAN Group's business, operations, and assets. We are actively engaging in the PCA (Portland Cement Association) and together we support that the administration and the legislature should consider measures to avoid carbon leakage, if/when a carbon cost mechanism is applied to US producers or a CBAM Regulation similar to the European one. Also, for our European operations, we monitor directly and through the European cement association developments regarding EU ETS Phase IV and the conditionality measures for free allowances.
Technology	Relevant, always included	Technology is one of the key levers as stated in TITAN's CO2 initiative. We are investing in research, development, and innovation, with a primary focus on climate change mitigation by reducing CO2 emissions, the application of the circular economy model, and digital transformation. We have increased our focus on the development of low-carbon technologies and we are engaged in key partnerships between industry and academic institutions for research on low-carbon cementitious materials. We have joined INNOVANDI, the Global Cement and Concrete Research Network that aims to accelerate global collaboration on cement and concrete innovation, as an important step in taking climate action. We assess the potential impact of new technology on our operations, by preparing to install pilot units for carbon capture demonstration at the end of 2021. We are also investing in R&D with regard to the development of low-carbon products (both cement and concrete) either based on the application of existing technology (low-carbon clinker) or on new technologies (new binders, new concrete types, etc.) Given that the global energy mix is shifting from fossil fuels to renewables, renewable power has become commercial enabling green hydrogen production. Shares of renewable power have increased to the level that supply exceeds demand more often, therefore requiring energy storage. Electrolyzers have shown signs of steep cost declines similar to solar PV & wind turbines, electricity grid congestions in some parts of Europe are limiting further renewable power deployment, requiring alternative ways of transporting energy. As we move to a 100% renewable energy landscape there is a huge challenge for energy balance. The key challenge is to decouple supply from demand in renewable energy, where effort is put by policy focus that has shifted from renewable electricity to decarbonizing the hard-to-abate sectors and by governments in Europe. However, there are limits to electrification, where hydrogen can be an alternative way to decarbonize energy use. For TITAN it could be used as a fuel enhancer, in Building & District Heating, for heavy Vehicles, or as a fuel in the kiln. The technology already exists but the appropriate infrastructure is still an issue. TITAN also believes that investing in the digitalization of its operations will enable it to compete successfully in the new operating model that technology is creating for the industry.
Legal	Relevant, always included	The Group is subject to many local and international laws and regulations, including those related to environmental, health & safety, competition law, corruption, and fraud, across many jurisdictions of operation and is therefore exposed to changes to those laws and regulations and to the outcome of investigations conducted by governmental, international or other regulatory authorities. Potential breaches of local and international laws and regulations in the areas of competition law, corruption, and fraud, among others, could result in the imposition of significant fines and/or sanctions for non-compliance and may inflict reputational damage. The Group's operations are subject to extensive environmental and safety laws and regulations in the United States, the EU, and elsewhere, as interpreted by the relevant authorized agencies and the courts, though currently, CO2 emissions are not subject to such legal implications. Potential breaches of local and international laws and regulations in the areas of climate policies like EU ETS, or the legal limitations for air emissions, could result in the imposition of significant fines and/or sanctions for noncompliance and may inflict reputational damage. New regulations may impose regarding, among other things, land use, remediation, air emissions, waste and water, biodiversity, and occupational and community health and safety. The costs of complying with increasingly stringent obligations and restrictions are likely to increase over time. With a view to continuing managing the environmental impact of its operations, TITAN applies management systems to monitor and report the environmental impact in all its plants. The Group's Environment Policy and environmental management provide targets for the reduction of air emissions, the protection of biodiversity, water and waste management, quarry rehabilitation, energy efficiency, and community engagement. Compliance risks are proactively addressed at the Group level through the TITAN Group Compliance Program, an integrated system of relevant activities, mechanisms, and controls, aiming to provide adequate assurance that compliance risks are timely identified, properly assessed, and effectively mitigated. Moreover, all operations are continuously monitored by the Group Legal and Group Internal Audit, Risk and Compliance departments, and appropriate training is conducted to ensure that the Group's Code of Conduct and relevant Group Policies are effectively adhered to.
Market	Relevant, always included	The Group operates both in mature markets such as the USA and Western Europe and in emerging markets such as Egypt, Turkey, and Brazil. Some of these markets contribute significantly to the Group's revenues and/or profitability. As a result, any negative developments in these markets in terms of supply/demand balance, pricing, and growth outlook could have a material adverse effect on the Group's business, operational results, and financial condition, especially if that market contributes significantly to the Group's revenues and profitability Moreover, the climate agenda may promote the use of concrete and cement substitutes for construction as being less carbon-intensive, a fact that could negatively affect demand for the Group's core products. In addition, a CO2 footprint may pose a risk regarding future funding opportunities and creates a reputational risk for our Group and the whole sector, which could also lead to shifts in customer preferences. However, at the same time, opportunities arise from the development and sale of new low-carbon products and solutions. Differentiating our product offering with low-carbon products that add value to the customer is a major pillar of our decarbonization roadmap. Green products represent 19.5% of our portfolio of cement and cementitious products. The Group has committed to increasing the share of green products in its portfolio to over 60% by 2030, offering its customers the products and services that will shape the sustainable world of tomorrow.
Reputation	Relevant, always included	The Group is subject to many local and international laws and regulations, including those related to competition law, corruption, and fraud, across many jurisdictions of operation and is therefore exposed to changes to those laws and regulations and to the outcome of investigations conducted by governmental, international or other regulatory authorities. Potential breaches of local and international laws and regulations in the areas of competition law, corruption, and fraud, among others, could result in the imposition of significant fines and/or sanctions for non-compliance and may inflict reputational damage. Climate change and the need for a "greener" world pose several risks during the transition period. In addition, more stringent building and energy efficiency standards are likely to increase the demand for low-carbon products and new construction solutions. According to the EU Taxonomy Regulation, only clinker and cement below specific thresholds are eligible for funding from EU institutions. Taxonomy may pose a risk regarding future funding opportunities. Reputational risks for our company and the whole sector due to the perception of the cement industry as a large CO2 emitter, which often overlooks the contribution of our products to climate adaptation and their carbon footprint over their full lifecycle. Such risks could also lead to shifts in customer preferences. To address this risk and the increased stakeholder concern or negative stakeholder feedback, especially regarding the investors' community, TITAN has open and transparent communication and is addressing stakeholders' increasing expectations for ESG disclosures, using the ESG ratings by industry-leading ESG Rating agencies to drive improvements. Also, TITAN Group materiality assessment is an ongoing process to identify risks and opportunities and incorporate up-to-date stakeholders' perspectives in our strategic planning. A full cycle of materiality assessment has a duration of 5 years with materiality assessments at the local level used as input for the materiality assessment at the Group level and vice versa in a dynamic way validating the outcome with feedback from key stakeholders. Its outcomes and the actions we take to address them feed the ongoing dialogue with our stakeholders, enabling mutual understanding and thus collaboration in support of sustainable solutions that safeguard the company's reputation.

	Relevance & inclusion	Please explain
Acute physical	Relevant, always included	<p>The possible increase in physical risks (such as coastal flooding, drought, water stress, etc.) as a result of climate change could disrupt our asset base, and the continuity of our operations (production and/or distribution) and put our people in danger.</p> <p>Natural disasters and extreme weather events such as hurricanes and wildfires, could disrupt the continuity of our operations and put our employees in danger. Appropriate infrastructure design and asset construction standards, emergency plans, and adequate insurance coverage are among the levers applied to address the impact of extreme natural events.</p> <p>The Group has engaged with climate change risk experts to assess the physical risks stemming from climate change according to the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations. Such risks are part of risk assessment, which is handled at a group and local level with a high level of preparedness, following strict designing standards, emergency plans, and insurance coverage and with input from a climate risks assessment study we run with experts on the field and a special analytics platform therefore.</p>
Chronic physical	Relevant, always included	<p>Given the location and nature of our assets, at this point in time, chronic physical impacts like changes in precipitation patterns, rising mean temperatures, and sea level are considered climate-related risks, while following strict designing standards, emergency plans, and insurance coverage as well as the outcome of the climate risks assessment study we run with experts on the field we have a high level of preparedness.</p> <p>The Group has engaged with climate change risk experts to assess the physical risks stemming from climate change according to the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations. Such risks are part of risk assessment, which is handled at a group and local level with a high level of preparedness, following strict designing standards, emergency plans, and insurance coverage and with input from a climate risks assessment study we run with experts on the field and a special analytics platform therefore.</p>

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
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Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

- Carbon pricing in the EU.
- Revision of the EU Emissions Trading Scheme (ETS), which may impose a higher cost on our operations.
- New Carbon Border Adjustment Mechanism (CBAM) Regulation without a solution for exports.

Within TITAN's geographical footprint, legally binding climate change rules are implemented mainly in the EU (ETS) and in Egypt (CO₂ emissions cap), where the gross Scope 1 emissions of our operations represent 48.9% of the total Group Scope 1 gross emissions. Under the current regulatory EU framework, TITAN's financial exposure to the ETS is minimized as the Group has no shortfall of ETS emission rights based on its existing operating model. The Group's plants in Greece and Bulgaria, where the EU Emissions Trading Scheme (EU ETS) is in force, are operating in Phase IV (2021-2030) with a long EUAs (EU Allowances) position, which should last for at least five years, thus minimizing the Group's financial exposure. The price of CO₂ rights will become critical for the Group if the regulatory framework changes in such a way that a shortfall is created.

ETS revision will impose a higher direct cost on our operations.

CBAM can play an important role in creating a global level playing field avoiding carbon leakage from the EU subject to a solution for the exports. Even if imports to Europe are subject to CO₂ cost through CBAM, exports and therefore competitiveness of EU plants will be negatively affected if no solution is found to maintain competitiveness post-2025. Complete loss of exports competitiveness (especially with regards to exports to non-EU destinations) by 2026 or 2027 is theoretically possible given that the final Decision does not include any structural solution for exports.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

5000000

Potential financial impact figure – maximum (currency)

20000000

Explanation of financial impact figure

Without major changes in plant production levels beyond 2025, by 2030 our EUA balance will have declined by c.1.5m EUAs from current levels, or €100-150m (€12.5-15m/yr) for a CO2 price evolution by 2030 (70-100€/EUA) in the EU. Optimizing production in the EU in the phase 2026-2030 could help us maintain a positive EUA balance until 2030 but could potentially lead to a loss of low-margin sales (c.500kt/yr) or a loss of an app. €5m/yr. In the worst-case scenario of losing exports competitiveness due to the CBAM that would result in a direct loss of competitiveness, and lead to the closure of 1-2 cement plants of the app. 2Mt cement sales i.e. app €20m/yr. Therefore, the potential impact is estimated to €5-20m/year.

Cost of response to risk

15000000

Description of response and explanation of cost calculation

Target is the reduction of Scope 1 net CO₂ emissions to 500kg/t cementitious product by 2030 and to 590 by 2025 through our decarbonization roadmap.

Scope 1 decarbonization roadmap covers all traditional CO₂ emission reduction levers. We compiled a detailed list of over 90 actions and projects per plant, all of which provide significant cost savings, business growth opportunities as well as decarbonization potential. A total CapEx of approximately €15 million per year was identified, throughout the 10-year period to the end of 2030.

It covers all traditional CO₂ emission reduction levers:

1. Reducing clinker content in the final product (clinker-to-cement ratio)
2. Increasing the thermal substitution rate (TSR) of fossil fuels with alternative fuels (AF)
3. Increasing energy efficiency by reducing specific heat consumption through process optimization

TITAN Egypt is closely following the restrictions on fuel-related emissions imposed by the Egyptian government and actions are being taken to minimize our emissions accordingly, to avoid any economic impact.

Case study: Calciner, Kamari plant

- Situation: The investment is part of our decarbonization roadmap, contributing to reaching EU targets towards the mitigation of climate change.
- Task: TITAN Group's investment in the upgrade of the cement production line at its plant in Kamari, Greece.
- Action: Installation of a pre-calciner, with a total budget of over €25 million, that will start operation in 2023. This upgrade will significantly increase the Kamari plant's capacity for alternative fuels, substituting fossil fuels for the operation of its kilns. The cost covers the design phase, the hardware needed, and the construction and commissioning.
- Result: Total annual reduction in CO₂ will come to 450,000 t, equal to replacing 160,000 conventional cars with electric vehicles. The alternative fuels used by the cement industry can include, among others, RDF. An additional benefit of the investment in the Kamari plant, located on the Attiki-Viotia border, is the potential for the plant to contribute to a comprehensive, environmentally, and financially optimal solution to waste management in Attiki. Kamari plant can reach 75% thermal substitution rate and decrease the cost of pet coke as well as the cost of CO₂ then as an estimate can be reduced as well as 30kg CO₂/t clinker which annually can lead to a cost reduction of 7.6-9.4 million € per year.

Comment

Transition risk is the major risk we face as a business due to emerging regulations and the risk of carbon leakage in the EU.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)
----------------	--

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The main physical risks for the Group already identified are coastal flooding, drought, water stress, and extreme temperatures. Coastal flooding has been identified as the most significant physical risk due to climate change in terms of its potential impact on the Group's cement activities.

Two of our cement plants (Greece & Egypt) are exposed to coastal flooding risk.

Production in areas exposed to coastal flooding represents c.12% of Group clinker production.

The financial impact from physical risks as the Modelled Average Annual Loss has been estimated to be 5-10MEUR/yr.

One can see already incidents of coastal flooding in Greece in the areas we operate close to the Patras cement plant.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

5000000

Potential financial impact figure – maximum (currency)

10000000

Explanation of financial impact figure

An event of coastal flooding at one of our cement plants could lead to a loss of sales of c.200,000 tonnes of cement (i.e., sales of two months for Patras). During the disruption, the market could be served from the closest cement plant not affected by the event, but due to the associated increase in logistics costs, we assume that any such sales would not contribute to profitability.

The remediation cost to restart production is estimated at €1 million.

Loss of sales is estimated to be €4 million.

The overall financial impact has been estimated to be €5 million per plant which is equal to the remediation cost plus the loss of sales. For the two exposed plants financial impact can reach €10 million (2x5=10).

Our business is globally diversified. Hence, extreme weather conditions would likely impact only a small fraction of our operations.

Cost of response to risk

1100000

Description of response and explanation of cost calculation

The management of these risks is integrated into Titan Group's risk management process. Macroeconomic-related risks, more specifically natural disasters, are key to Titan's risk management process. To mitigate the effects of possible physical impacts on the Group's assets from extreme natural events like wildfires, the company is implementing a set of proactive protective measures for its assets and developing continuously updated emergency plans. All business units operate with health & safety management systems and firefighting contingency plans in place. The Group also ensures adequate insurance policies against physical damage or temporary loss of business, as well as the ready availability of sufficient liquidity to absorb any potential impacts.

Finally, our response to potential local production disruption would include the increase of imports from other group BUs for cement stock replenishment to meet the possible increased demand for incurred damages in the area. For all the aforementioned reasons Titan has insured assets for Property Damage and Business Interruption at the Group level with a total cost of approximately € 1.1 million together with the availability of sufficient liquidity to absorb any potential impacts.

Case study:

Situation: 2021 was a year of multiple wildfires in Greece after a historic heatwave, with temperatures reaching 47°C but also significant flood incidents.

Task: TITAN Greece collaborated with the National and Kapodistrian University of Athens and the National Observatory of Athens for the assessment and prioritization of natural and climate risks for the period 2026-2045 that may potentially impact our facilities and the local communities in Greece.

Actions: The study forecasted climate risks with the use of advanced models and statistical tools by applying special climatic models. The study assessed flooding, mudflow, and landslide risk with the use of advanced models and statistic tools, the risk of wildfires using indexes on "Burn probability", "Flame length" and "Fireline intensity", and forecasted climate risks for the period 2026-2045 by applying special climatic models and it was presented to the competent local authorities so as to engage with them towards climate change adaptation.

Results: Vulnerable areas were identified and presented to the competent local authorities to engage with them towards climate change adaptation. They will also feed the Enterprise Risk Management.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Drought
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Drought and water stress in our operating areas have been identified as the most critical physical risks due to climate change after coastal flooding. Eight cement plants operating in the areas of Greece, Albania, Bulgaria, and Turkey are exposed to the risk of drought.

The Group has not yet faced a significant incident of water scarcity, but such an incident in the long term is more likely due to climate change and could impact our operations.

Financial impact has been estimated from 1.0 to 8.0 MEUR/yr per plant.

To mitigate the risk Titan Group has committed to the water consumption of 280l/t cementitious product and to 70% coverage of water demand by recycled water.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

1000000

Potential financial impact figure – maximum (currency)

8000000

Explanation of financial impact figure

Water scarcity incidents could lead to a loss of sales of c.100,000 tonnes of cement for one plant.

During the disruption, the market could be served from the closest cement plant not affected by the event. Still, due to the associated increase in logistics costs, we assume

that any such sales would not contribute to profitability.

Minimum impact: water scarcity incident in 1 plant only i.e. 100ktonnes loss of cement sales or 1,000,000€.

Maximum impact: water scarcity incidents in all 8 plants i.e. 800kt loss of cement sales or 8,000,000€.

So, the overall financial impact has been estimated at €1-8 million per plant.

Our business is globally diversified. Hence, extreme weather conditions would likely impact only a small fraction of our operations.

Cost of response to risk

1100000

Description of response and explanation of cost calculation

To mitigate the effects of possible physical impacts on the Group's assets from extreme natural events like wildfires, the company is implementing a set of proactive protective measures for its assets and developing continuously updated emergency plans. All business units operate with health & safety management systems and firefighting contingency plans in place. The Group also ensures adequate insurance policies against physical damage or temporary loss of business, as well as the ready availability of sufficient liquidity to absorb any potential impacts.

Titan Group has committed to a water consumption of 280l/t cementitious product and to 70% coverage of water demand by recycled water.

Response to potential local production disruption would include the increase of imports from other group business units for stock replenishment to meet the possible increased demand for repairs and restoration in the area. For all the aforementioned reasons Titan has insured assets for Property Damage and Business Interruption at the Group level with a total cost of approximately € 1.1 million as well as the availability of sufficient liquidity to absorb any potential impacts.

Since 2010, the Group has developed and applied an Integrated Water Management System (IWMS) at all operations to monitor and optimize water consumption and to disclose water data in a consistent way, according to the international practices and guidelines of the cement sector. Furthermore, a Water Risk Assessment is made on a regular basis (e.g. every 3-5 years) for all Group sites, with the use of tools such as the Aqueduct (World Resources Institute) and the Water Risk Filter (World Wildlife Fund).

Case study:

Situation: 2021 was a year of multiple wildfires in Greece after a historic heatwave, with temperatures reaching 47°C but also significant flood incidents.

Task: TITAN Greece collaborated with the National and Kapodistrian University of Athens and the National Observatory of Athens for the assessment and prioritization of natural and climate risks for the period 2026-2045 that may potentially impact our facilities and the local communities in Greece.

Actions: The study forecasted climate risks with the use of advanced models and statistical tools by applying special climatic models.

Results: Vulnerable areas were identified and presented to the competent local authorities to engage with them towards climate change adaptation. They will also feed the Enterprise Risk Management.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

The climate agenda may promote the use of concrete and cement substitutes for construction as being less carbon-intensive, a fact that could negatively affect demand for the Group's core products. In addition, a CO2 footprint may pose a risk regarding future funding opportunities and creates a reputational risk for our Group and the whole sector, which could also lead to shifts in customer preferences. However, at the same time, opportunities arise from the development and sale of new low-carbon products and solutions. Shifting customer preferences towards less carbon-intensive concrete and cement substitutes for construction could negatively affect demand for the Group's products, but also allow the development and sale of new, higher value-added products and solutions. More stringent building and energy efficiency standards are likely to increase demand for low-carbon products and new construction solutions

Differentiating our product offering with low-carbon products that add value to the customer is a major pillar of our decarbonization roadmap. Green products represent 19.5% of our portfolio of cement and cementitious products. The Group has committed to increasing the share of green products in its portfolio to over 60% by 2030, offering its customers the products and services that will shape the sustainable world of tomorrow.

According to our decarbonization roadmap reduction of cli/cem ratio can contribute to a CO2 reduction of 73kg/t of cementitious products by 2030 (Clinker to cement decrease by 13.1%).

Products and services represent the most significant opportunity, as has emerged from our climate change opportunities assessment.

Overall, in 2022 the shift to lower-carbon cement types reduced the weighted average gross footprint by 21.7 kg CO2/t cementitious product

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

23200000

Potential financial impact figure – maximum (currency)

31000000

Explanation of financial impact figure

1. Shift to low-carbon cement reduces the cost of compliance due to the reduced carbon footprint achieved.
2. Increased cement production capacity due to the reduction in the clinker-to-cement ratio, which is critical in sold-out markets.

1. Replacement of Type I/II cement in the markets we supply with Type IL will consequently reduce carbon footprint by app. 15% or else 130kg CO₂/t cement which for the current price of 70-100€/EUA can reduce the cost of compliance by 9.1-13.0€/t cement or else by 18.2-26.0 million € annually for the indicative volume of 2 million t (2,000,000 t x 0,130 t/t x 70€/t) to (2,000,000 t x 0,130 t/t x 100€/t)
2. Furthermore, Type IL enables Titan America to produce and sell app. 17.5% more cement for the same amount of clinker production. This adds to the positive financial impact of the revenues of the additional cement of 5million€/t for the capacity of 2 million t cement.

So overall the positive financial impact is estimated to €23,200,000 -31,000,000 in EBITDA per year (i.e. 18.2+5.0 - 26.0+5.0) = (23.2- 31.0) M€/yr

Furthermore, there is a potential higher margin through de-commoditization.

Cost to realize opportunity

2000000

Strategy to realize opportunity and explanation of cost calculation

TITAN's strategy addresses society's needs for safe, durable, resilient, and affordable housing and infrastructure that protects and improves life. We are harnessing the advantages of decarbonization and we are bringing those benefits to our customers, employees, suppliers, and communities.

By shifting to more sustainable, lower-carbon, and circular construction solutions, we help our customers build more sustainably. In this way, we are delivering on our ambitious science-based climate targets for a net-zero, nature-positive world in line with the 1.5oC scenario.

Our decarbonization roadmap consists of over 90 actions and projects, through which we will accomplish our SBTi-validated CO₂ targets by 2030. TITAN is also investing in R&D with regard to the development of low-carbon products (cement and concrete), either based on the application of existing technology (e.g. low-carbon clinker) or on new technologies (e.g. new binders, calcined clays, recarbonated materials, new concretes). The Group is also active in advocating for the adoption of new building codes and building material standards to promote green products. Differentiating our offering with commercial low-carbon products to add value to the customer is a major pillar of our decarbonization roadmap.

A significant part of our cement product portfolio includes products manufactured with a clinker content significantly lower than that of OPC (Ordinary Portland Cement), prepared by valorizing materials such as fly ash, slag, limestone, and pozzolan as their main constituents. Such products allow for a carbon footprint reduction as well as reduced energy and natural raw material consumption in cement manufacturing.

Case study: Low carbon products roadmap implementation

- Situation: Rollout of lower-carbon products has brought green products to 19.5% of the Group's volumes in 2022
- Task: We are on track to grow the share of green products in our portfolio to over 60% by 2030.
- Action: Construction of two 70,000-ton domes in the USA to upgrade import capacity and expand low-carbon cement and cementitious materials offering. Diversification into supplementary cementitious materials and downstream integration (e.g. RMC and silos), R&D in new low-carbon clinker technologies (alumina-clinkers, calcined clays, nanocement) all leading to CAPEX c.€2M/yr on average over the coming decade.
- Result: Reduction of cli/cem by 13.1% or 111kgCO₂/t cement by 2030 (for an average of 850kgCO₂/t Clinker).

Comment

Titan America reached its target to have 100% of its cement sales in lower-carbon products by December 2022, becoming the first US-based cement company to fully transition to the production of Type IL Portland-limestone cement. Also, with a new \$37 million investment in its Norfolk import terminal in Virginia, Titan America will further enable the expansion of its offering of lower-carbon cement and cementitious products.

In Greece, the Kamari plant further expanded its export product portfolio, including the less carbon-intensive Type IL, in response to US market needs for sustainable construction. Furthermore, we launched masonry cement MC22.5 X as well as Sulphate Resistant CEM IV/B (P) 32.5 N SR in Greece.

The Antea plant in Albania started to produce a new Portland-limestone cement (CEM II/B-LL 42.5N), with a reduced carbon footprint, to cover the domestic market. It fully replaced the less sustainable CEM II/A-LL 42.5N. Kosjeric cement plant launched a new low-carbon Portland-composite cement, CEM II/C-M (V-L) 32.5R, for the Serbian bagged cement market. It includes ca. 9% less embodied CO₂ compared to CEM II/B-M (V-L) 32.5R Portland-composite cement, which the plant had produced for many years. This cement is the first Group product to obtain certification under the new standard designation of EN 197-5, which defines framework conditions for a significant reduction of the clinker content in cement - an important step towards carbon neutrality in individual concrete construction, masonry, and final construction works.

Sharrcem cement plant in Kosovo, in line with its commitment to continuous improvement in the field of environmental protection and sustainable development by reducing waste, replaced the Portland composite cement CEM II/B-M (P-W-L) 42.5N with the pozzolanic cement CEM IV/B (P-W) 42.5N, which contains less clinker content and more high-quality fly ash and natural pozzolana.

TITAN Cement Egypt, at its Beni Suef cement plant, entered the masonry cement market for finishing applications for the first time.

Tokat cement plant in Turkey has expanded its product portfolio, including the less carbon-intensive Type IL Portland limestone cement, for export through our new terminal at Samsun port to the growing US market, enabling us to further increase our sales of lower-carbon cement, thus contributing to the Group's net-zero goal towards a greener and more sustainable future.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

As part of the transition towards a decarbonized future, there is increased pressure to replace non-renewable fossil fuels with lower-carbon alternatives and reduce raw materials by waste utilization. In addition, recent energy volatility (in terms of availability and cost), especially in Europe, creates additional costs for the manufacturing of our products. Should the Group fall behind in substituting fossil-based thermal energy sources with alternative fuels (e.g. waste derived), and in sourcing renewable electrical energy, it risks being exposed to both regulatory and societal risks with regards to its sustainability performance and to higher production costs, which may hamper its competitive position and eventually its profitability. Alternative fuels are advantageous vs. conventional fuels in terms of both CO2 emissions and cost per unit of calorific value reducing direct fuel cost as well as CO2 cost.

The increased use of alternative fuels in place of non-renewable fossil fuels is a key lever towards the achievement of TITAN's decarbonization targets. Respectively, the utilization of alternative fuels in cement production contributes to the conservation of natural resources, the reduction of CO2 emissions, and the long-term competitiveness of the cement industry.

The Group's alternative fuels TSR reached 17.5% in 2022 vs. 15.5% in 2021, an increase of ca. 13%. Dried sewage sludge, refinery sludge, tires, solid recovered fuel/refuse-derived fuel (SRF/RDF), and agricultural waste were used to substitute conventional solid fuels in several of the Group's plants. The increase in the use of alternative fuels has been the result of (a) successful permitting, (b) continuous and rigorous sourcing efforts for new alternative fuels in the local and international markets, and (c) investments across several TITAN cement plants in alternative fuel processing facilities and the plants' feeding, storage, and combustion infrastructure.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

14550000

Potential financial impact figure – maximum (currency)

17700000

Explanation of financial impact figure

According to our roadmap, Alternative Fuels substitution can reach 43.5% by 2030, reducing our carbon footprint, the cost of compliance, and the direct cost for our operations due to the substitution of the pet-coke.

If our EU plants reach the EU average (50% thermal substitution rate) from the current level of 30%, then an estimated 60,000 t of pet-coke fossil fuel can be reduced, and 30kg CO2/t clinker.

60,000 t of pet-coke fossil fuel x €120/t = 7,200,000

30kg CO2/t clinker x 3.500.000t clinker/year x €70/t CO2 = 7,350,000 (or 10,500,000€/year for €100/t CO2)

Therefore total financial impact is estimated to be 14,550,000 (7,200,000+7,350,000) to 17,700,000 (7,200,000+10,500,000)€ per year.

Cost to realize opportunity

39000000

Strategy to realize opportunity and explanation of cost calculation

Increasing the thermal substitution rate (TSR) of fossil fuels with alternative fuels (AF) is a major lever of our decarbonization roadmap i.e a detailed list of over 90 actions and projects, all of which provide significant cost savings, business growth opportunities as well as decarbonization potential. A total CapEx between €100 million and €150 million was identified, to be relatively evenly distributed throughout the 10-year period to the end of 2030. Even more promising was the expected acceleration of pace regarding the entire decarbonization process: of the aforementioned list, 13 projects - equal to ca. €47 million - were already completed or on course to be completed by late 2022/mid-2023.

One of the key investments towards this goal is the new €25 million pre-calciner unit in Kamari plant, Greece. Its installation started in late 2021 and it is expected to be operational in the first quarter of 2023. Additional investments of ca. €14 million are currently under various stages of development which will further improve the storage, handling, and feeding infrastructure of Zlatna Panega plant in Bulgaria, Beni Suef plant in Egypt and Thessaloniki plant in Greece.

Total cost 25,000,000+14,000,000=39,000,000€

Case study:

Situation: Increased pressure to replace non-renewable fossil fuels with lower-carbon alternatives and reduce raw materials by waste utilization in all regions.

Tasks: TITAN continues to pursue opportunities to increase and optimize the use of low-carbon fuels in the cement production process, with a steadfast commitment to reducing the environmental footprint of the Group's plants.

Actions: a new state-of-the-art alternative fuels production facility in Pennsuco plant, Florida, improved its operation during 2022, increasing the local TSR by 42% vs. 2021 and introducing high-quality RDF as a new fuel type for co-processing in the kiln. We considerably increased the TSR in our facilities in the Eastern Mediterranean, mainly in the Alexandria plant in Egypt and in the Tokat plant in Turkey, at levels sustainably higher than 20%. The feeding installation of the Thessaloniki plant, in Greece, was also further upgraded, resulting in a significant increase in the plant's alternative fuel consumption for a third consecutive year.

Results: The Group's alternative fuels TSR reached 17.5% in 2022 vs. 15.5% in 2021, an increase of ca. 13%.

Comment

Fully aligned with its sustainability ambitions and commitment to participate actively in the circular economy, TITAN also plans to diversify into the waste management

sector. The first step is participation in the public tender processes for the PPPs of the mechanical and biological waste treatment (MBT) plants in Greece, in a joint venture with TERNA Energy. In September 2021, the joint venture submitted letters of interest to participate in the tender process for the MBTs of the Central Circular Economy Park in Attica and the Circular Economy Park of Piraeus, as well as the MBT of the Western Sector of the Region of Central Macedonia. In 2022, the newly formed joint venture participated in the competitive dialogue procedure for all three projects and is currently preparing to submit the final application to the state. The operation of MBT plants can maximize recycling and material recovery, minimize landfilling and secure the availability of high-quality alternative fuels, providing a solution to the critical environmental issue of municipal solid waste (MSW).

Furthermore, we started using hydrogen from electrolysis at both Kamari and Zlatna Panega cement plants (by UTIS technology) as a combustion enhancer with the purpose to boost the use of alternative fuels. As an example, Zlatna Panega reported H₂ consumption of 98,137 Nm³ in 2022.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

TITAN Group successfully completed a €26 million green investment at the Kamari cement plant in Greece, marking a significant milestone in the Group's decarbonization program. It is part of our Roadmap to reduce CO₂ emissions, contributing to climate change mitigation and the European 2030 goal to decrease GHG emissions. The investment entailed the installation of state-of-the-art pre-calciner technology, which is now fully operational at the plant. The technology enables the plant to effectively utilize alternative fuels and reduce its dependency on fossil fuels. The alternative fuels used by the cement industry can include, among others, residue from the recycling of urban solid waste, following required processing at waste processing plants.

Kamari plant can reach a 75% thermal substitution rate and decrease the cost of pet coke as well as the cost of CO₂. CO₂ savings are estimated to be 30kg CO₂/t clinker. With the new installation, TITAN expects to achieve an annual CO₂ reduction of approximately 150,000 tons, contributing to its goal of achieving net-zero emissions by 2050.

An additional benefit of the investment in the Kamari plant, located on the Attiki-Viotia border, is the potential for the plant to contribute to a comprehensive, environmentally, and financially optimal solution to waste management in Attiki.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

7600000

Potential financial impact figure – maximum (currency)

9400000

Explanation of financial impact figure

The potential financial impact is in the range of €7.6-9.4 million (EBITDA)

Kamari plant can reach 75% thermal substitution rate and decrease the cost of pet coke as well as the cost of CO₂ then as an estimate can be reduced as well as 30kg CO₂/t clinker which annually can lead to a cost reduction in the range of €7.6-9.4million per year.

Cost to realize opportunity

26000000

Strategy to realize opportunity and explanation of cost calculation

TITAN Group successfully completed a €26 million green investment at the Kamari cement plant in Greece, marking a significant milestone in the Group's decarbonization program. It is part of our Roadmap to reduce CO₂ emissions, contributing to climate change mitigation and the European 2030 goal to decrease GHG emissions. The investment entailed the installation of state-of-the-art pre-calciner technology, which is now fully operational at the plant. The technology enables the plant to effectively utilize alternative fuels and reduce its dependency on fossil fuels. The alternative fuels used by the cement industry can include, among others, residue from the recycling of urban solid waste, following required processing at waste processing plants.

Kamari plant can reach a 75% thermal substitution rate and decrease the cost of pet coke as well as the cost of CO₂. CO₂ savings are estimated to be 30kg CO₂/t clinker. With the new installation, TITAN expects to achieve an annual CO₂ reduction of approximately 150,000 tons, contributing to its goal of achieving net-zero emissions by 2050.

An additional benefit of the investment in the Kamari plant, located on the Attiki-Viotia border, is the potential for the plant to contribute to a comprehensive, environmentally, and financially optimal solution to waste management in Attiki.

Comment

To ensure the supply of alternative fuels investments upstream are necessary. The operation of MBT plants can secure the availability of high-quality, alternative fuels to replace fossil fuels

Therefore, we have a Strategic Partnership with TERNA Energy to participate in the public tender process for the public-private partnerships (PPPs) of the Mechanical & Biological Waste Treatment (MBT) plants in Attica and Central Macedonia, Greece. TITAN cement plants are strategically located near the relevant MBT sites.

We also invest in joint ventures like EcoRecovery in Greece to ensure the necessary supply.

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

Yes, we have a climate transition plan which aligns with a 1.5°C world

Publicly available climate transition plan

Yes

Mechanism by which feedback is collected from shareholders on your climate transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

TITAN Group was among the first companies in the global cement industry to have its 2030 GHG emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the levels required to limit the global temperature increase to 1.5°C. Furthermore, TITAN is committed to reaching net-zero emissions by 2050. TITAN’s decarbonization strategy includes a comprehensive set of levers to reduce emissions from cement production by accelerating the use of alternative fuels, substituting clinker with cementitious materials with lower carbon intensity, increasing energy efficiency, and optimizing its raw materials mix.

In 2022, we revisited our decarbonization roadmap (transition plan). Senior as well as middle management from the commercial and technical departments of all business units was involved in the development of this roadmap, which covers all traditional CO2 emission reduction levers. The outcome did indeed confirm the Group’s ability to reach its stated targets as validated by the SBTi. We compiled a detailed list of over 90 actions and projects, all of which provide significant cost savings, business growth opportunities as well as decarbonization potential. A total CapEx of €150 million was identified, to be relatively evenly distributed throughout the 10-year period to the end of 2030. The transition plan is already approved by our Board of Directors.

Titan group's decarbonization roadmap towards net zero by 2050 has already been published on our website <https://www.titan-cement.com/sustainability/environment/climate-change/>

to all our stakeholders especially the investors. We seek feedback through our existing channels of communication like the website as well as from our key stakeholders through a dynamic materiality assessment process. We also present and discuss our roadmap regularly with our investors and analysts.

ESG performance is valuable for investors and plays an increasing role in their portfolio selection. Through active stakeholder engagement, TCI obtains a better understanding of expectations and needs, while seeking feedback from independent ESG rating agencies. Various independent rating agencies have assessed TCI in 2022, acknowledging its ESG performance. Among other ratings and beyond CDP, TCI received for a second consecutive year secured a rating of "AA" from MSCI ESG Research as well as the best score (1) in Environment by ISS.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your climate transition plan (optional)

"Future-ready for a net-zero world"

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios IEA NZE 2050	Company-wide	<Not Applicable>	Engaging with climate change risk experts and based on the different Intergovernmental Panel on Climate Change (IPCC) scenarios, TITAN Group in 2022 assessed the physical and transitional risks stemming from climate change, as well as the opportunities from the transition to a low-carbon economy, according to TCFD recommendations.
Physical climate scenarios RCP 8.5	Company-wide	<Not Applicable>	RCP 8.5 "High Emissions" - This scenario assumes that no major global effort to limit greenhouse gas emissions will go into effect. RCP 8.5 is characterized by increasing greenhouse gas emissions over time representative of scenarios in the literature that lead to high greenhouse gas concentration levels. It is estimated that end-of-century increases in global mean surface temperature will be in the range of 4.2 to 5.4°C.
Physical climate scenarios RCP 4.5	Company-wide	<Not Applicable>	RCP4.5 is related to an expected increase in the global mean surface temperature in 2100 in the range of around 3.0°C as a result of GHG emissions that coincide with current pledges on reducing GHG. It is a stabilization scenario where total radiative forcing is stabilized before 2100 by the employment of a range of technologies and strategies for reducing greenhouse gas emissions. Within this scenario itself, it is estimated that end-of-century increases in global mean surface temperature will be in the range of 1.7 to 3.2°C.
Physical climate scenarios RCP 6.0	Company-wide	<Not Applicable>	RCP6.0 is related to an expected increase of the global mean surface temperature in 2100 in the range of around 2.0°C because of lower GHG.
Physical climate scenarios RCP 2.6	Company-wide	<Not Applicable>	RCP2.6, the "low emissions" scenario, is related to an expected increase of the global mean surface temperature in 2100 in the range of 0.9 to 2.3°C.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

What are the main physical and transition risks we are going to face from medium to long term ?

Results of the climate-related scenario analysis with respect to the focal questions

The climate-related scenario assessment covered the manufacturing facilities throughout TITAN's global operations, encompassing 13 of our cement manufacturing facilities in 9 countries across Greece, Southeast Europe, Egypt, Turkey, and the USA. The main results of the risk assessment were the following:

A. The main risk Titan faces is the transition risk stemming from the emerging regulations as described in C2.3.

Within TITAN's geographical footprint, legally binding climate change regulations are implemented in the EU (Greece and Bulgaria) through the EU Emissions Trading System (ETS), and in Egypt through a CO2 emissions cap. Gross Scope 1 emissions of our operations in these countries represent approximately 50% of our total Group Scope 1 emissions.

Under the current regulatory EU framework, TITAN's financial exposure to the ETS is minimized as the Group has no shortfall of ETS emission rights based on its existing operating model. The Group's plants in Greece and Bulgaria, where the EU Emissions Trading Scheme (EU ETS) is in force, are operating in Phase IV (2021-2030 with a long EUAs (EU Allowances) position, which should last for at least five years, thus minimizing the Group's financial exposure.

Particularly in EU markets, the potential increase of production costs as free CO2 allowances will gradually be phased out starting from 2026 may lead to loss of sales to imports from non-CO2 constrained markets (a risk known as "carbon leakage"). Similarly, exports from markets with CO2 taxation in place are structurally disadvantaged versus exports from non-CO2 constrained markets, if no regulatory solution is applied to create a level playing field. Although an agreement between the EU Parliament and Council has been reached for the revision of the ETS Directive and the implementation of the Carbon Border Adjustment Mechanism (CBAM) to protect against "carbon leakage", there is no specific provision for exports and the overall effectiveness of such mechanism is still uncertain until 2026.

The potential regulatory transition impact is estimated to €5-20m/year as in C2.3a.

B. The main physical risks for the Group already identified are coastal flooding, drought, water stress, and extreme temperatures as described in C2.3. The possible increase in physical risks as a result of climate change could disrupt our asset base, and the continuity of our operations (production and/or distribution) and put our people in danger.

The potential physical impact is estimated to €6-18m/year (sum of the physical impact risks) as in C2.3a.

C. Furthermore, transition opportunities related to climate change have been identified in innovation (low-carbon products), sourcing of low-emissions and cost energy, and improvements in energy efficiency across production and the supply chain as described in C2.4a.

The potential opportunities are estimated to €37,7-48,7m/year (sum of the opportunities).

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Products and services represent the most significant opportunity, as has emerged from our climate change opportunities assessment. TITAN Group has always served its customers with high-quality products and solutions. To further increase the value offered to its customers, TITAN is enhancing its commercial transformation which, together with digitalization, decarbonization and operational excellence, will allow the Group to address the evolving needs of customers in each market and segment, and offer more innovative, decarbonized and cost-effective materials and solutions. Differentiating our offering with commercial low-carbon products to add value to the customer is a major pillar of our decarbonization roadmap.</p> <p>By reducing the carbon footprint of our products, we contribute to the decarbonization of the construction value chain, while meeting our customers' needs for durable, energy efficient and affordable materials.</p> <p>When designing products, we evaluate the environmental impact that they have throughout their entire life cycle, meeting the increasing needs of our customers.</p> <p>Through our enhanced communication with our customers from the early design stages, we can identify their needs and offer expert advice and tailor-made solutions. We offer high-performance concrete for residential and commercial markets, providing freedom in architectural design, while utilizing fewer materials and achieving a lower CO2 footprint at the building level. Our enhanced product portfolio, coupled with our sales force excellence and expertise, ensures superior strength, durability, flow characteristics, and modulus of elasticity.</p> <p>We are on track to meet our commitment to grow the share of green products in our portfolio to over 60% by 2030. The successful rollout of lower-carbon products has brought the overall percentage of green products to 19.5% of the Group's volumes.</p>
Supply chain and/or value chain	Yes	<p>The Group has developed a Sustainable Supply Chain Roadmap, to ensure that 70% of our key suppliers meet TITAN ESG Supplier standards by 2025. During 2022, TITAN updated its Group Code of Conduct for Procurement.</p> <p>To address climate-related risks and opportunities throughout its supply/value chain, TITAN Group continued emphasizing its efforts on the prequalification process for suppliers but also exploring opportunities to reduce Scope 2&3 emissions.</p> <p>The process of expanding the respective ESG criteria to be used for the evaluation of TITAN's "key suppliers" was completed in 2022 in line with the GCCA guidelines and the 10 UN Global Compact principles. The Group has expanded its cooperation with Avetta, the leading provider of supply chain risk management (SCRM) software to include a full ESG evaluation cycle of the identified "key suppliers" by using the "Avetta One" solution.</p> <p>Scope 2 emissions were reduced by 4.7% (vs. 2021) as externally verified. Several Scope 2 emissions reduction opportunities in Greece and SEE were explored, including the installation of waste-heat recovery (WHR) systems, building or purchasing our own renewable assets and securing green power purchase agreements (PPAs). Usje plant in North Macedonia invested in a solar plant with an installed capacity of 3.1 MW. This is the first solar plant in TITAN Group and will pave the way for similar projects in other operating facilities of the Group, as is the case in our cement plants in Bulgaria and Albania, where such projects are already in the design and permitting phase.</p> <p>Scope 3 specific emissions represent about 14.4% of our total GHG emissions. Fuel-related activities are the main contributor, followed by the Purchased goods and services, while downstream transportation and distribution is the third most important category.</p> <p>TITAN Group is continuously refining its Scope 3 reporting approach, identifying gaps and exploring alternative ways to increase accuracy while establishing the required management systems needed in consultation with all business units.</p> <p>Our new Scope 2 and 3 targets, have been validated by the SBTi.</p>
Investment in R&D	Yes	<p>One of the major focus areas of our ESG targets towards 2025 is to transform our business, focusing on resilience, innovation, and building solutions to serve our customers more efficiently as we move towards a carbon-neutral, digital world. In this field, our target is to increase our annual investment in Research and Innovation to €20m.</p> <p>Our activities in innovation addressed all conventional levers to improve our carbon footprint, namely thermal energy efficiency fuel switching, and reducing the clinker-to-cement ratio.</p> <p>We continue to advance in innovative ways to improve our carbon footprint, with an emphasis on carbon capture, utilization and sequestration, and hydrogen technologies.</p> <p>Our H2CEM project is the only Greek project that has been approved for state aid within the Important Project of Common European Interest (IPCEI) Hy2Use. With the goal of enhancing the substitution of fossil fuels with green hydrogen and other sustainably sourced fuels, H2CEM concerns the production of green hydrogen through electrolysis, powered by renewable energy sources, at TITAN cement plants in Greece. With a total budget of €60 million, H2CEM is currently the only project in the second IPCEI that concerns the use of hydrogen as a climate-neutral fuel for cement production.</p> <p>With regards to carbon-capture, utilization, and sequestration (CCUS), in 2022 we successfully tested novel carbon-capture and utilization technologies, proceeding with two pilot demonstrations at our Kamari cement plant, in collaboration with our partners in the EU Horizon2020 projects RECODE and CARMOF.</p> <p>Furthermore, we remain actively engaged in collaborative research actions, including initiatives supported by institutions at both local and regional levels.</p> <p>Furthermore, the HERCCULES project, which was awarded funding by the EU Horizon Europe program in 2022, seeks to demonstrate a unique, integrated, and replicable approach to the emerging CCUS value chain in Southeastern Europe, identifying synergies between cement and waste-to-energy sectors, which are of critical importance to the circular economy.</p>
Operations	Yes	<p>TITAN is committed to the COP21 Paris Agreement goal, to keep the increase in global average temperature to 1.5°C above pre-industrial levels, and to the UN Sustainable Development Goals 2030.</p> <p>TITAN Group was among the first companies in the global cement industry to have its 2030 GHG emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the levels required to limit the global temperature increase to 1.5°C. TITAN is committed to reaching net-zero emissions by 2050.</p> <p>Operations play a key role in all risks identified as well as opportunities. As already mentioned, because of the increased operational costs (CO2 price) that the EU-ETS already imposes on the Group and may impose in the future, the Group may face increased competition from cement producers operating outside the EU, which do not incur ETS compliance costs.</p> <p>TITAN's decarbonization strategy includes a comprehensive set of levers to reduce emissions from cement production by accelerating the use of alternative fuels, substituting clinker with cementitious materials with lower carbon intensity, increasing energy efficiency, and optimizing its raw materials mix.</p> <p>The Group aspires to reduce its carbon emissions by increasing the use of alternative fuels, accelerating its efforts in energy efficiency, developing low-carbon products, and adopting innovative technologies and solutions.</p> <p>We compiled a detailed list of over 90 actions and projects, all of which provide significant cost savings, business growth opportunities as well as decarbonization potential. A total CapEx of €150 million was identified, to be relatively evenly distributed throughout the 10-year period to the end of 2030. Even more promising was the expected acceleration of pace regarding the entire decarbonization process: of the aforementioned list, 13 projects - equal to ca. €47 million - were already completed or on course to be completed by late 2022/mid-2023 (e.g. the installation of a new alternative fuel conveying system and a new calciner in the Kamari plant, Greece).</p> <p>In addition to the CapEx-related projects, the roadmap includes commercial initiatives that do not require any investment.</p> <p>Furthermore, TITAN set up a process of gradual replacement of the fleet of leased cars with hybrid and EVs (already 70 out of 300 cars). Total emissions reduction is estimated at 16%.</p>

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Assets	<p>Changes in legislation, regulations and obligations relating to climate change and emissions trading may result in additional capital expenditure and reduced profitability, due to increases in operating costs, or long-term prospects of certain of TITAN Group's production facilities. For example, TITAN Group's operations in Greece and Bulgaria are required to comply with an EU-wide cap and trade emissions scheme, namely the European Trading Scheme (ETS), under which industrial installations must control and report their CO2 emissions on an annual basis. Because of the increased operational costs that the ETS imposes on and may impose in the future, TITAN Group may face increased competition from cement producers operating outside the EU, which do not incur ETS compliance costs. Furthermore, increased prices for cement because of increased CO2 compliance costs could prompt customers to substitute other products for cement, which could further negatively affect demand for the Group's product.</p> <p>The new EU-ETS phase IV provides also an incentive to reduce production to 85% vs. previous historic levels in order to secure receipt of the full allocation of CO2 rights, which the Group needs to consider when looking at lower-margin exports. This has already had a direct impact on financial results for our Group activities in Bulgaria and Greece and therefore affects our existing assets.</p> <p>EU ETS carbon pricing affects not only direct cost but also cost for indirect CO2 stemming from the power sector.</p> <p>Shift to new low-carbon cement types affects positively the Groups' revenues.</p> <p>TITAN recognizes the importance of market-based carbon pricing in driving decarbonization efforts. By implementing an appropriate carbon price and ensuring long-term predictability, companies are encouraged to invest in the reduction of their carbon emissions.</p> <p>As part of its efforts to transition to a carbon-neutral future, TITAN is utilizing internal carbon pricing in its long-term strategic planning. This approach allows the company to assess the risks and opportunities arising from the GHG regulatory environment and the transition to net zero. Carbon pricing is a key factor in promoting low-carbon investments in alternative fuels and energy-efficient technologies, which in turn helps to reduce the carbon footprint of its products.</p> <p>In accordance with its CapEx policy, TITAN utilizes carbon pricing to make informed decisions about investments in relation to climate change. The company evaluates each CapEx project based on its contribution towards the company's decarbonization goals and assesses the risk of its financial returns being impacted by increasing CO2 prices. We stress test with various forecasts and CO2 price evolution by 2030 (70-100€/EUA) in the EU, and with lower prices outside the EU.</p> <p>Examples include the investment for the calciner in our Kamari plant in Greece and investments for alternative fuels' installations in our Bulgarian operations. Also, TITAN Group takes into account climate-related regulatory developments when considering specific acquisitions.</p> <p>In order to meet its CO2 reduction targets, the Group has invested heavily in alternative fuels, as in the case of GAEA, a company that provides services in waste utilization and alternative fuels production established in 2011 in Bulgaria and expanded its operations in Egypt since 2016. Furthermore, ST Equipment & Technology LLC (STET), a wholly-owned subsidiary of the TITAN in USA, as a designer, manufacturer and marketer of proprietary separation equipment to increase Group's cementitious products.</p> <p>STET's patented technology is ideally suited to the processing of dry powders and the recycling of waste streams in an innovative, environmentally sustainable and cost-effective manner, contributing to the circular economy and climate change mitigation, both locally and globally.</p> <p>Under the current regulatory EU framework, TITAN's financial exposure to ETS is minimized, as the Group has no shortfall of ETS rights based on its existing operating model. The price of CO2 rights will become critical for the Group if the regulatory framework changes in a way that a shortfall is created.</p> <p>Remuneration elements are tied to financial performance, individual performance (combination of objectives and behaviors), and ESG performance targets (safety and decarbonization) as per our SBTi-validated targets.</p> <p>Climate change risks and initiatives are incorporated in the cash flow projections for the impairment tests. The core technology used in our production facilities is expected to remain the same, with gradual efficiency improvements which we are implementing in line with the pioneers in our industry.</p> <p>In 2022 we expanded our approach to meet the additional regulatory requirements of the EU Taxonomy Regulation for the "alignment" of our business economic activities and products. The Regulation requirements were specific to climate change mitigation and adaptation, while the only Taxonomy-eligible transitional economic activities were related to the "manufacture of cement clinker, cement or alternative binder".</p>

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	Yes, we identify alignment with both our climate transition plan and a sustainable finance taxonomy	At both the company and activity level

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.

Financial Metric

Revenue/Turnover

Type of alignment being reported for this financial metric

Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported

Climate change adaptation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

195600000

Percentage share of selected financial metric aligned in the reporting year (%)

8.6

Percentage share of selected financial metric planned to align in 2025 (%)

15.5

Percentage share of selected financial metric planned to align in 2030 (%)

30

Describe the methodology used to identify spending/revenue that is aligned

In 2022, we expanded our approach to meet the additional regulatory requirements of the EU Taxonomy Regulation (EU) 2020/852 reporting framework, in specific for the "alignment" of business economic activities and products that meet the criteria and requirements for the Taxonomy KPIs (sales turnover, operational expenditures, and capital expenditures). The Regulation requirements were specific to climate change mitigation and adaptation, adhering to the Commission Delegated Regulation EU 2021/2178 of 6 July 2021 (EU 2021/2139), while the only Taxonomy-eligible transitional economic activities were defined according to the Regulation criteria as related to the "manufacture of cement clinker, cement or alternative binder" (NACE code C23.51, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006). In addition, the production and sale of fly ash may be considered a Taxonomy-eligible activity (NACE code E38.32), but not material to disclose due to its non-significant share of the total Group turnover. The above figures refer only to %aligned products according to the climate adaptation thresholds of the EU Taxonomy i.e. CO2 footprint less than 530kgCO2/t cement.

C3.5b

(C3.5b) Quantify the percentage share of your spending/revenue that was associated with eligible and aligned activities under the sustainable finance taxonomy in the reporting year.

Economic activity

Manufacture of cement

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Taxonomy Alignment

Taxonomy-aligned

Financial metric(s)

Turnover

CAPEX

OPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

195600000

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

8.6

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

4.6

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

8.6

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

<Not Applicable>

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year

<Not Applicable>

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

38600000

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

16

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

16

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

0

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

<Not Applicable>

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year

<Not Applicable>

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

8800000

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

7

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

7

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

4

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

<Not Applicable>

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year

<Not Applicable>

Type(s) of substantial contribution

Own performance

Transitional activity

Activity enabling mitigation

Activity enabling adaptation

Calculation methodology and supporting information

In 2022 we expanded our approach to meet the additional regulatory requirements of the EU Taxonomy Regulation (EU) 2020/852 reporting framework, in specific for the "alignment" of business economic activities and products that meet the criteria and requirements for the Taxonomy KPIs (sales turnover, operational expenditures and capital expenditures). The Regulation requirements were specific to climate change mitigation and adaptation, adhering to the Commission Delegated Regulation EU 2021/2178 of 6 July 2021 (EU 2021/2139), while the only Taxonomy-eligible transitional economic activities were defined according to the Regulation criteria as related to the "manufacture of cement clinker, cement or alternative binder" (NACE code C23.51, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006). In addition, the production and sale of fly ash may be considered a Taxonomy-eligible activity (NACE code E38.32), but not material to disclose due to its non-significant share of the total Group turnover. The above-mentioned Regulation EU 2021/2178 specifies the content and presentation of information to be disclosed by undertakings concerning environmentally sustainable economic activities and the methodology to comply with that disclosure obligation.

In compliance with Article 8 of the Taxonomy Regulation, we disclose that, based on the Group consolidated data, €1,349.6 m or 59.2% of the Group turnover in 2022 was generated from the main Taxonomy eligible economic activity of "manufacture of cement clinker, cement or alternative binder", while the total respective CapEx corresponded to €135.5 m (56.1% of total CapEx) and the total operating expenditures corresponded to €72.8 m (58.2% of total operating expenditures). Revenue from fly ash processing did not exceed 0.2% of the total Group turnover and was considered non-significant for the respective disclosures.

Technical screening criteria met

Yes

Details of technical screening criteria analysis

In its reporting on Taxonomy-aligned figures related to the above KPIs (for Turnover, Capex, and Opex), TITAN conducted the review and assessment of expenditures on all products and project activities that were related to the main economic activity in 2022. The approach was "bottom-up", coordinated by the Group, and leveraged the contribution of experts in each business unit. The assessment methodology adhered to the technical criteria for the substantial contribution to two environmental objectives which are determined by the Taxonomy Regulation for the specific economic activity: Climate Change Mitigation and Climate Change Adaptation, explicitly for meeting the threshold values for performance in CO2 emissions for each of the two objectives.

Further:

The areas of environmental performance for biodiversity and water are addressed with relevant targets for 2025, underscoring our commitment to contribute to the prosperity of our local communities and achieve a positive local impact where possible. Related to the circular economy, our economic activity actively contributes to the shift from fossil fuels towards alternative fuels in the European Union and internationally, as well as to the substitution of raw materials with alternative ones. TITAN's decarbonization strategy, which addresses the co-processing of alternative fuels, is a crucial "lever" and aligns with our circular economy model to promote waste reduction, reuse, recycling, and recovery of materials and energy use as a key priority. Through co-processing, energy and raw materials are recovered and the landfill of waste is reduced.

For all the above, we provide an assessment of our performance and key priorities in Table 2.5.2 "Taxonomy KPIs 2022" of the ESG performance statements, as part of the TITAN IAR 2022. Furthermore, TITAN has set ambitious goals for energy efficiency management and waste management until 2025.

Do no significant harm requirements met

Yes

Details of do no significant harm analysis

The assessment also ensured that the economic activity meets the requirements for the "Do no significant harm" principle, as referred to in Article 3 (b) and (d) and Article 17, and the "Minimum safeguards", referred to in Article 18 of the Taxonomy Regulation.

In specific for the assessment of "Do no significant harm", according to the technical criteria under the Regulation Annexes I and II, TITAN complies with all applicable EU regulations and adopts the requirements of the Industrial Emissions Directive specifications and BAT emission limits through the environmental permitting process of cement plants (Directive 2010/75/EU). We also conduct a thorough assessment at the Group level and with granularity per country for the protection of biodiversity and sustainable land stewardship and water, as fundamental elements of our sustainability strategy. In order to mitigate the impacts of raw material extraction on biodiversity and ecosystems, the Group has developed standard practices for quarry rehabilitation and biodiversity management at sites of high biodiversity value, in line with the respective GCCA Guidelines. The same holds for water, where we run a periodic assessment of areas where we operate for water risk levels and prioritize our investments and operating plans accordingly while aligning with GCCA Guidelines for measuring and reporting our performance on water efficiency.

Minimum safeguards compliance requirements met

Yes

Details of minimum safeguards compliance analysis

Regarding "Minimum safeguards", TITAN ensures the alignment of its economic activity with the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the Declaration of the International Labor Organization on Fundamental Principles and Rights at Work and the International Bill of Human Rights, by adhering to the implementation of Group Policies for Human Rights, Corporate Social Responsibility, Code of Conduct, Diversity, Equity and Inclusion, and EthicsPoint for receiving and assessing employees' complaints, etc. (this is not an exhaustive list. See also Table 2.5.3 "ESG Policies" in the ESG performance Statements, under the TITAN IAR 2022).

C3.5c

(C3.5c) Provide any additional contextual and/or verification/assurance information relevant to your organization's taxonomy alignment.

Taxonomy disclosure is part of the Integrated Annual Report (IAR) and not covered by the IAR Assurance Statement for the year 2022. However, the methodology applied has been examined by the auditors. We are on track to cover Taxonomy Assurance figures by reasonable assurance starting with IAR 2023.

In 2022 we expanded our approach to meet the additional regulatory requirements of the EU Taxonomy Regulation (EU) 2020/852 reporting framework, in specific for the "alignment" of business economic activities and products that meet the criteria and requirements for the Taxonomy KPIs (sales turnover, operational expenditures and capital expenditures). The Regulation requirements were specific to climate change mitigation and adaptation, adhering to the Commission Delegated Regulation EU 2021/2178 of 6 July 2021 (EU 2021/2139), while the only Taxonomy-eligible transitional economic activities were defined according to the Regulation criteria as related to the "manufacture of cement clinker, cement or alternative binder" (NACE code C23.51, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006). In addition, the production and sale of fly ash may be considered a Taxonomy-eligible activity (NACE code E38.32), but not material to disclose due to its non-significant share of the total Group turnover. The above-mentioned Regulation EU 2021/2178 specifies the content and presentation of information to be disclosed by undertakings concerning environmentally sustainable economic activities and the methodology to comply with that disclosure obligation.

In compliance with Article 8 of the Taxonomy Regulation, we disclose that, based on the Group consolidated data, €1,349.6 m or 59.2% of the Group turnover in 2022 was generated from the main Taxonomy eligible economic activity of "manufacture of cement clinker, cement or alternative binder", while the total respective CapEx corresponded to €135.5 m (56.1% of total CapEx) and the total operating expenditures corresponded to €72.8 m (58.2% of total operating expenditures). Revenue from fly ash processing did not exceed 0.2% of the total Group turnover and was considered non-significant for the respective disclosures.

In its reporting on Taxonomy-aligned figures related to the above KPIs, TITAN conducted the review and assessment of expenditures on all products and project activities which were related to the main economic activity in 2022. The approach was "bottom-up", coordinated by the Group, and leveraged the contribution of experts in each business unit. The assessment methodology adhered to the technical criteria for the substantial contribution to two environmental objectives which are determined by the Taxonomy Regulation for the specific economic activity: Climate Change Mitigation and Climate Change Adaptation, explicitly for meeting the threshold values for performance in CO2 emissions for each of the two objectives.

The assessment also ensured that the economic activity meets the requirements for the "Do no significant harm" principle, as referred to in Article 3 (b) and (d) and Article 17, and the "Minimum safeguards", referred to in Article 18 of the Taxonomy Regulation. In specific for the assessment of "Do no significant harm", according to the technical criteria under the Regulation Annexes I and II, TITAN complies with all applicable EU regulations and adopts the requirements of the Industrial Emissions Directive specifications and BAT emission limits through the environmental permitting process of cement plants (Directive 2010/75/EU). We also conduct a thorough assessment at Group level and with granularity per country for the protection of biodiversity and sustainable land stewardship and water, as fundamental elements of our sustainability strategy. In order to mitigate the impacts of raw material extraction on biodiversity and ecosystems, the Group has developed standard practices for quarry rehabilitation and biodiversity management at sites of high biodiversity value, in line with the respective GCCA Guidelines. The same holds for water, where we run a periodic assessment of areas where we operate for water risk levels and prioritize our investments and operating plans accordingly while aligning with GCCA Guidelines for measuring and reporting our performance on water efficiency.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target
Intensity target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 11: Use of sold products

Base year

2020

Base year Scope 1 emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 2 emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

85488

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)

85488

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

85488

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

<Not Applicable>

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)

95.1

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)

<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

4.2

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

95.1

Target year

2030

Targeted reduction from base year (%)

42

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

49583.04

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

4107

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)

4107

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

4107

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

226.656707039919

Target status in reporting year

Achieved

Please explain target coverage and identify any exclusions

The target covers all our cement integrated and grinding facilities.

TITAN Group was among the first three cement companies worldwide to have its CO2 emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2) but also other indirect emissions of the supply chain (Scope 3).

Plan for achieving target, and progress made to the end of the reporting year

<Not Applicable>

List the emissions reduction initiatives which contributed most to achieving this target

Processing of fossil fuels is a minor part of our business and the Group is in the process of reducing its involvement.

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 3

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Category 1: Purchased goods and services

Intensity metric

Other, please specify (Metric tons gross CO2 emissions per metric ton of cementitious product)

Base year

2020

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.6947

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

0.05829

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

0.00363

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

0.11788

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.75662

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

99.2

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

95.4

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

59.5

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure
14.5

% of total base year emissions in all selected Scopes covered by this intensity figure
86

Target year
2030

Targeted reduction from base year (%)
25.15

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
0.56633007

% change anticipated in absolute Scope 1+2 emissions
-25.14

% change anticipated in absolute Scope 3 emissions
-42

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
0.6464

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
0.04697

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
0.0044

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

0.11671

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.69777

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

30.926492011427

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Our target is set on specific CO2 emissions per tonne of cementitious product as defined by the WBCSD/CSI protocol adopted by GCCA. The target covers all our cement integrated and grinding facilities.

TITAN Group was among the first three cement companies worldwide to have its CO2 emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2), but also other indirect emissions of the supply chain (Scope 3).

Plan for achieving target, and progress made to the end of the reporting year

The increased use of lower-carbon fuels that replace non-renewable fossil fuels is a key lever towards achieving TITAN's decarbonization targets. The Group's alternative fuel thermal substitution rate reached 17.5% in 2022, an increase of ca. 13.0% since last year and a record high in our history. Biomass use also increased, reaching a thermal substitution rate of 6.5%. The increase in the use of alternative fuels has been the result of (a) successful permitting, (b) continuous and rigorous sourcing efforts for new alternative fuels in the local and international markets, and (c) investments across several TITAN cement plants in alternative fuel processing facilities and the plants' feeding, storage and combustion infrastructure. In the last years, a new state-of-the-art production facility for alternative fuels went into operation in Pennsuco cement plant, Florida while new installations or upgrades to the existing infrastructure for the production of alternative fuels were also completed in the cement plants of Zlatna Panega plant, Bulgaria, and Usje, N. Macedonia. Moreover, seeking opportunities to increase and optimize the use of low-carbon fuels, a key investment was a new pre-calculator unit in Kamari plant, Greece. Its installation started in 2021 and it is expected to be in full operation in 2023. Additional investments were approved during 2021, which will further improve the storage, handling and feeding infrastructure of Zlatna Panega plant in Bulgaria, Beni Suef plant in Egypt and Thessaloniki plant in Greece.

The Group further reduced the carbon footprint of its products by shifting to lower-carbon cements in the USA, Greece, Egypt and North Macedonia. In 2022, we made further progress in the reduction of our clinker-to-cement ratio, achieving a decrease of 2.6 percentage points (78.4% vs. 81.0% in 2021).

Finally, TITAN Group thoroughly monitors energy consumption and efficiency in order to reduce its environmental footprint. Frequent inspections of equipment and timely maintenance by plant teams, and the replacement or installation of new energy-efficient equipment (e.g., grate coolers and 5-stage preheaters with a pre-calculator and new burners), as well as careful selection of fuels, use of mineralizers and process optimization, helped sustain the Group's strong performance in thermal energy consumption.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Int 2

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Other, please specify (Metric tons CO2 emissions per metric ton of cementitious product)

Base year

2020

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.6947

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.6947

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

99.2

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

99.2

Target year

2030

Targeted reduction from base year (%)

22.8

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

0.5363084

% change anticipated in absolute Scope 1+2 emissions

-25.14

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

0.6464

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.6464

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

30.4940413506777

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Our target is set on specific CO2 emissions per tonne of cementitious product as defined by the WBCSD/CSI protocol adopted by GCCA. The target covers all our cement integrated and grinding facilities.

Plan for achieving target, and progress made to the end of the reporting year

The increased use of lower-carbon fuels that replace non-renewable fossil fuels is a key lever towards achieving TITAN's decarbonization targets. The Group's alternative fuel thermal substitution rate reached 17.5% in 2022, an increase of ca. 13.0% since last year and a record high in our history. Biomass use also increased, reaching a thermal substitution rate of 6.5%. The increase in the use of alternative fuels has been the result of (a) successful permitting, (b) continuous and rigorous sourcing efforts for new alternative fuels in the local and international markets, and (c) investments across several TITAN cement plants in alternative fuel processing facilities and the plants' feeding, storage and combustion infrastructure. In the last few years, a new state-of-the-art production facility for alternative fuels went into operation in Pennsuco cement plant, Florida while new installations or upgrades to the existing infrastructure for the production of alternative fuels were also completed in the cement plants of Zlatna Panega plant, Bulgaria, and Usje, N. Macedonia. Moreover, seeking opportunities to increase and optimize the use of low-carbon fuels, a key investment was a new pre-calciner unit in Kamari plant, Greece. Its installation started in 2021 and it is expected to be in full operation in 2023. Additional investments were approved during 2021, which will further improve the storage, handling and feeding infrastructure of Zlatna Panega plant in Bulgaria, Beni Suef plant in Egypt and Thessaloniki plant in Greece.

The Group further reduced the carbon footprint of its products by shifting to lower-carbon cements in the USA, Greece, Egypt and North Macedonia. In 2022, we made further progress in the reduction of our clinker-to-cement ratio, achieving a decrease of 2.6 percentage points (78.4% vs. 81.0% in 2021).

Finally, TITAN Group thoroughly monitors energy consumption and efficiency in order to reduce its environmental footprint. Frequent inspections of equipment and timely maintenance by plant teams, and the replacement or installation of new energy-efficient equipment (e.g., grate coolers and 5-stage preheaters with a pre-calciner and new burners), as well as careful selection of fuels, use of mineralizers and process optimization, helped sustain the Group's strong performance in thermal energy consumption.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Int 3

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Other, please specify (Metric tons net CO2 emissions per metric ton of cementitious product)

Base year

2020

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

0.05829

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.05829

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

<Not Applicable>

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

95.4

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

95.4

Target year

2030

Targeted reduction from base year (%)

58.1

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

0.02442351

% change anticipated in absolute Scope 1+2 emissions

-25.14

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

0.04697

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.04697

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

33.425371215027

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Our target is set on specific CO2 emissions per tonne of cementitious product as defined by the WBCSD/CSI protocol adopted by GCCA. The target covers all our cement integrated and grinding facilities, as the most material of our company activity.

Plan for achieving target, and progress made to the end of the reporting year

To achieve this target we are developing and implementing ISO 50001 management systems across our facilities and take measures to increase our energy efficiency. As a result, total clinker production covered by such systems reached about 86.0%, in 2022 achieving the set target of 85.0% about 3 years ahead of schedule.

Moreover, the Group is exploring all options available to realize this target, like sourcing renewable energy from current or potential suppliers, installing renewable energy facilities like wind or solar farms at or near our plants and quarries or maximizing thermal energy retrieval using waste heat recovery systems. In 2022, the installation of photovoltaic panels at TITAN's North Macedonia cement plant in Usje, resulted in 10% of the facility's energy demand being covered by renewable energy sources. The Group's first solar power system, which has a power peak output of 3 MWp, can produce 3,600 MWh annually, which not only saves on power costs but also directly contributes to the reduction of CO2 emissions by 3,200 tonnes per year. The rooftop panels cover a space of 15,000

m2 and, in a subsequent phase, Usje is considering installing photovoltaics on ground locations. The €2 million investment comes on top of other sustainable energy projects at the site. Usje plans to continue to invest in the energy transformation of its facilities. Similar projects are scheduled for at least 2 more sites in the coming 1 or 2 years.

Furthermore, in recent years, the Group achieved a reduction in electrical consumption through the installation of advanced equipment, like low-energy vertical roller mills, roller presses and dynamic separators, or motors with inverters as well as the replacement of electrostatic precipitators with the lower energy-consuming bag filters.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Int 4

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Other, please specify (Metric tons net CO2 emissions per metric ton of cementitious product)

Base year

1990

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.776

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.776

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

99.2

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

99.2

Target year

2025

Targeted reduction from base year (%)

24

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

0.58976

% change anticipated in absolute Scope 1+2 emissions

-24.2

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

0.619

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.619

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

84.2998281786942

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Our target is set on specific CO2 emissions per tonne of cementitious product as defined by the WBCSD/CSI protocol adopted by GCCA. The target covers all our cement integrated and grinding facilities.

Plan for achieving target, and progress made to the end of the reporting year

The increased use of lower-carbon fuels that replace non-renewable fossil fuels is a key lever towards achieving TITAN's decarbonization targets. The Group's alternative fuel thermal substitution rate reached 17.5% in 2022, an increase of ca. 13.0% since last year and a record high in our history. Biomass use also increased, reaching a thermal substitution rate of 6.5%. The increase in the use of alternative fuels has been the result of (a) successful permitting, (b) continuous and rigorous sourcing efforts for new alternative fuels in the local and international markets, and (c) investments across several TITAN cement plants in alternative fuel processing facilities and the plants' feeding, storage and combustion infrastructure. In the last few years, a new state-of-the-art production facility for alternative fuels went into operation in Pennsuco cement plant, Florida while new installations or upgrades to the existing infrastructure for the production of alternative fuels were also completed in the cement plants of Zlatna Panega plant, Bulgaria, and Usje, N. Macedonia. Moreover, seeking opportunities to increase and optimize the use of low-carbon fuels, a key investment was a new pre-calciner unit in Kamari plant, Greece. Its installation started in 2021 and it is expected to be in full operation in 2023. Additional investments were approved during 2021, which will further improve the storage, handling and feeding infrastructure of Zlatna Panega plant in Bulgaria, Beni Suef plant in Egypt and Thessaloniki plant in Greece.

The Group further reduced the carbon footprint of its products by shifting to lower-carbon cements in the USA, Greece, Egypt and North Macedonia. In 2022, we made further progress in the reduction of our clinker-to-cement ratio, achieving a decrease of 2.6 percentage points (78.4% vs. 81.0% in 2021).

Finally, TITAN Group thoroughly monitors energy consumption and efficiency in order to reduce its environmental footprint. Frequent inspections of equipment and timely maintenance by plant teams, and the replacement or installation of new energy-efficient equipment (e.g., grate coolers and 5-stage preheaters with a pre-calciner and new burners), as well as careful selection of fuels, use of mineralizers and process optimization, helped sustain the Group's strong performance in thermal energy consumption.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Int 5

Is this a science-based target?

Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition

1.5°C aligned

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Other, please specify (Metric tons net CO2 emissions per metric ton of cementitious product)

Base year

1990

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.776

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.776

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

99.2

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

99.2

Target year

2030

Targeted reduction from base year (%)

35.5

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

0.50052

% change anticipated in absolute Scope 1+2 emissions

-35.7

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

0.619

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.619

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

56.9914331348918

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

Our target is set on specific CO2 emissions per tonne of cementitious product as defined by the WBCSD/CSI protocol adopted by GCCA. The target covers all our cement integrated and grinding facilities.

Plan for achieving target, and progress made to the end of the reporting year

The increased use of lower-carbon fuels that replace non-renewable fossil fuels is a key lever towards achieving TITAN's decarbonization targets. The Group's alternative fuel thermal substitution rate reached 17.5% in 2022, an increase of ca. 13.0% since last year and a record high in our history. Biomass use also increased, reaching a thermal substitution rate of 6.5%. The increase in the use of alternative fuels has been the result of (a) successful permitting, (b) continuous and rigorous sourcing efforts for new alternative fuels in the local and international markets, and (c) investments across several TITAN cement plants in alternative fuel processing facilities and the plants' feeding, storage and combustion infrastructure. In the last few years, a new state-of-the-art production facility for alternative fuels went into operation in Pennsuco cement plant, Florida while new installations or upgrades to the existing infrastructure for the production of alternative fuels were also completed in the cement plants of Zlatna Panega plant, Bulgaria, and Usje, N. Macedonia. Moreover, seeking opportunities to increase and optimize the use of low-carbon fuels, a key investment was a new pre-calciner unit in Kamari plant, Greece. Its installation started in 2021 and it is expected to be in full operation in 2023. Additional investments were approved during 2021, which will further improve the storage, handling and feeding infrastructure of Zlatna Panega plant in Bulgaria, Beni Suef plant in Egypt and Thessaloniki plant in Greece.

The Group further reduced the carbon footprint of its products by shifting to lower-carbon cements in the USA, Greece, Egypt and North Macedonia. In 2022, we made further progress in the reduction of our clinker-to-cement ratio, achieving a decrease of 2.6 percentage points (78.4% vs. 81.0% in 2021).

Finally, TITAN Group thoroughly monitors energy consumption and efficiency in order to reduce its environmental footprint. Frequent inspections of equipment and timely maintenance by plant teams, and the replacement or installation of new energy-efficient equipment (e.g., grate coolers and 5-stage preheaters with a pre-calciner and new burners), as well as careful selection of fuels, use of mineralizers and process optimization, helped sustain the Group's strong performance in thermal energy consumption.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Net-zero target(s)

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2020

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy consumption or efficiency	Other, please specify (Clinker production covered by ISO 50001 or energy audits)
----------------------------------	--

Target denominator (intensity targets only)

Other, please specify (Clinker production)

Base year

2018

Figure or percentage in base year

40.7

Target year

2025

Figure or percentage in target year

85

Figure or percentage in reporting year

85.9

% of target achieved relative to base year [auto-calculated]

102.031602708804

Target status in reporting year

Achieved

Is this target part of an emissions target?

No

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

The target covers all our cement integrated and grinding facilities.

Plan for achieving target, and progress made to the end of the reporting year

<Not Applicable>

List the actions which contributed most to achieving this target

Expand the number of cement production facilities covered by ISO 50001

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Int1

Int2

Int3

Int4

Target year for achieving net zero

2050

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Please explain target coverage and identify any exclusions

As part of our ESG targets for 2025 and beyond, aligned also with the Global Cement and Concrete Association (GCCA)'s climate ambition, we commit to drive down the CO₂ footprint of our operations and products aspiring to deliver society with carbon-neutral concrete by 2050.

More specific, TITAN Cement Group commits to reduce Scope 1 (gross), Scope 2 and Scope 3 GHG emissions covering produced and purchased cement and clinker by 95.6% per ton of cementitious product sold by 2050 from a 2020 base year. TITAN Group also commits to reduce other absolute Scope 3 GHG emissions by 90% within the same timeframe.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

We will transform our business, focusing on resilience, innovation and building solutions to serve our customers more efficiently as we move towards a carbon-neutral, digital world.

We commit to driving down the CO₂ footprint of our operations and products aspiring to deliver society with carbon-neutral concrete by 2050.

TITAN is committed to reach net-zero GHG emissions across the value chain by 2050 from a 2020 base year.

TITAN is committed to:

- Reducing gross Scope 1, 2, and 3 GHG emissions, covering produced and purchased cement and clinker by 95.6% per tonne of cementitious product sold by 2050 from a 2020 base year
- Reducing other absolute Scope 3 GHG emissions by 90.0% within the same timeframe

TITAN Group was among the first three cement companies worldwide to have its CO₂ emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2), but also other indirect emissions of the supply chain (Scope 3).

Planned actions to mitigate emissions beyond your value chain (optional)

Recarbonation is a natural process, that occurs when concrete reacts with CO₂ in the air. The exact amount of CO₂ that concrete can reabsorb has a maximum of 100% of that emitted during the calcination of limestone in the cement manufacturing process. The actual amount of carbon uptake will depend on a range of parameters including the resistance class, exposure conditions, thickness of the concrete element, recycling scenario, and secondary use. A practical estimate of the global carbon sink provided by all concrete is 25% of the process CO₂ emissions released during cement production.

Another significant portion of concrete carbon uptake occurs when reinforced concrete structures are demolished, as the increased surface area and exposure to air accelerate the process. The amount of carbon uptake is even greater when stockpiles of crushed concrete are left exposed to the air before reuse.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

	Number of initiatives	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation	7	
To be implemented*	7	400000
Implementation commenced*	6	500000
Implemented*	3	630809
Not to be implemented	0	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Non-energy industrial process emissions reductions	Process material substitution
--	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

434137

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

7816991

Investment required (unit currency – as specified in C0.4)

15400000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Improvement in clinker factor, driven by investments on blended cements with lower clinker factor in the majority of our locations. The initiative includes new investments in upgrading storage capacity at plants and terminals, coupled with implementation of new quality control methods (including X-Ray Diffraction) at production sites.

Initiative category & Initiative type

Low-carbon energy consumption	Solid biofuels
-------------------------------	----------------

Estimated annual CO2e savings (metric tonnes CO2e)

114237

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

704259

Investment required (unit currency – as specified in C0.4)

11580000

Payback period

11-15 years

Estimated lifetime of the initiative

11-15 years

Comment

Increase in biomass use, at the majority of our locations. The Group continues to undertake initiatives to increase the utilization of alternative fuels in all regions of activity. All biomass is sourced from sustainable sources since the majority is processed waste at the end of its life cycle.

Initiative category & Initiative type

Waste reduction and material circularity	Product/component/material reuse
--	----------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

82435

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 3: Other (downstream)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

4663000

Investment required (unit currency – as specified in C0.4)

3036249

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

TITAN subsidiary Separation Technologies (ST) is offering ProAsh, resulting from the beneficiation of low-grade fly ash with the proprietary technology owned by TITAN,

based on triboelectrostatic separation. This unique technology, developed by MIT, allows to utilize the beneficiated fly ash for use in concrete, thus allowing for CO2 savings primarily from clinker substitution in the value chain, as well as from landfilling avoidance. Annual monetary savings corresponds to the annual revenues of the ST activity.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	We are considering the impact of regulation on the future viability of our investments, specifically with reference to the risk of carbon leakage and the potential impact of regulations on production costs through carbon pricing (EU ETS Phase IV, changes in benchmark and free allocation). As per our CO2 initiative, we prioritize CO2 abatement measures at BU and Group level based on internal criteria, including internal 'carbon price', considering current and future trends
Dedicated budget for energy efficiency	<p>As energy management and resource efficiency are closely connected to the sector's decarbonization roadmap, the Group is investing in energy-efficient equipment (e.g. grate coolers and five-stage preheaters with a pre-calciner and new burners). In a similar way, the regular inspections of equipment and timely preventive maintenance, the careful selection of fuels, the use of mineralizers, and process optimization have helped sustain the Group's strong performance in thermal energy consumption.</p> <p>More specifically, with the development and implementation of process diagnostic tools, we monitor and briefly evaluate performance in critical sections of our cement plants on a regular basis.</p> <p>Also in 2022, we put into operation an innovative method of combustion optimization with the use of hydrogen in cement clinker kilns developed by UTIS, a hydrogen technology company at our Zlatna Panega cement plant, and will soon also start applying the injection of small quantities of hydrogen to enhance combustion at our pyro lines in our Kamari cement plant in Greece, Antea cement plant in Albania, Pennsoco cement plant in the USA and Apodi, our joint venture plant in Brazil.</p> <p>One of the key investments towards this goal is the new €26 million pre-calciner unit in the Kamari plant, Greece. Its installation started in late 2021 and was completed in June 2023. Additional investments of ca. €14 million are currently under various stages of development which will further improve the storage, handling, and feeding infrastructure of the Zlatna Panega plant in Bulgaria, the Beni Suef plant in Egypt, and the Thessaloniki plant in Greece.</p> <p>In recent years, the reduction of electrical consumption was achieved through the installation of advanced equipment such as low-energy vertical roller mills, roller presses and dynamic separators, or motors with inverters as well as the replacement of electrostatic precipitators with low-energy-consumption bag filters. In Bulgaria, the plant's decarbonization roadmap was supported by the energy efficiency study carried out by VDZ (Verein Deutscher Zementwerke), the association for the German cement industry.</p> <p>The Group's clinker capacity covered with ISO 50001 or energy audits represents 86% of its total clinker production, exceeding the target of 85% set for 2025.</p>
Dedicated budget for low-carbon product R&D	<p>Our activities on innovation in 2022 continued to remain focused on addressing climate change, implementing advances and know-how generated in previous years to make significant progress on all conventional levers to improve our carbon footprint, namely thermal energy efficiency, fuel switching and reduction of clinker to cement ratio. Referring particularly on clinker reduction through the increased use of supplementary cementitious materials (SCM's), we extended the range of material sources with minimal or zero carbon footprint under evaluation, in all our locations. Applying new concepts in quality assurance and cement making, we continued to offer to our clients cement and concrete products with superior performance at lower associated CO2 emissions.</p> <p>Moreover, in 2022, we furthermore scaled up the production of thermally activated clays, utilizing existing infrastructure with minimum requirements for kiln retrofits. Having achieved production at full scale for clays of varying nature, and continuing long-term testing on concrete durability, we have generated know-how and capacity to offer the activated materials as part of our sustainable low-carbon solutions in the short-term, further enabling the transition to decarbonizing cement and concrete in many of the regions we operate in.</p> <p>At the same time, we continue to advance in innovative ways to improve our carbon footprint, focusing on valorization of industrial byproducts and demolition wastes, enhanced use of recycled concrete and aggregates, materials with improved durability for extended service life, as well as on carbon capture utilization and sequestration, and hydrogen technologies.</p>
Partnering with governments on technology development	<p>In 2022:</p> <ul style="list-style-type: none"> - TITAN hydrogen project entitled H2CEM has been included in the EU "Hy2Use" Important Project of Common European Interest (IPCEI) on hydrogen. - Along with our partners in projects RECODE and CARMOF, we demonstrated carbon capture and utilization for the first time in a cement plant in South Eastern Europe [Greece]. - Along with our partners in the project 3BUILD, we printed the first concrete structure in Greece, using the first ever 3D concrete printer made entirely in Greece, at the TITAN Elefsina plant. <p>H2CEM goal is to enhance the substitution of fossil fuels with green hydrogen and other sustainably sourced fuels, deploying electrolysis, powered by renewable energy sources. Industrial deployment of green hydrogen will lead to reducing CO2 emissions by 160,000 tons/per year (at least 8% per ton of product). With a total budget of 60 million euros, H2CEM is currently the only project in the second IPCEI that concerns the use of hydrogen as a climate-neutral fuel for cement production.</p> <p>In addition, having completed our techno-economic evaluation of several novel decarbonization technologies available at scale, we are planning our next steps for industrial deployment. HERCCULES project was awarded funding by the EU Horizon Europe program in 2022. Project HERCCULES is about demonstrating a first-of-a-kind, integrated and replicable approach to the emerging value chain focused on CCUS in SEE.</p> <p>In 2022 we printed the first concrete structure in Greece, using the first ever 3D concrete printer made entirely in Greece, at the TITAN Elefsina plant. In 2023 we aim to launch new partnerships, in order to accelerate technology development and deployment at selected locations.</p> <p>Our target is to increase annual investment in Research and Innovation to €20m (11.7 in 2022).</p> <p>In July 2023 the EC selected IFESTOS, TITAN Group's groundbreaking Carbon Capture project in Greece, for grant agreement preparation in the context of the third call for large-scale projects under the EU Innovation Fund. IFESTOS, the largest project of its kind in Europe, will advance TITAN's decarbonization journey, expedite the sector's green transition, and substantially contribute to promoting carbon capture technology throughout the continent. IFESTOS was among 8 selected projects from 98 applications in its category across Europe.</p>
Internal price on carbon	<p>In 2021 and previous years, the cost of EU-ETS has been included in calculations related to budget preparation and capital investments for TITAN cement plants in EU, namely Greece and Bulgaria. This consideration has a defining role in the financial assessment of all activities related to manufacturing cement, including production planning and CAPEX decisions, driving investments towards emissions reduction.</p> <p>Based on the ETS experience and considering the potential for improving the environmental footprint of our business, we have introduced carbon pricing in our CapEx policy, evaluating our investments from a CO2 perspective and in particular in terms of how the project contributes to the Group's objective of reducing its CO2 footprint and whether the project is exposed to a risk of increasing CO2 prices.</p>
Employee engagement	<p>In 2021, TITAN continued engaging with its employees and communities on the topic of climate change, primarily through workshops and invited lectures to increase awareness, encourage optimal use of resources and energy, inform on technology development towards carbon mitigation, and organize activities, both business and societal related, towards climate change mitigation and adaptation.</p> <p>Furthermore, localized actions include promotion through internal platforms (internal network, emails, announcement boards) to all employees on the benefits of reduced use of plastics, responsible use of water, safe driving with reduced fuel consumption and carpooling, as well as the optimal use of electrical home-devices.</p>
Other (Sector-wide partnerships)	<p>TITAN participates as an industrial partner in the Innovandi Research Network, the new initiative by the Global Cement & Concrete Association (GCCA), which aims to enhance collaboration on cement and concrete innovation towards addressing climate change. In 2021, TITAN participated in the Innovandi Open Challenge, which aimed to bring together tech start-ups and GCCA member companies to drive innovation and help solve the climate challenge. Out of 6 consortia between start-ups and GCCA members, TITAN participates in the consortia with CarbonOro and SAIPEM, both offering novel carbon capture technologies for industrial deployment.</p> <p>In October 2022, we participated in the Demo Day of the first Open Innovation Challenge by GCCA, where the six consortia between start-ups and GCCA members were presented, aiming to support the scale-up of novel technological solutions, including carbon capture and re-use of captured CO2 in construction. In addition, we worked with other GCCA members to prepare for the 2nd Open Innovation Challenge, which was announced in March 2023 with the theme of "New materials & ingredients for low carbon concrete."</p>

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

Other, please specify (Internal classification of low-carbon products (applicable for cements and masonry cements) according to their gross footprint in comparison to baseline Ordinary Portland Cement embodied gross CO2 performance)

Type of product(s) or service(s)

Cement and concrete	Other, please specify (Valorized fly ash as a low-carbon construction product to be used as a replacement for Portland cement in concrete mixes.)
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Description of product(s) or service(s)

TITAN offers a wide range of cement and concrete products to its customers, to fulfill the growing demand for sustainable construction in all areas of activity. Concerning cement products, a significant part of our portfolio includes products manufactured with clinker content lower than that of Type I or CEM I cements, prepared by valorizing materials such as fly ash, blast furnace slag, and pozzolans. Such products allow for all the benefits associated with concrete use mentioned above while allowing for direct reductions in CO2 emissions, energy consumption, and natural raw material use in cement manufacturing. Also, TITAN offers, through its subsidiary Separation Technologies LLC (ST), valorized fly ash for use in concrete, a product with very low associated carbon emissions, allowing for enhanced emission reduction in the value chain. Moving forward, we will continue to accelerate the introduction of green products (specific CO2 emissions at least 25% less than OPC) to its markets, as per its commitment to increase in its portfolio by 2030, the share of green products by increasing it from 16 to approximately 62% of its total product offering.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Cement and cementitious products with optimized carbon footprint, enabling emissions reductions during manufacturing stage)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Cradle-to-gate

Functional unit used

Cement types and other cementitious products, produced by TITAN Group, are manufactured with variable (low) embodied carbon footprint.

Reference product/service or baseline scenario used

As reference product, we used an Ordinary Portland Cement (OPC), consisting of 95% clinker and 5% gypsum, with fixed embodied carbon footprint.

Life cycle stage(s) covered for the reference product/service or baseline scenario

Cradle-to-gate

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

873466

Explain your calculation of avoided emissions, including any assumptions

Our calculation of avoided gross emissions was based on the difference in emissions (in gross kgs CO2 / t cement) between reference Ordinary Portland Cement and low-carbon cement types (our products with at least less 25% less carbon footprint than baseline OPC) produced in TITAN Group business units. We calculated the gross CO2 emissions of the reference OPC cement by using the world weighted average gross CO2 emissions (in gross kgs CO2 / t clinker) excluding CO2 from on-site power generation for Grey clinker production during 2019, according to the GNR project (Average of GNR figures for EU28, USA, Egypt, and the Middle East weighed against Group production in those geographic areas). We calculated the gross CO2 emissions of the low carbon cement types by using the CO2 emissions for Grey clinker production in each business unit during 2021 and compared them with reference OPC gross carbon footprint.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

11.7

C-CE4.9

(C-CE4.9) Disclose your organization’s best available techniques as a percentage of Portland cement clinker production capacity.

	Total production capacity coverage (%)
4+ cyclone preheating	96.9
Pre-calcliner	65.7

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

10397475

Comment

Refer to the gross Scope 1 emissions in 2020

Scope 2 (location-based)

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

872393

Comment

Scope 2 (market-based)

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

872393

Comment

Location and market based approach is used to calculate Scope 2 emissions

Scope 3 category 1: Purchased goods and services

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

449905

Comment

Emissions related to aggregates and concrete production are not included.

Scope 3 category 2: Capital goods

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Insignificant during the reporting year

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

755354

Comment

Emissions related to aggregates and concrete production are not included.

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

160728

Comment

Emissions related to aggregates and concrete production are not included.

Scope 3 category 5: Waste generated in operations

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Not relevant to cement companies according to sectorial guidance

Scope 3 category 6: Business travel

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

131

Comment

Emissions related to aggregates and concrete production are not included.

Scope 3 category 7: Employee commuting

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

3866

Comment

Emissions related to aggregates and concrete production are not included.

Scope 3 category 8: Upstream leased assets

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

We are not leasing assets related to our production

Scope 3 category 9: Downstream transportation and distribution

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

394278

Comment

Emissions related to aggregates and concrete production are not included.

Scope 3 category 10: Processing of sold products

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

According to sectorial guidance, the use of cement products is wide and in general unknown to the producer, making impossible to determine relevant emissions.

Scope 3 category 11: Use of sold products

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

According to sectorial guidance, the use of cement products is wide and in general unknown to the producer, making impossible to determine relevant emissions.

Scope 3 category 12: End of life treatment of sold products

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

According to sectorial guidance, the use of cement products is wide and in general unknown to the producer, making impossible to determine relevant emissions.

Scope 3 category 13: Downstream leased assets

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Not relevant to cement companies according to sectorial guidance.

Scope 3 category 14: Franchises

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Not relevant to cement companies according to sectorial guidance.

Scope 3 category 15: Investments

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Not relevant to cement companies according to sectorial guidance

Scope 3: Other (upstream)

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Scope 3: Other (downstream)

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

WBCSD: The Cement CO2 and Energy Protocol

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

10202307

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Market-based residual emissions factors are available in specific areas where we operate.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

741282

Scope 2, market-based (if applicable)

281121

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Scope 2, market-based emissions are calculated based on residual emissions factors available in specific areas where we operate.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source of excluded emissions

Reported Scope 1 emissions include TITAN Group clinker, cement, and cementitious production activities. All other activities, like RMCs, aggregates, etc. are not included.

Scope(s) or Scope 3 category(ies)

Scope 1

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

<Not Applicable>

Relevance of market-based Scope 2 emissions from this source

<Not Applicable>

Relevance of Scope 3 emissions from this source

<Not Applicable>

Date of completion of acquisition or merger

<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents

0.7

Estimated percentage of total Scope 3 emissions this excluded source represents

<Not Applicable>

Explain why this source is excluded

These emissions considered non material as they correspond to an estimated 0.7% of the total emissions.

Explain how you estimated the percentage of emissions this excluded source represents

Estimate the relevant emissions for these activities based on the total amount of fuels used, diesel and gasoline mostly, and multiply them with the corresponding default EF.

Source of excluded emissions

Reported Scope 2 emissions include our clinker, cement, and cementitious production activities. All other activities, like RMCs, aggregates, etc. are not included.

Scope(s) or Scope 3 category(ies)

Scope 2 (location-based)

Relevance of Scope 1 emissions from this source

<Not Applicable>

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source

<Not Applicable>

Relevance of Scope 3 emissions from this source

<Not Applicable>

Date of completion of acquisition or merger

<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents

0.4

Estimated percentage of total Scope 3 emissions this excluded source represents

<Not Applicable>

Explain why this source is excluded

These emissions are considered non-material as they correspond to an estimated 0.4% of the total emissions.

Explain how you estimated the percentage of emissions this excluded source represents

Estimate the relevant emissions for these activities based on the total amount of electrical power consumed and multiply them with the corresponding location-specific EF.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

406967

Emissions calculation methodology

Supplier-specific method

Average data method

Other, please specify (Calculation based to the WRI/WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard as adopted by GCCA (former CSI))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

4.3

Please explain

Emission factors stemming from white clinker suppliers as well as Microsoft from the use of Azure services.

Emissions related to aggregates and concrete production are not included.

Capital goods

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

According to sectorial guidance

- cement companies should exclude impacts from annual capital maintenance budgets where they are not investing in new production capacity
- if companies are adding more than 20% of production capacity, they should account for the emissions from the capital spending.

In 2022 none of the above was valid for TITAN and thus Scope 3 emissions relevant to capital goods have not been estimated.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

876204

Emissions calculation methodology

Average data method

Other, please specify (Calculation based to the WRI/WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard as adopted by GCCA (former CSI))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions related to aggregates and concrete production are not included.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

149003

Emissions calculation methodology

Average data method

Other, please specify (Calculation based to the WRI/WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard as adopted by GCCA (former CSI))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions related to aggregates and concrete production are not included.

Waste generated in operations**Evaluation status**

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Based on the TITAN assessment and according to the guidance developed by our sector this category is not considered relevant to our operations.

Business travel**Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

4090

Emissions calculation methodology

Supplier-specific method

Average data method

Other, please specify (Calculation based to the WRI/WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard as adopted by GCCA (former CSI))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

5.7

Please explain

Airplane business traveling emissions stemmed from data from Lufthansa, Swiss, and Aegean airlines.

Emissions related to aggregates and concrete production are not included.

Employee commuting**Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

29638

Emissions calculation methodology

Supplier-specific method

Average data method

Other, please specify (Calculation based to the WRI/WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard as adopted by GCCA (former CSI))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions related to aggregates and concrete production are not included.

Upstream leased assets**Evaluation status**

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

TITAN is not leasing assets related to its cement production operations

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

418962

Emissions calculation methodology

Average data method

Other, please specify (Calculation based to the WRI/WBCSD GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard as adopted by GCCA (former CSI))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions related to aggregates and concrete production are not included.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Cement products are further processed to produce a broad spectrum of products to be used in construction projects. Due to this variety and the lack of detailed information by the intermediate producers, the estimation of relevant emissions is not possible for TITAN. This is in accordance to the guidance developed by the sector.

Use of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

The use of cement products is wide and in general unknown to the producer, making impossible for TITAN to determine relevant emissions. This is in accordance to the guidance developed by the sector.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Due to the durability and inherent characteristics of cement products, the extend of their life cycle varies together with the possible usages at the end of their usable life. In addition, the slitting percentage among the different end-of-lie managing options makes impossible for TITAN , like any other producer, to determine relevant emissions. This is in accordance to the guidance developed by the sector.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

TITAN is not leasing assets related to this category. In addition, this category is considered not relevant in the guidance developed by the sector.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

TITAN is not involved in franchising. Moreover, this category is considered not relevant in the guidance developed by the sector.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

TITAN is not involved in investments. Moreover, this category is considered not relevant in the guidance developed by the sector.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

The category is not considered relevant

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

The category is not considered relevant

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Yes

C6.7a

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	256152	

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0046

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

10507897

Metric denominator

unit total revenue

Metric denominator: Unit total

2282207000

Scope 2 figure used

Please select

% change from previous year

30.1

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption
Other emissions reduction activities

Please explain

Observed reduction is the result of several ongoing initiatives undertaken by the Group to:

- increase utilization of alternative fuels and biomass at all regions of activity and especially in GR, Balkans, and US,
- reduce clinker factor by producing more blended types of cement using fly ash, slag, and other cementitious materials in the US, Greece, and Egypt and
- energy efficiency measures, as well as the increased contribution of renewable energy in the purchased mix.

In addition, our improved marketing and sales strategies resulted in higher revenue due to increased volumes of low-carbon products.

Intensity figure

0.6934

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

10943589

Metric denominator

Other, please specify (per tonne of cementitious product)

Metric denominator: Unit total

15783352

Scope 2 figure used

Location-based

% change from previous year

4.7

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption
Other emissions reduction activities

Please explain

Observed reduction is the result of several ongoing initiatives undertaken by the Group to:

- increase utilization of alternative fuels and biomass at all regions of activity and especially in GR, Balkans, and US
- reduce clinker factor by producing more blended types of cement using fly ash, slag, and other cementitious materials in the US, Greece, and Egypt and
- energy efficiency measures, as well as the increased contribution of renewable energy in the purchased mix.

C-CE6.11

(C-CE6.11) State your organization's Scope 1 and Scope 2 emissions intensities related to cement production activities.

	Gross Scope 1 emissions intensity, metric tons CO2e per metric ton	Net Scope 1 emissions intensity, metric tons CO2e per metric ton	Scope 2, location-based emissions intensity, metric tons CO2e per metric ton
Clinker	0.833	0.7976	0.0605
Cement equivalent	0.6527	0.6249	0.0474
Cementitious products	0.6464	0.6189	0.0469
Low-CO2 materials	0.0047	0.0047	0.0469

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

No

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Greece <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	2470993
United States of America <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	2135383
Southern Europe, Middle East and Africa (SEMEA) <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	5164139
Brazil <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	431792

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Greece	2470993
TITAN America	2135383
Southeastern Europe	2440443
Eastern Mediterranean	2723696
Brazil	431792

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions, metric tons CO2e	Comment
Cement production activities	10202307	9769105	
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Greece <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	204167	204167
United States of America <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	134097	
Southern Europe, Middle East and Africa (SEMEA) <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	395118	76954
Brazil <i>We consider this information, disclosed at a more granular level, to be commercially sensitive.</i>	7900	

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Greece	204167	204167
TITAN America	134097	
Southeastern Europe	218082	76954
Eastern Mediterranean	177036	
Brazil	7900	

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Yes

C7.7a

(C7.7a) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Subsidiary name

TITAN Cementara Kosjerić

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

395310

Scope 2, location-based emissions (metric tons CO2e)

49529

Scope 2, market-based emissions (metric tons CO2e)

49529

Comment

Subsidiary name

ANTEA Cement S.H.A.

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

701790

Scope 2, location-based emissions (metric tons CO2e)

1655

Scope 2, market-based emissions (metric tons CO2e)

Comment

Residual emissions factor is not available in this area of operation, Scope 2 market-based emissions cannot be calculated

Subsidiary name

TITAN Cement S.A.

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

2470993

Scope 2, location-based emissions (metric tons CO2e)

204167

Scope 2, market-based emissions (metric tons CO2e)

204167

Comment

Subsidiary name

Cementarnica Usje AD

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

605135

Scope 2, location-based emissions (metric tons CO2e)

66212

Scope 2, market-based emissions (metric tons CO2e)**Comment**

Subsidiary name

TITAN Cement Egypt

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

2132782

Scope 2, location-based emissions (metric tons CO2e)

137464

Scope 2, market-based emissions (metric tons CO2e)**Comment**

Subsidiary name

TITAN America

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
2135383

Scope 2, location-based emissions (metric tons CO2e)
134097

Scope 2, market-based emissions (metric tons CO2e)

Comment

Subsidiary name
Zlatna Panega Cement AD

Primary activity
Cement

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
388737

Scope 2, location-based emissions (metric tons CO2e)
27425

Scope 2, market-based emissions (metric tons CO2e)
27425

Comment

Subsidiary name
Cimento Apodi (Brazil)

Primary activity
Cement

Select the unique identifier(s) you are able to provide for this subsidiary
Please select

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

431792

Scope 2, location-based emissions (metric tons CO2e)

7900

Scope 2, market-based emissions (metric tons CO2e)

Comment

Subsidiary name

Adocim Cement (turkey)

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

Please select

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

590194

Scope 2, location-based emissions (metric tons CO2e)

39572

Scope 2, market-based emissions (metric tons CO2e)

Comment

Subsidiary name

SharrCem (Kosovo)

Primary activity

Cement

Select the unique identifier(s) you are able to provide for this subsidiary

Please select

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

349471

Scope 2, location-based emissions (metric tons CO2e)

73261

Scope 2, market-based emissions (metric tons CO2e)

Comment

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	741.282	281121	Market-based residual emissions factors are available in specific areas where we operate.
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	47577	Decreased	0.4	Calculated the effect of the use of RES and other renewable biomass
Other emissions reduction activities	477551	Decreased	4.1	Calculated the effect of increased use of alternative fuels, pre-calcined materials, clinker to cement ratio and improvements in energy efficiency
Divestment	0	No change	0	No divestments took place during the reporting period.
Acquisitions	0	No change	0	No acquisitions took place during the reporting period.
Mergers	0	No change	0	No mergers took place during the reporting period.
Change in output	260984	Decreased	2.4	Calculated the effect of the reduced production of cementitious product
Change in methodology	0	No change	0	Methodology was not changed
Change in boundary	0	No change	0	Boundaries remained unchanged
Change in physical operating conditions	0	No change	0	Physical operating conditions remained the same
Unidentified	0	No change	0	
Other	29380	Decreased	0.2	Calculate the effect of reduced specific emissions of the electrical power supplied by the grid

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 15% but less than or equal to 20%

C8.2**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	782390	11391807	12174197
Consumption of purchased or acquired electricity	<Not Applicable>	672636	1133454	1806090
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	1455026	12525260	13980287

C-CE8.2a**(C-CE8.2a) Report your organization's energy consumption totals (excluding feedstocks) for cement production activities in MWh.**

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	12073917
Consumption of purchased or acquired electricity	<Not Applicable>	1715169
Consumption of other purchased or acquired energy (heat, steam and/or cooling)	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	13789086

C8.2b**(C8.2b) Select the applications of your organization's consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

775056

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

EU ETS Sustainable biomass criteria have been applied

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

3324239

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

279559

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

1365529

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

6442791

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Total fuel

Heating value

LHV

Total fuel MWh consumed by the organization

12187174

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

C-CE8.2c

(C-CE8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel for cement production activities.

Sustainable biomass

Heating value

LHV

Total MWh fuel consumed for cement production activities

775056

MWh fuel consumed at the kiln

775056

MWh fuel consumed for the generation of heat that is not used in the kiln

1697

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment

Other biomass

Heating value

LHV

Total MWh fuel consumed for cement production activities

0

MWh fuel consumed at the kiln

0

MWh fuel consumed for the generation of heat that is not used in the kiln

0

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total MWh fuel consumed for cement production activities

0

MWh fuel consumed at the kiln

0

MWh fuel consumed for the generation of heat that is not used in the kiln

0

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment

Coal

Heating value

LHV

Total MWh fuel consumed for cement production activities

3324239

MWh fuel consumed at the kiln

3323652

MWh fuel consumed for the generation of heat that is not used in the kiln

586

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment

Oil

Heating value

LHV

Total MWh fuel consumed for cement production activities

168886

MWh fuel consumed at the kiln

112944

MWh fuel consumed for the generation of heat that is not used in the kiln

55942

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment

Gas**Heating value**

LHV

Total MWh fuel consumed for cement production activities

1364940

MWh fuel consumed at the kiln

1341796

MWh fuel consumed for the generation of heat that is not used in the kiln

23144

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment**Other non-renewable fuels (e.g. non-renewable hydrogen)****Heating value**

LHV

Total MWh fuel consumed for cement production activities

6440796

MWh fuel consumed at the kiln

6395832

MWh fuel consumed for the generation of heat that is not used in the kiln

44963

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment**Total fuel****Heating value**

LHV

Total MWh fuel consumed for cement production activities

12073917

MWh fuel consumed at the kiln

11947583

MWh fuel consumed for the generation of heat that is not used in the kiln

126334

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Comment**C8.2e**

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Country/area of low-carbon energy consumption

Greece

Sourcing method

None (no active purchases of low-carbon electricity, heat, steam or cooling)

Energy carrier

<Not Applicable>

Low-carbon technology type

<Not Applicable>

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

<Not Applicable>

Tracking instrument used

<Not Applicable>

Country/area of origin (generation) of the low-carbon energy or energy attribute

<Not Applicable>

Are you able to report the commissioning or re-powering year of the energy generation facility?

<Not Applicable>

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

<Not Applicable>

Comment

Residual emissions factor is available in this area of operation. Scope 2 market-based emissions are calculated based on this EF.

Country/area of low-carbon energy consumption

Bulgaria

Sourcing method

None (no active purchases of low-carbon electricity, heat, steam or cooling)

Energy carrier

<Not Applicable>

Low-carbon technology type

<Not Applicable>

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

<Not Applicable>

Tracking instrument used

<Not Applicable>

Country/area of origin (generation) of the low-carbon energy or energy attribute

<Not Applicable>

Are you able to report the commissioning or re-powering year of the energy generation facility?

<Not Applicable>

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

<Not Applicable>

Comment

Residual emissions factor is available in this area of operation. Scope 2 market-based emissions are calculated based on this EF.

Country/area of low-carbon energy consumption

Serbia

Sourcing method

None (no active purchases of low-carbon electricity, heat, steam or cooling)

Energy carrier

<Not Applicable>

Low-carbon technology type

<Not Applicable>

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

<Not Applicable>

Tracking instrument used

<Not Applicable>

Country/area of origin (generation) of the low-carbon energy or energy attribute

<Not Applicable>

Are you able to report the commissioning or re-powering year of the energy generation facility?

<Not Applicable>

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

<Not Applicable>

Comment

Residual emissions factor is available in this area of operation. Scope 2 market-based emissions are calculated based on this EF.

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Greece

Consumption of purchased electricity (MWh)

467308

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

467308

Country/area

United States of America

Consumption of purchased electricity (MWh)

385677

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

385677

Country/area

Serbia

Consumption of purchased electricity (MWh)

64850

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

64850

Country/area

North Macedonia

Consumption of purchased electricity (MWh)

92734

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

92734

Country/area

Bulgaria

Consumption of purchased electricity (MWh)

67863

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]
67863

Country/area

Albania

Consumption of purchased electricity (MWh)

103409

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

103409

Country/area

Other, please specify (Kosovo)

Consumption of purchased electricity (MWh)

61316

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

61316

Country/area

Egypt

Consumption of purchased electricity (MWh)

332522

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

332522

Country/area

Turkey

Consumption of purchased electricity (MWh)

87622

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

87622

Country/area

Brazil

Consumption of purchased electricity (MWh)

59516

Consumption of self-generated electricity (MWh)

4495

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

64011

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy usage

Metric value

17.5

Metric numerator

Thermal energy from alternative fuels (GJ)

Metric denominator (intensity metric only)

Total thermal energy consumption (GJ)

% change from previous year

12.4

Direction of change

Increased

Please explain

Index for monitoring the use of alternative fuels in cement production (%)

Description

Energy usage

Metric value

6.1

Metric numerator

Thermal energy from biomass fuels (GJ)

Metric denominator (intensity metric only)

Total thermal energy consumption (GJ)

% change from previous year

28

Direction of change

Increased

Please explain

Index for monitoring the use of biomass (renewable energy) in cement production (%)

Description

Energy usage

Metric value

844

Metric numerator

Total thermal energy consumption (GJ))

Metric denominator (intensity metric only)

Total clinker production (t)

% change from previous year

0.5

Direction of change

Increased

Please explain

Index for monitoring thermal energy efficiency in clinker production (kcal/kg)

Description

Other, please specify (Environmental Management)

Metric value

86.7

Metric numerator

Number of facilities certified with EMS

Metric denominator (intensity metric only)

Total number of facilities (cement production)

% change from previous year

0

Direction of change

No change

Please explain

Index for monitoring plants with certified Environmental Management System (ISO 14001 or similar) (%)

Description

Other, please specify (Energy Management)

Metric value

85.9

Metric numerator

Clinker production covered by an ISO50001 system

Metric denominator (intensity metric only)

Total clinker production (t)

% change from previous year

0.4

Direction of change

Decreased

Please explain

Index for monitoring clinker production covered by an Energy Management System (ISO 50001 or similar) (%).

Description

Other, please specify (Clinker content in cement)

Metric value

78.8

Metric numerator

Clinker used in cement (t)

Metric denominator (intensity metric only)

Total cement production (t)

% change from previous year

3.5

Direction of change

Decreased

Please explain

Index for monitoring clinker content of our cement products (%)

Description

Energy usage

Metric value

110.8

Metric numerator

Total electrical power consumption (kWh)

Metric denominator (intensity metric only)

Total cement production (t)

% change from previous year

3.6

Direction of change

Decreased

Please explain

Index for monitoring electrical energy efficiency in cement production (kWh/t)

Description

Waste

Metric value

54.9

Metric numerator

Clinker production with "Zero Waste to Landfill"

Metric denominator (intensity metric only)

Total clinker production (t)

% change from previous year

2.5

Direction of change

Decreased

Please explain

Steady progress was made to reduce landfill waste. As a result, 54.9% of our total clinker production is now covered by "Zero Waste to Landfill" certification, exceeding the 2025 target of 50.0% .

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	<p>TITAN remained strongly committed to investing in research, development, and innovation activities in 2022, covering the entire value chain of manufacturing and distributing cement, concrete, and cement-based products, with a focus on decarbonization, digitalization, and competitiveness.</p> <p>Our activities in innovation in 2022 addressed all conventional levers to improve our carbon footprint, namely thermal energy efficiency, fuel switching, and reducing the clinker-to-cement ratio. As regards clinker reduction through the increased use of supplementary cementitious materials (SCMs), we extended the range of material sources with a minimal or zero-carbon footprint under evaluation in all our locations. Moreover, we scaled up the production of thermally activated clays, utilizing existing infrastructure. Having achieved full-scale production for clays of varying nature, and by continuing long-term testing on concrete durability, we have generated the know-how and capacity to offer the activated materials as part of our sustainable low-carbon solutions, further enabling the transition to decarbonizing cement and concrete in many of the regions in which we operate.</p> <p>At the same time, we continued to advance in innovative ways to improve our carbon footprint, with an emphasis on carbon capture, utilization and sequestration, and hydrogen technologies.</p> <p>With regards to carbon-capture, utilization and sequestration (CCUS), in 2022 we successfully tested novel carbon-capture and utilization technologies, proceeding with two pilot demonstrations at our Kamari cement plant, in collaboration with our partners in the EU Horizon2020 projects RECODE and CARMOF.</p> <p>In October, we participated in the Demo Day of the first Open Innovation Challenge of the Global Cement and Concrete Association (GCCA), where six consortia of start-ups and GCCA members were present, aiming to support the scale-up of novel technological solutions, including carbon capture and reuse of captured CO2 in construction. Furthermore, the HERCCULES project, which was awarded funding by the EU Horizon Europe program in 2022, seeks to demonstrate a unique, integrated, and replicable approach to the emerging CCUS value chain in Southeastern Europe, identifying synergies between cement and waste-to-energy sectors, which are of critical importance to the circular economy.</p>

C-CE9.6a

(C-CE9.6a) Provide details of your organization's low-carbon investments for cement production activities over the last three years.

Technology area

Alternative low-CO2 cements/binders

Stage of development in the reporting year

Full/commercial-scale demonstration

Average % of total R&D investment over the last 3 years

5

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

5

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Following extensive laboratory and pilot testing, TITAN proceeded with the industrial scale production of novel type clinker, with more than 20% reduced direct emissions compared to conventional clinker. The low carbon clinker was produced in 2018, using reduced amounts of carbon-intensive raw materials and fuels compared to conventional clinker.

The resulting cement exhibits at least 30% reduced associated emissions compared to Type I / CEM I cement at equivalent performance. TITAN is ready to commercialize the said product for structural applications as soon as regulatory and market conditions allow.

In 2022, the Group continued to investigate alternative low-CO2 binders at different locations

Technology area

Fuel switching

Stage of development in the reporting year

Full/commercial-scale demonstration

Average % of total R&D investment over the last 3 years

10

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

10

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

TITAN has committed significant assets and investments in the past years to increase use of alternative fuels and biomass, at all regions of activity. This has resulted in increasing our alternative fuel by 92% since 2017, from 9.1% to 17.5% substitution rate (thermal basis). Similarly, biomass utilization has increased 150% from 2.6% substitution rate to 6.5% (thermal basis).

Technology area

Low clinker cement

Stage of development in the reporting year

Full/commercial-scale demonstration

Average % of total R&D investment over the last 3 years

15

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

15

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

As part of our ongoing commitment to provide durable construction products with improved carbon footprint, we take carefully prepared efforts to reduce clinker content in our cement manufacturing. Typically, this is performed by offering extended range of products, with attention to blended cements that valorize low-carbon cementitious materials, such as fly ash, slag and pozzolans. Dedicated efforts include engagement with customers and regulatory authorities to further implement cement products with lower clinker factor, where applicable.

Switch from CEMIII/A to CEMIII/B in Greece for exports & domestic market.

Type IL increase of sales in USA.

Technology area

Other, please specify ((Digital Transformation, Industry 4.0))

Stage of development in the reporting year

Large scale commercial deployment

Average % of total R&D investment over the last 3 years

15

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

15

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

TITAN is pioneering carefully selected initiatives to accelerate its Digital Transformation and transition to Industry 4.0. In addition to enhancing its supply chain and customer engagement systems, TITAN has implemented novel technologies for process optimization and automation, achieving unprecedented savings in cost and emissions. These efforts have primarily focused on electricity consumption and maintenance, and are currently extended to clinker manufacturing.

In 2022, TITAN leveraged the machine-learning-based failure prediction system to establish CemAI, a new spin-off digital company which offers failure prediction in cement plants as a service to other cement manufacturers.

Technology area

Carbon capture, utilization, and storage (CCUS)

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years

15

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

15

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

With regards to carbon capture, utilization and sequestration (CCUS), in 2022 we successfully tested novel carbon capture and utilization technologies, proceeding with two pilot demonstrations at our Kamari cement plant, in collaboration with our partners in EU Horizon2020 projects RECODE and CARMOF. In specific, three different technologies for carbon capture have been tested at Kamari, namely ionic liquids, membranes and vacuum pressure swing adsorption (VPSA), achieving high purity of captured CO₂ from cement flue gases. In addition, we demonstrated the concept of a CO₂-based circular economy in practice, by reusing the captured CO₂ to produce materials that can be used in the process of cement making.

At the same time, Titan embarked on a journey with the vision to create the first plant in Greece to produce net-zero clinker/cement. In 2022 feasibility studies were conducted together with a detailed study on the downstream value-chain dynamics. The plant is located near a port, targeting to capture CO₂ and transport it to a storage sink in the Mediterranean Sea.

Technology area

Low clinker cement

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years

10

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Following on previous years' activities to identify available material sources, TITAN proceeded with industrial scale production of thermally activated clays (calcined clays), utilizing existing infrastructure and locally available materials. The thermally activated clays demonstrate equivalent to superior performance compared to natural pozzolans, demonstrating strong potential for use as SCM's in cement production at lower clinker factor and associated CO2 emissions.

In 2022, the Group progressed with the deployment of new SCM streams for cement products with low clinker factor, which are planned for launch in 2023.

Technology area

Other, please specify (Hydrogen as fuel enhancer for clinker manufacturing)

Stage of development in the reporting year

Pilot demonstration

Average % of total R&D investment over the last 3 years

10

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

10

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

TITAN continues the successful deployment of hydrogen as kiln fuel enhancer, allowing for heightened replacement of fossil fuels by biomass and waste-derived fuels.

TITAN participation in the EU Hydrogen IPCEI with the project entitled H2CEM (project notified in September 2022) is expected to strengthen efforts towards increased use of green hydrogen for clinker manufacturing at improved carbon footprint. H2CEM project proposal includes industrial deployment of green hydrogen at increased thermal substitution of fossil fuels, in addition to research activities to achieve green hydrogen use as main kiln fuel.

Currently the Group is progressing with engineering studies to deploy increased hydrogen injection at selected locations.

Technology area

Other, please specify (Low-CO2 Concrete)

Stage of development in the reporting year

Full/commercial-scale demonstration

Average % of total R&D investment over the last 3 years

15

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

15

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Following intensive testing at laboratory and pilot scale, TITAN has proceeded with industrial scale production of low-CO2 concrete products, utilizing cements with low clinker factor, optimized use of inorganic fillers and novel chemical admixtures. Specifically, the initiative refers to cement use optimization in concrete ready mix design in Greece and Balkans, transition to using cement products with lower clinker factor in Greece, Serbia and US. Furthermore, we proceeded with pilot-scale testing of novel ultra-high performance concrete, in addition to internal testing program with Recycled Concrete Aggregates (RCA).

Technology area

Other, please specify (Activation of Supplementary Cementitious Materials (SCM's))

Stage of development in the reporting year

Basic academic/theoretical research

Average % of total R&D investment over the last 3 years

5

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**Average % of total R&D investment planned over the next 5 years**

5

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

The Group is actively investigating the potential of enhancing the performance of Supplementary Cementitious Materials (SCM's) for use in cement and concrete, utilizing mechanical and chemical methods. Initial testing results at laboratory scale are very promising in terms of mechanical performance and durability, and are under validation at pilot scale in 2023.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf

Page/ section reference

1. Verification of the GHG emissions (p. 1)
2. Emissions figures scope 1 (p. 1)
3. Start and end date of the reporting (p. 2)
4. Relevant standard (p. 2)
5. Conclusions of the third party (p. 2-3)

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

96

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS - TITAN 2023 CDP Assurance statement_BRAZIL [24 JULY 2023].pdf

Page/ section reference

1. Verification of the GHG emissions (p. 1)
2. Emissions figures scope 1 (p. 1)
3. Start and end date of the reporting (p. 1)
4. Relevant standard (p. 2)
5. Conclusions of the third party (p. 1)

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

4

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf

Page/ section reference

1. Verification of the GHG emissions (p. 1)
2. Emissions figures scope 2 (p. 1)
3. Start and end date of the reporting (p. 2)
4. Relevant standard (p. 2)
5. Conclusions of the third party (p. 2-3)

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

99

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS - TITAN 2023 CDP Assurance statement_BRAZIL [24 JULY 2023].pdf

Page/ section reference

1. Verification of the GHG emissions (p. 1)
2. Emissions figures scope 2 (p. 1)
3. Start and end date of the reporting (p. 1)
4. Relevant standard (p. 1)
5. Conclusions of the third party (p. 1)

Corresponds to 7,900t of Scope 2 emissions from our operations in Brazil.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

1

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

- Scope 3: Purchased goods and services
- Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
- Scope 3: Upstream transportation and distribution
- Scope 3: Business travel
- Scope 3: Employee commuting
- Scope 3: Downstream transportation and distribution

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf

Page/section reference

1. Verification of the GHG emissions (p. 1)
2. Emissions figures scope 3 (p. 1)
3. Start and end date of the reporting (p. 2)
4. Relevant standard (p. 2)
5. Conclusions of the third party (p. 2-3)

In C6.5 we report Scope 3 for all activities (incl. Brazil).

The attached Assurance statement excludes Brazil.

Total Scope 3 emissions (incl. Brazil) is 1,827.4 kt CO2 while total Scope 3 emissions (w/o Brazil) is 1,744.5 kt CO2 thus the proportion of reported emissions verified is 95.5%.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

95.5

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C9. Additional metrics	Energy consumption	ISAE3000/Reasonable assurance	Use of alternative fuels use in cement production is monitored and the relevant index is verified annually by the auditing body that verifies our CO2 emissions covering our integrated and grinding cement facilities at Group level. For 2022, the verification process is completed. TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf
C9. Additional metrics	Energy consumption	ISAE3000/Reasonable assurance	Use of biomass fuels use in cement production is monitored and the relevant index is verified annually by the auditing body that verifies our CO2 emissions covering our integrated and grinding cement facilities at Group level. For 2022, the verification process is completed. TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf
C9. Additional metrics	Energy consumption	ISAE3000/Reasonable assurance	Energy efficiency in use in cement production is monitored and the relevant index is verified annually by the auditing body that verifies our CO2 emissions covering our integrated and grinding cement facilities at Group level. For 2022, the verification process is completed. TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf
C9. Additional metrics	Other, please specify (Energy Management)	ISAE3000/Reasonable assurance	Index for monitoring clinker production covered by an Energy Management System (ISO 50001 or similar) (%) is verified annually by the auditing body that verifies our CO2 emissions covering our integrated and grinding cement facilities at Group level. For 2022, the verification process is completed. TITAN 2022 CDP Assurance Statement_10 July 2023_ISSUED.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.
EU ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS
28

% of Scope 2 emissions covered by the ETS
0

Period start date
January 1 2022

Period end date
December 31 2022

Allowances allocated
3000659

Allowances purchased
0

Verified Scope 1 emissions in metric tons CO2e
2856696

Verified Scope 2 emissions in metric tons CO2e
0

Details of ownership
Facilities we own and operate

Comment
Within TITAN's geographical footprint, a legally binding emissions trading scheme is implemented in the EU (ETS), where the gross Scope 1 emissions of our operations represent 28% of the total Group Scope 1 gross emissions.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

TITAN is committed to the COP21 Paris Agreement goal, which was reaffirmed at COP27 in Sharm el-Sheikh, Egypt, to keep the increase in global average temperature to 1.5°C above pre-industrial levels, and to the UN Sustainable Development Goals 2030. The Group also supports the European Green Deal vision of carbon neutrality by 2050 and endorses the Global Cement and Concrete Association (GCCA) 2050 Climate Ambition, the cement industry's joint effort towards carbon neutrality. Furthermore, TITAN Group participates in the "Business Ambition for 1.5°C" global campaign led by the Science Based Targets initiative (SBTi), joining a number of leading companies worldwide that are committed to keeping global warming to 1.5°C and reaching net-zero emissions by 2050. By signing the "Business Ambition for 1.5°C" commitment letter, TITAN also joined the United Nations Framework Convention on Climate Change (UNFCCC) "Race to Zero" global campaign, which encourages more companies, governments, and financial and educational institutions to come together and act for a healthier planet with zero carbon emissions.

The Group aspires to reduce its carbon emissions by increasing the use of alternative fuels, accelerating its efforts in energy efficiency, developing low-carbon products, and adopting innovative technologies and solutions. Through participation in European and international consortia, as well as through collaborations in R&D projects, TITAN will continue to develop low-carbon cementitious products and pilot carbon capture and utilization technologies in its plants, actively contributing to the industry's ambition for a carbon-neutral future. Decarbonization provides opportunities for innovation and growth, as it requires a profound reshaping of the energy and construction materials sectors.

Within TITAN's geographical footprint, legally binding climate change rules are implemented mainly in the EU (ETS) and in Egypt (CO2 emissions cap), where the gross Scope 1 emission of our operations represent 48.9% of the total Group Scope 1 gross emissions (28% in EU ETS). Under the current regulatory EU framework, TITAN's financial exposure to the ETS is minimized as the Group has no shortfall of ETS emission rights based on its existing operating model. The Group's plants in Greece and Bulgaria, where the EU Emissions Trading Scheme (EU ETS) is in force, are operating in Phase IV (2021-2030 with a long EUAs (EU Allowances) position, which should last for at least five years, thus minimizing the Group's financial exposure. The price of CO₂ rights will become critical for the Group if the regulatory framework changes in such a way that a shortfall is created. TITAN Egypt is closely following the restrictions on fuel-related emissions imposed by the Egyptian government and actions are being taken to minimize our emissions accordingly, to avoid any economic impact.

Furthermore, transition opportunities related to climate change have been identified as follows:

- Innovation: development of new low-carbon products to address new customer preferences
- Energy: sourcing of low-emissions energy that can lead to reduced energy costs
- Cost: improvements in energy efficiency across production and the supply chain, and efficient use of materials, water, and waste management can lead to cost optimization

TITAN Group was among the first three cement companies worldwide to have its CO₂ emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2), but also other indirect emissions of the supply chain (Scope 3). TITAN is committed to reaching net-zero GHG emissions across the value chain by 2050 from a 2020 base year and reducing gross Scope 1, 2 and 3 GHG emissions, covering produced and purchased cement and clinker by 25.1% per tonne of cementitious product sold by 2030 from a 2020 base year.

Our decarbonization roadmap for the achievement of our 2030 target covers all traditional CO₂ emission reduction levers:

1. Reducing clinker content in the final product (clinker-to-cement ratio)
2. Increasing the thermal substitution rate (TSR) of fossil fuels with alternative fuels (AF)
3. Increasing energy efficiency by reducing specific heat consumption through process optimization

We compiled a detailed list of over 90 actions and projects, all of which provide significant cost savings, business growth opportunities as well as decarbonization potential. A total CapEx of €150 million was identified, to be relatively evenly distributed throughout the 10-year period to the end of 2030.

In addition to the CapEx-related projects, the roadmap includes commercial initiatives that do not require any investment.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price

Shadow price

How the price is determined

Alignment with the price of allowances under an Emissions Trading Scheme

Objective(s) for implementing this internal carbon price

Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Identify and seize low-carbon opportunities

Scope(s) covered

Scope 1
Scope 2

Pricing approach used – spatial variance

Differentiated

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

short to medium term (by 2025): 70-100€/EUA
2025-2030: 150€/EUA
post-2030: 200€/EUA

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

70

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

100

Business decision-making processes this internal carbon price is applied to

Capital expenditure
Operations
Product and R&D
Risk management
Opportunity management

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for all decision-making processes

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

TITAN recognizes the importance of market-based carbon pricing in driving decarbonization efforts. By implementing an appropriate carbon price and ensuring long-term predictability, companies are encouraged to invest in the reduction of their carbon emissions.

As part of its efforts to transition to a carbon-neutral future, TITAN is utilizing internal carbon pricing in its long-term strategic planning. This approach allows the company to assess the risks and opportunities arising from the GHG regulatory environment and the transition to net zero. Carbon pricing is a key factor in promoting low-carbon investments in alternative fuels and energy-efficient technologies, which in turn helps to reduce the carbon footprint of its products.

In accordance with its CapEx policy, TITAN utilizes carbon pricing to make informed decisions about investments in relation to climate change. The company evaluates each CapEx project based on its contribution towards the company's decarbonization goals and assesses the risk of its financial returns being impacted by increasing CO2 prices. By doing so, TITAN is ensuring that its investments align with its commitment to a sustainable future.

Decarbonization roadmap +90 initiatives have been judged using an internal shadow price in the project evaluation phase.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers
Yes, our customers/clients
Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number

45.85

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

At TITAN Cement we aim to establish partnership relationships with our strategic Global suppliers in order to innovate and introduce novelty products that will directly/indirectly reduce CO2 emissions. These strategic partnerships will help TITAN reduce its costs but also reduce CO2 emissions and highlight our sustainability standards in the supply chain. We have established these Global partnerships with strategic suppliers for various global purchasing categories like refractories, paper bags, films, cement/admixture additives, and grinding media.

- 1) 45.85% of suppliers by number represents the % of the Global suppliers by number, and not all suppliers are used throughout the TITAN Group.
- 2) 6% of total procurement spend represents % from the Total spend of the whole TITAN Group.

It is implied that TITAN's approach for the identification of Key Suppliers is based on the assessment of (a) criticality for business and combined with sustainability criteria, including climate-related (Environmental sustainability), and (b) the percentage of spend to these Suppliers on Group level and the local level (BUs). In line with this approach, the level of spending is intrinsically related (directly and indirectly) to the CO2 emissions of the Suppliers. Examples are the spend for Suppliers of fuels, refractories, grinding media, and machinery all of which (products) are CO2-intensive, highly specialized for our industry, and thus transported by ship/rail/track over long distances and from multiple geographies.

Impact of engagement, including measures of success

The positive impact of the strategic partnerships with our global suppliers is reflected in many initiatives in the past 3 years:

- 1) introduction of a new product of grinding media (emission factor of 2.4kg CO2/kg of product) with a 40% lower wear rate, which means lower annual consumption of the product in our plants, less usage of natural resources, and fewer emissions; We consider this engagement successful when all EMEA plants switch the sourcing to this new product.
- 2) established a reverse logistics process to collect used grinding media and cement mill liners quantities from US operations and send them back to the manufacturer, hence optimizing natural resources usage and reduction of CO2 in the value chain. We consider this engagement successful when all unusable grinding media and cement mill liners will be sent back to the manufacturer
- 3) the introduction of new types of bags (emission factor of 0.78kg CO2/kg of product) for cement which uses less number of plies and lower weight of paper, hence lowering annual consumption, less usage of natural resources and lower emissions; This is a process of continuous improvement
- 4) introduction of a new type of refractory brick (emission factor of 0.78kg CO2/kg product) (20cm height instead of 22) for annual installation in our cement plants kilns in Egypt, hence, use 10% less product material. We consider this engagement successful when all orders of refractory bricks in Egypt change to the 20cm height
- 5) Develop a reverse logistic process for collecting used refractory material, sending it back to manufacturers, and using this material to produce new types of bricks with reduced carbon impact in the value chain ("%collected/recovered refractory over the 'fresh' used refractory bricks)
- 6) introduced new cement additives which increased the grinding capacity of the equipment, hence using 5-10% less electrical energy in the grinding operations decreasing directly the CO2 impact on our Scope2 emissions
- 7) introduced new cement additives which decreased % of clinker used in the production process of cement, hence decreasing directly the CO2 impact on Scope1 emissions
- 8) optimized the thickness of the films used for cement pallets packaging, hence decreasing the amount of material used for packaging (%reduction of the film thickness compared with the thickness of baseline year).

Comment

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

10

% total procurement spend (direct and indirect)

80

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

TITAN Cement's Procurement Policy holistically incorporates supplier sustainability compliance.

As part of TITAN's Procurement Policy, we expect from all of our suppliers to embrace environmental protection as a high priority and to actively engage in producing products/services in an environmentally friendly manner with the lowest impact on the climate. The suppliers are expected to engage with their own value chain on these matters, raise awareness, educate and provide training on climate change topics and promote activities which are related to reduction of impact to the climate.

TITAN's "key suppliers" represent a significant percentage (>80%) of the total spend of the Group and this is where we are targeting our actions.

For that reason, the specific ESG criteria (developed by TITAN) against which we are evaluating the performance (and compliance) of TITAN's "key suppliers".

TITAN's ESG criteria are divided into five areas for inclusive assessment:

- 1) Compliance with laws, regulations and social customs
- 2) Respect for Human Rights, Labor Rights and promotion of high Health & Safety Standards
- 3) Environmental Protection, Robust Environmental Management Policies & Procedures
- 4) Robust Anti-corruption Management Policies & Procedures
- 5) Transparency

TITAN's ESG standards contain sustainability practices and requirements for our supply chain, including environmental, and in more specific, reporting on climate change issues and risk assessment.

Impact of engagement, including measures of success

TITAN's engagement with the supply chain is reflected in the published "ESG 2025 and beyond" goals where we:

- 1) By collecting Scope 3 emissions impact on the supply chain, we are able to pinpoint the priority areas where we can focus our future initiatives with the final goal of reduction of the GHG emissions of our supply chain which affect climate change.
- 2) target 70% of the "key suppliers" base, to achieve full compliance on TITAN's ESG criteria by 2025.

In 2022, approximately 10% of the suppliers (by number) were identified as key suppliers having high ESG impact representing more than 80% of total annual spending.

Through our ESG evaluation process, we are requesting all our key suppliers to manage their environmental impacts with respect to climate change (and other environmental impacts) and to set objectives and targets to reduce those impacts. Key suppliers must report their progress on an annual basis. We are requesting from our key suppliers action plans to mitigate their climate change-related impacts. The annual progress is gathered through self-assessment questionnaires or through independent qualification platforms (i.e. Avetta) and can be complemented with internal/external fact-finding and/or on-site audits.

Once this data is gathered, the key supplier is assessed to see if they comply with TITAN's ESG standards. We are measuring the percentage of suppliers who qualify under our supplier qualification process and the target is planned to be gradually achieved by 2025. We are using climate change-related information provided by suppliers to identify, prevent, and manage risks within our company.

Engaging with and building of knowhow for the Suppliers is required to ensure the Scope 3 data availability, accuracy, and reliability. Through the process of supplier qualification, TITAN will gradually be in a position to identify specific 'outliers' of Suppliers with extreme (high-end) emissions of CO2, which contributes to TITAN's Scope 3

emissions, and re-design strategic goals on the level of Group Procurement, in line also with the Targets of TITAN, aligned with the SBTi approach and sectoral standards. In that framework, we launched a new project with Microsoft to develop a platform for the monitoring of TITAN Scope 3 emissions in their Sustainability Manager Platform. The Proof of Concept has finished and we are now in the evaluation phase.

Comment

As a result of the campaign, we are engaged with suppliers of different categories even of small volumes of emissions to create awareness e.g. business travel by airplane emissions with Lufthansa, Swiss, and Aegean all accounting to app. 200t. Furthermore, we have a service agreement with Microsoft to monitor CO2 emissions from the business applications we use through the Azure system.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Collaboration & innovation	Run a campaign to encourage innovation to reduce climate change impacts
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% of customers by number

74

% of customer - related Scope 3 emissions as reported in C6.5

26

Please explain the rationale for selecting this group of customers and scope of engagement

TITAN has committed to driving down the CO₂ footprint of its operations and products aspiring to deliver society with carbon-neutral concrete by 2050. We are aiming at offering to our customers the products and services that will shape the sustainable, net-zero world of tomorrow and we have specifically committed to growing the share of green products in our portfolio to over 60% by 2030. In this framework, we are promoting new products with lower carbon emissions throughout our regional presence. In 2022, a number of initiatives were initiated across our business activities in the regions of Greece, South-eastern Europe (SEE), Turkey, and in Egypt which are serving 74% of the Group's customers. All the customers in those regions were targeted for the introduction of the various types of lower carbon cement, replacing higher footprint cement as listed here below:

1. Launch of CEM IV/B (P) 32.5N-SR in Greek market
2. Gradual replacement of CEM II/B-M (V-L) 42.5R with CEM II/B-V 42.5R in North Macedonia;
3. Gradual replacement of CEM II/B-M (V-L) 32.5R with CEM II/C-M (V-L) 32.5R in Serbia;
4. Fully replacement of CEM II/A-LL 42.5R with CEM II/B-LL 42.5R in Albanian domestic cement market;
5. Fully replacement of CEM I 42.5R exports to Italy from Albania with CEM II/A-LL 42.5R;
6. Gradual replacement of CEM II/B-M (P-W-L) 42.5N with CEM IV/B (P-W) 42.5N in Kosovo;
7. Launch of the masonry cement MC 12.5X in Egypt;
8. Production of TYPE IL by TOKAT cement plant in Turkey for exporting to the US.

Shifting to lower carbon cement to this selected market was a good example of optimization of our product mix according to the existing standards and a successful response to the triggers for a low-carbon economy, especially in these specific markets where TITAN operates that were traditionally served by higher carbon types of cement.

Impact of engagement, including measures of success

Measures of success:

The Group has committed to grow the share of green (lower carbon) products in its portfolio to over 60% by 2030. In order to succeed in meeting this target, we are promoting new products with lower carbon emissions throughout our regional presence.

Impact of engagement:

In 2022, we managed to successfully launch several lower-carbon cements in Greece, North Macedonia, Serbia, Albania, Kosovo, Egypt, and Turkey, an initiative that was addressed to all customers in those areas. The engagement was challenging, as these regions were traditionally served by high-carbon cement (especially in Egypt) and it was successful as already in 2022, we managed to grow the share of lower-carbon products in the Group's portfolio to 19.5%, on track to meet our 2030 target to have more than 60% of our product portfolio consisting of green products.

All of the initiatives of introducing and promoting lower-carbon types of cement are mentioned above (1. Launch of CEM IV/B (P) 32.5N-SR in the Greek market; 2. Gradual replacement of CEM II/B-M (V-L) 42.5R with CEM II/B-V 42.5R in North Macedonia; Gradual replacement of CEM II/B-M (V-L) 32.5R with CEM II/C-M (V-L) 32.5R in Serbia; 4. Full replacement of CEM II/A-LL 42.5R with CEM II/B-LL 42.5R in the Albanian domestic cement market has a positive effect on carbon emissions, and directly to climate change. In particular, for instance, the replacement of CEM II/A-LL 42.5R with CEM II/B-LL 42.5R in Albania has an effect of approximately -30 gross kgs CO₂/t of cementitious material.; 5. Fully replacement of CEM I 42.5R exports to Italy from Albania with CEM II/A-LL 42.5R; 6. Gradual replacement of CEM II/B-M (P-W-L) 42.5N with CEM IV/B (P-W) 42.5N in Kosovo; 7. Launch of the masonry cement MC 12.5X in Egypt; 8. Production of TYPE IL by Group Turkish cement plant for exporting to the US.

Type of engagement & Details of engagement

Collaboration & innovation	Run a campaign to encourage innovation to reduce climate change impacts
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% of customers by number

30

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

This initiative is addressed to all TITAN America customers, representing 30% of Group customers. Innovation in cement and concrete requires changes by multiple stakeholders throughout the construction value chain. Owners, architects, engineers, and government agencies are increasingly expecting more resilient and sustainable construction targeting awareness, change customers behavior and standards. Therefore, Titan America must collaborate and engage the entire value chain to identify, develop, and encourage the adoption of the most effective solutions as evaluated on a life-cycle basis.

Impact of engagement, including measures of success

Titan America engages suppliers, customers, and other decision makers in our value chain such as engineers, architects, codes and standards organizations, and owners to improve how our products are manufactured, specified, and used with respect to climate impact and resiliency. Titan America's ready mix division offers GreenCrete®, which provides concrete mixes optimized to meet customer's target reduction in Global Warming Potential (GWP) versus industry baselines, as validated by product-specific, third-party verified Environmental Product Declarations (EPDs). Titan America's two US cement plants were the first in the US to receive TRUE Platinum Zero Waste Certification and ISO 50001 Energy Management Certification. Both plants also received EnergyStar recognition from the US EPA. This marks the 15th consecutive

year for our Roanoke cement plant in Virginia and the 14th consecutive year for our Pennsuco cement plant in Florida. During 2022 Titan America has become the first US-based cement company to have fully converted its cement plants to the production of Type IL Portland-limestone cement, a lower carbon construction material (which offers approximately 10% CO2 reduction over conventional TYPE I/II portland cement). Our partners and customers in the USA continue to champion lower-carbon cement for use in their concrete, and we are happy to deliver it. In 2022, our Separation Technologies division extended our proprietary fly ash beneficiation technology to the first commercial site for reclamation of landfilled fly ash.

Type of engagement & Details of engagement

Education/information sharing	Share information about your products and relevant certification schemes (i.e. Energy STAR)
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% of customers by number

26

% of customer - related Scope 3 emissions as reported in C6.5

26

Please explain the rationale for selecting this group of customers and scope of engagement

As a manufacturer of cementitious products with high embodied CO2, a number of our products (e.g. cements & mortars) have CO2 saving features that can enable our customers to reduce the CO2 footprint in construction projects. For example, TITAN Greece, finalized during the reporting year the publication EPDs of all produced cement, concrete and mortars that represented 26% of total Group production.

The publication of the Cement Environmental Product Declaration (EPD) is an important milestone in the road map, helping to communicate to customers the environmental performance of TITAN Greece cement. Cement and other building materials EPDs will help shape the way the construction industry analyses the environmental impact of buildings and infrastructure works, now and in the future. Our EPDs will also provide a rigorous, science-based framework for driving environmental improvement throughout TITAN's sites and supply chain, offering at the same time advantage to customers wanting to be leaders in the sustainable infrastructure and building industry. EPDs have been also developed and distributed to our customers in our USA market.

EPDs for cement and concrete are verified to conform to the prevailing sub-product category rule (PCR), ISO 21930:2017 as well as ISO 14020:2000 and ISO 14040/44:2006 LCA standards.

Impact of engagement, including measures of success

Increased customer satisfaction. Customers are using the information provided in the EPDs for zero-carbon buildings and green public procurement schemes. During 2022, 30 LEED-EPD-certified construction projects, were completed in Greece through using TITAN Greece EPD-certified cements. Additionally, it provided the relevant technical support to 15 individual clients, representing 35% of bulk cement sales, to issue their own EPD certificates for their ready mix-related portfolio.

Titan Concrete was announced as the first in the state of Florida and only the second in the United States to produce environmental product declarations (EPDs) using the Carbon Leadership Forum's Product Category Rules (PCR).

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

In 2022 TITAN continued its efforts in the direction of reducing CO2 emissions and improve resources efficiency, by collaborating with key stakeholders: Our employees, suppliers and contractors, customers, local communities, competent authorities and regulators, major institutions like academia, experts, environmental NGOs, and societal organizations, on local and regional level, and with contribution to collaborative platforms.

On global level: TITAN is a member of GCCA (Global Cement and Concrete Association) and actively contributed in 2022 to further deployment of GCCA's "Roadmap for net-zero Concrete", which sets out a pathway to help limit global warming to 1.5oC and deliver society with net-zero concrete by 2050, by upgrading the sector CO2 protocol and GCCA/GNR platform for CO2 and energy data reporting by all sector companies, also proposing sector specific guidance for developing SBTi Targets.

On local community level, TITAN promotes open dialogue and collaborative actions with stakeholders by implementing sustainability initiatives in all countries, as mandated by its target to have Community Engagement Plans (CEPs) aligned with material issues for stakeholders and UN SDGs 2030 at 100% of its key operations by 2025.

In 2022 approximately 2,000 TITAN employees were volunteers in 212 initiatives, while 6,000 total participants were mobilized in 10 countries. Our local actions are mostly relevant to areas of Business Model and Innovation, and Environment:

- TITAN's subsidiaries in Albania, North Macedonia and Serbia joined efforts under the regional collaborative project 'Waste2Energy', teamed up by GIZ Albania, the Co-Plan Institute for Habitat Development, Union of producers in Albania (AMU), Resource Center for Environment (REC North Macedonia), Regional Development Agency Zlatibor (RRA), and local authorities. The results of a market research for the region were discussed in a coordinated roundtable meeting with involved stakeholders.

- In Brazil, the Apodi Joint Venture continued efforts with pilot testing under the project "Carnauba" in collaboration with local communities, farmers, and NGOs. The aim is to enable extractive operations of endemic trees, leverage biomass residues and provide alternative income to local producers.

- In Egypt, the Business Unit of TITAN in Alexandria (APCC) TCE-ALX Plant collaborated with the Alexandria University for 'Earth Day 2022' event by Faculty of Science, which addressed the 'Extreme environmental phenomena and challenges to sustainable development'.

- In Greece, beyond the Case Study (below), the Thessaloniki plant intensified efforts for raising awareness among 125 employees and their families, jointly with local NGOs and local municipality, and supported a voluntary action for collecting 600kg of plastic caps in exchange of donating wheelchairs to citizens in need.

- In Kosovo and North Macedonia, TITAN's plants initiated environmental protection programs with participation of teachers and children in local municipality schools, supporting trees' planting and restoration/greening of areas. Such programs may be scaled up for engaging hundreds or even thousands of kids.

- In the USA, TITAN America supported a project of Concrete Canoe design competition and race in Florida, by promoting special-use concrete products, and invited, coached, and provided technical consulting for construction of two-person canoes, in collaboration with student teams of Central Florida University.

Case study: *Complementing the Group's climate risk assessment with local studies*

Following the awareness due to multiple wildfires in Greece in 2021, and after a historic heatwave that affected the country, with temperatures reaching 47°C, TITAN intensified efforts in close and direct collaboration with the national and local government and relevant authorities, and the Paul and Alexandra Canellopoulos Foundation. TITAN contributed not only to the immediate response to the repercussions of the wildfires, but also to the long-term rehabilitation and prevention effort, as well as the preparation and mitigation of the effects of the climate crisis.

Within the scope of better understanding and preparing for the effects of the climate crisis, TITAN Greece collaborated with the National and Kapodistrian University of Athens and the National Observatory of Athens for the assessment and prioritization of

natural and climate risks for the period 2026-2045 that may potentially impact its facilities and the local communities where it operates in Greece. This was presented to the competent local

authorities so as to engage with them towards climate change adaptation.

The study assessed flooding, mudflow and landslide risk with the use of advanced models and statistic tools, the risk of wildfires using indexes on "Burn probability", "Flame length" and "Fireline intensity", and forecasted climate risks for the period 2026-2045 by applying special climatic models.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Setting a science-based emissions reduction target

Description of this climate related requirement

TITAN's engagement with the supply chain is represented in the published "ESG 2025 and beyond" goals where we:

1) collect and monitor Scope 3 impact on the supplier base;

By collecting Scope 3 emissions, we can pinpoint the priority areas where we can focus our future initiatives with the final goal of reduction of the greenhouse gas emissions of our supply chain which affect climate change.

2) target 70% of the key suppliers base, to achieve full compliance with TITAN's ESG criteria by 2025.

Key suppliers have a high ESG impact representing more than 80% of total annual spending.

Through our ESG evaluation process, we are requesting all our key suppliers to manage their environmental impacts concerning climate change and to set objectives and targets to reduce those impacts. We are asking our key suppliers, for action plans to mitigate their climate change-related impacts and we follow up with our suppliers to set science-based targets e.g. DnV, FLS, MONDI, Heleniq IQ, ThyssenKrupp, SIKA, etc.

The annual progress is gathered through self-assessment questionnaires or independent qualification platforms (i.e. Avetta) and with internal/external fact-finding and/or on-site audits.

Once this data is gathered, the key supplier is assessed to see if they comply with TITAN's ESG standards.

We are measuring the percentage of suppliers who comply.

The target is planned to be gradually achieved by 2025.

% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

36

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Second-party verification

Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement

Retain and engage

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

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TITAN Group is an active participant in global collaborative initiatives and international organizations, aiming to contribute to the shaping of the sustainable world of tomorrow.

We are working with the Global Cement and Concrete Association (GCCA) and the GCCA Research Network Innovandi to implement the 2050 Roadmap to Net Zero "Concrete Future", aiming to bring forth novel technological solutions.

We were one of the first three cement companies in the world to have our greenhouse gas (GHG) emissions reduction targets approved by the Science Based Targets Initiative (SBTi) as being in line with the 1.5OC pathway and among the first group of companies to receive approval for net-zero targets.

We joined the "Business Ambition for 1.5°C" commitment to keep global warming under 1.5°C and achieve net-zero emissions by 2050.

By signing the Business Ambition for 1.5°C, we also joined the United Nations Framework Convention on Climate Change (UNFCCC) "Race to Zero" global campaign, which encourages more companies, governments, and financial and educational institutions to come together and act for a healthier planet with zero carbon emissions.

We collaborate with the world's most influential businesses within the nonprofit "We Mean Business Coalition" to ensure that the world economy is on track to avoid dangerous climate change, while delivering sustainable growth and prosperity for all.

<https://www.titan.gr/en/newsroom/news-and-press-releases/new?item=1584>

TITAN_Cement_Group_IAR_2022_EN.pdf

Press_Release_TITAN_joins_Business_Ambition_for_1.5_degrees_Race_to_Zero_eng.pdf

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

TITAN has reported on its financial and sustainability performance annually for more than 30 years, demonstrating its commitment to transparency and to keeping stakeholders regularly and comprehensively informed and engaged. We report on all issues that are material to our stakeholders and measure our performance against key sustainability performance indicators, according to internationally recognized reporting standards. At the same time, the Group encourages, standardizes and supports its business units in publishing annual sustainability reports (or integrated reports), increasing our transparency and engagement with our stakeholders at local level. In 2022, 8 business units published their annual sustainability/integrated reports.

Also, as Titan Cement International S.A. is an EU-based company, we are registered in the EU Transparency Registry (TR ID number: 447669443576-63), thus ensuring and promoting transparent and ethical interest representation. The transparency register is a database that lists organizations that try to influence the policy implementation process of EU institutions. In this way, the register allows for public scrutiny, giving citizens and other interest groups the possibility to track lobbying activities.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU ETS Directive and CBAM (Carbon Border Adjustment Mechanism) Regulation

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Climate-related reporting

Climate-related targets

Climate transition plans

Emissions – CO2

International agreement related to climate change mitigation

Policy, law, or regulation geographic coverage

Regional

Country/area/region the policy, law, or regulation applies to

Bulgaria

Greece

Your organization's position on the policy, law, or regulation

Support with major exceptions

Description of engagement with policy makers

In 2022 we engaged with EC through our European Association CEMBUREAU and our National Competent Authorities and MEPs through our national associations. Furthermore, we met as TITAN Cement Group with Greece's Permanent Representation in Brussels and EC officers in DG Climate to explain to them the risk of losing competitiveness of the exports and the need for a level playing field with third countries producers in the global markets.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Although an agreement between the EU Parliament and Council has been reached for the revision of the ETS Directive and the implementation of the Carbon Border Adjustment Mechanism (CBAM) to protect against "carbon leakage", there is no specific provision for exports and the overall effectiveness of such mechanism is still uncertain until 2026. The Group closely monitors relevant regulatory developments and takes proactive measures to mitigate potential negative consequences.

The ETS Directive Revision and CBAM Regulation need to address the issue and have an export solution in place, before implementation. The issue is of top priority for Greece and other cement exporting countries of the European South e.g. Spain. If such as solution is not found, then the European Parliament's solution (maintaining free allowances for exports) should be accepted as the only feasible alternative. No solution for exports is not a viable option.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

Exports, which are critical for the cement industry of the South EU, remain an open issue.

A solution for exports must be agreed upon and implemented before the CBAM implementation commences.

The negative impact of the allocation phase-out without a solution for exports has been estimated by IOBE (2022) to reach € 5.5 billion in GDP and 87.000 job losses by 2030, exceeding the losses of the lignite phase-out in Greece. In the meantime, non-EU countries, such as Turkey, Algeria etc. are increasing exports and export capacity (such as new installations in Turkey of 5 million t coming on stream in the next 12-24 months), clearly taking advantage of the carbon leakage and displacing EU exports to 3d countries.

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (Global Cement & Concrete Association)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

TITAN is committed to the COP21 Paris Agreement goal, which was reaffirmed at COP27 in Sharm el-Sheikh, Egypt, to keep the increase in global average temperature to 1.5°C above pre-industrial levels, and to the UN Sustainable Development Goals 2030. The Group also supports the European Green Deal vision of carbon neutrality by 2050 and endorses the Global Cement and Concrete Association (GCCA) 2050 Climate Ambition, the cement industry's joint effort towards carbon neutrality. Furthermore, TITAN Group participates in the "Business Ambition for 1.5°C" global campaign led by the Science Based Targets initiative (SBTi), joining a number of leading companies worldwide that are committed to keeping global warming to 1.5°C and reaching net-zero emissions by 2050. By signing the "Business Ambition for 1.5°C" commitment letter, TITAN also joined the United Nations Framework Convention on Climate Change (UNFCCC) "Race to Zero" global campaign, which encourages more companies, governments, and financial and educational institutions to come together and act for a healthier planet with zero carbon emissions.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

28830

Describe the aim of your organization's funding

We are working with the Global Cement and Concrete Association (GCCA) and the GCCA Research Network Innovandi to implement the 2050 Roadmap to Net Zero "Concrete Future", aiming to bring forth novel technological solutions.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

CEMBUREAU: The European Cement Association

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The Carbon Border Adjustment Mechanism regulation approved at the end of 2022 is critical to equalize carbon costs between cement producers in the EU27 and importers to the EU27. Together with the EU Emission Trading Scheme (ETS), the CBAM is critical to create a regulatory framework in which carbon neutrality investments can be delivered. We however regret that the CBAM agreement does not foresee any structural solution for European exports.

Going forward, CEMBUREAU believes that a strong focus should be put on CBAM's implementation. For instance, national authorities and customs departments will play an important role. Sampling, analysing, monitoring, reporting, etc. all have to be set up for the correct implementation of the CBAM regulation, and to avoid circumventions and fraud.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

50000

Describe the aim of your organization's funding

CEMBUREAU welcomes the revised ETS and the incentives it provides for the decarbonisation of energy-intensive sectors, for instance through an ambitious innovation fund. However, it is clear that the ETS' increased ambition will be challenging and put considerable pressure on ETS sectors. From this perspective, the implementation of a fully watertight CBAM is essential to create a fair level playing field on CO2 costs for EU27 and external producers of cement.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

European Roundtable of Industrialists (ERT)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The European Round Table for Industry (ERT) has a long history of promoting competitiveness and prosperity in Europe. We share the same belief that European cooperation between industry, policymakers, and all stakeholders is essential to strengthening Europe's place in the world.

We are committed to creating a strong, open, and competitive Europe through which we promote sustainable growth, jobs, and prosperity for all.

We publish reports and papers, which we share with the public, decision-makers in European and global institutions, and national governments. They are the basis for discussion and action. We advocate policies that underpin the values of freedom, tolerance, equality, and openness.

Consistently, we participate in the Energy Transition and Climate Change Working Group of the European Round Table for Industry to address the triggers for a successful transition towards a low-carbon economy, and thus contribute to achieving the goals of the Paris Climate Agreement.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

52500

Describe the aim of your organization's funding

As we continue to experience extreme weather conditions and rising sea levels globally, governments and society are coming to terms with the reality of climate change and the potential political, security, and economic implications. The Energy Transition and Climate Change Working Group addresses the triggers for a successful transition towards a low-carbon economy and thus contributes to achieving the goals of the Paris Climate Agreement.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization’s response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

Intergrated_Annual_Report_2022_EN.pdf

Page/Section reference

On page 39 of TITAN's Integrated Annual Report 2022, we present how we address the TCFD Recommendations. Also, more information on the methodology used and the risks and opportunities can be found on pages 98-99 of the Report (ESG Performance Review). On pages 28-29, we present our performance vs our targets and our targets, validated by SBTi as consistent with 1.5oC scenario. On pages 84-87, we present a detailed 2022 update on our response to climate change and GHG emissions performance.

Content elements

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics
- Other, please specify (case studies)

Comment

The 2022 TITAN Cement Group Integrated Annual Report (IAR 2022) has been prepared in accordance with Belgian law, the 2020 Belgian Code on Corporate Governance, the Non-Financial Reporting Directive 2014/95/EU, the European Taxonomy Regulation (EU) 2020/852, the International Financial Reporting Standards (IFRS) and the International Integrated Reporting Council (IIRC) principles for integrated reporting. Other reporting frameworks followed by TITAN Cement Group include the UN Sustainable Development Goals (SDGs) 2030, the UN Global Compact Communication on Progress Guidelines, the Charter and Guidelines of the Global Cement and Concrete Association (GCCA), the Standards of the Sustainability Accounting Standards Board (SASB), the CDP questionnaires for climate change and water security, and the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations. The separate and consolidated financial statements of the IAR 2022 were audited by PwC. The ESG performance overview and statements were independently verified by ERM Certification and Verification Services (ERM CVS), in accordance with the Charter and Guidelines of the Global Cement and Concrete Association (GCCA).

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

Environmental collaborative framework, initiative and/or commitment	Describe your organization’s role within each framework, initiative and/or commitment
Row 1 Business Ambition for 1.5C UN Global Compact We Mean Business Other, please specify (Global Cement & Concrete Association)	TITAN is committed to the COP21 Paris Agreement goal, which was reaffirmed at COP27 in Sharm el-Sheikh, Egypt, to keep the increase in global average temperature to 1.5°C above pre-industrial levels, and to the UN Sustainable Development Goals 2030. The Group also supports the European Green Deal vision of carbon neutrality by 2050 and endorses the Global Cement and Concrete Association (GCCA) 2050 Climate Ambition, the cement industry’s joint effort towards carbon neutrality. Furthermore, TITAN Group participates in the “Business Ambition for 1.5°C” global campaign led by the Science Based Targets initiative (SBTi), joining a number of leading companies worldwide that are committed to keeping global warming to 1.5°C and reaching net-zero emissions by 2050. By signing the “Business Ambition for 1.5°C” commitment letter, TITAN also joined the United Nations Framework Convention on Climate Change (UNFCC) “Race to Zero” global campaign, which encourages more companies, governments, and financial and educational institutions to come together and act for a healthier planet with zero carbon emission. We collaborate with the world’s most influential businesses within the nonprofit “We Mean Business Coalition” to ensure that the world economy is on track to avoid dangerous climate change, while delivering sustainable growth and prosperity for all. TITAN Group was among the first three cement companies worldwide to have its CO2 emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2), but also other indirect emissions of the supply chain (Scope 3).

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	<p>Sustainability is embedded firmly in our strategy through the regular review of all issues that are material to our stakeholders, the definition of appropriate actions and targets, and the adherence to environmental, social and governance policies. According to the Group Materiality Assessment, biodiversity is incorporated in the focus area of positive local impact and thus it is embedded in the Group's sustainability agenda.</p> <p>The Board of Directors has the overall responsibility to set the company's sustainability strategy and make policy decisions. The Board has appointed the responsibility of monitoring the implementation of the Group's Sustainability strategy to the Group Executive Committee-Sustainability (ExCo Sustainability Committee), a Board-level Committee, which is composed of certain executive directors of the Company, the heads of the main Group regions and other senior managers of the Group. 6 out of 11 members of the ExCom-Sustainability are also executive members of the Board:</p> <ul style="list-style-type: none"> - the Chair of the ExCom-Sustainability and the Deputy Chair - the convener of the Committee who is the Chief Sustainability Officer - the Group Executive Director Europe and - the Group Chief Operating Officer and the Group CFO. <p>The purpose of this Committee is to strengthen and support the management's long-term approach to addressing environmental, social, and governance issues and to monitor the implementation of the sustainability strategy set by the Board. The Board's Audit and Risk Committee receives on a regular basis management reports on the key risks to the business and the steps taken to mitigate such risks (including biodiversity-related risks) and to consider whether the significant risks faced by the Group are being properly identified, evaluated, and managed.</p> <p>Examples of decisions made by ExCo Sustainability and the Board of Directors include:</p> <ul style="list-style-type: none"> - The launching of the new Environmental, Social, and Governance (ESG) targets for 2025 and beyond, including updated and more ambitious targets for biodiversity and quarries rehabilitation i.e. 100% of sites with quarry rehabilitation plans, rehabilitation of 25% of affected areas and management plans at 100% of high biodiversity value areas. - Climate-related risks and opportunities assessment according to the TCFD. The exercise covered physical risks such as extreme temperatures, flooding, and water stress, as well as carbon pricing, reputational risks, and product portfolio adaptation. 	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	<p>Commitment to respect legally designated protected areas</p> <p>Other, please specify (Commitment to implement Biodiversity Management Plans in all sites of high biodiversity value)</p>	SDG

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

IBAT – Integrated Biodiversity Assessment Tool

Natural Capital Protocol

Other, please specify (Environmental Impact Assessment Studies; site-specific Biodiversity Studies)

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

The impacts of our operations on local biodiversity and ecosystems are assessed through the process of the Environmental Impact Assessment that is undertaken for all our quarries at local level and on regular basis, depending on the legislation requirements in each country. Based on this assessment, appropriate action plans are developed and implemented for the mitigation of impacts (e.g. Quarries Rehabilitation Plans, Biodiversity Management Plans, etc.). One more tool that is used for identifying potential biodiversity impacts of our operations is the Integrated Biodiversity Assessment Tool (IBAT). This tool, along with regional or national designations, provides the information to determine areas of high biodiversity value, and this in turn leads to the execution of more specialized studies to further assess the potential impacts on biodiversity. In the near future, we are planning to make use of the concept and methodology of the Natural Capital Protocol, the SBTN, and the TNFD, to better assess our impacts and dependencies on biodiversity.

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

Other, please specify (Net Impact Assessment (NIA))

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

Zlatna Panega plant and its quarries are located in an area of high biodiversity value. In 2021, we implemented two projects, in cooperation with national experts, to map out a science-based path for the rehabilitation of the ecosystems in the quarry. We conducted a Net Impact Assessment (NIA) based on the GCCA Guidelines for Quarry Rehabilitation and Biodiversity Management. This will allow us to amend, improve or come up with additional respective biodiversity rehabilitation measures in the area, such as increasing afforestation areas, diversifying the hornbeam with other species characteristic for the area, but also adding hairy oak plantations, supporting thus some threatened and vulnerable species developing on the periphery of such forests.

We also carried out an ecosystem services assessment, which follows the Toolkit for Ecosystem Service Site-based Assessment (TESSA), developed by Birdlife International in partnership with the University of Cambridge and Anglia Ruskin University. This assessment helped us to better evaluate the possible future uses of the rehabilitated area. As part of the TESSA study, we conducted two public consultations with the local community and other important stakeholders.

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

Yes

C15.4a

(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (Area for protection of freshwater ecosystems (wetlands) on local level)

Country/area

United States of America

Name of the biodiversity-sensitive area

Lake Belt Plan - Littoral Shelf Areas

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design

Scheduling

Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

As long as the area is mined a lake is created. The quarry pits are subject to conservation easements after completion of mining operations. The easements may allow for activities consistent with water management and environmental protection (e.g., restoration/creation of mitigation areas, recreation and wellfield protection). After completion of mining a Littoral Marsh must be created along all lake perimeters, whereas invasive species are removed to allow for re-colonization by native species and increase foraging habitats for wading birds.

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (Area for preservation of terrestrial ecosystems on local level)

Country/area

United States of America

Name of the biodiversity-sensitive area

Conservation area for gopher tortoise

Proximity

Adjacent

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design
Scheduling
Operational controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Operations would have to encroach on the burrows of Gopher Tortoise, which is an endangered species in Florida State. The quarry had to plan and implement, beforehand, the relocation of tortoises in a nearby and safe, 'no-mining' preservation area.

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (Area for protection of freshwater ecosystems (wetlands) on local level)

Country/area

United States of America

Name of the biodiversity-sensitive area

Corkscrew Wetlands

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design
Scheduling
Physical controls
Operational controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Wetlands to be maintained through mining sequence; areas to mitigate with specific grading needs; requirements of water flow control by the end of mining sequence. Creation of littoral shelves with planting of specific native species.

Classification of biodiversity -sensitive area

Natura 2000 network of protected areas

Country/area

Bulgaria

Name of the biodiversity-sensitive area

Karlukovo

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design

Scheduling
Abatement controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Biodiversity Management Plan in place with specific objectives and targets, actions and responsibilities, stakeholders engagement and monitoring plan. Actions include: rehabilitation of depleted benches with planting of native species, relocation and re-plantation of specific orchid species.

Classification of biodiversity -sensitive area

Natura 2000 network of protected areas

Country/area

Greece

Name of the biodiversity-sensitive area

Oros Paiko, Stena Apsalou Kai Moglenitsas

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design
Scheduling
Operational controls
Abatement controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Biodiversity Management Plan in place with specific objectives and targets, actions and responsibilities, stakeholders engagement and monitoring plan. Actions include: rehabilitation of depleted benches with planting of native species, relocation and protection measures for tortoise species.

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (Area for protection of terrestrial ecosystems on national level (Wildlife Refuge))

Country/area

Greece

Name of the biodiversity-sensitive area

Profitis Ilias (Angelanon-Prinou-Alfa)

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design
Scheduling
Operational controls
Abatement controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Biodiversity Management Plan in place with specific objectives and targets, actions and responsibilities, stakeholders engagement and monitoring plan. Actions include:

- Rehabilitation with the use of endemic species
 - Protection of species with the installation of appropriate boxes for bats
 - Restriction of mining and limitation of grazing at certain habitats
 - Public awareness and dissemination of the project's results (development of a comprehensive educational package for schools visiting the site)
 - Fully functional educational package, including signboards, leaflets, presentations and educational path
 - All staff responsible for the implementation of the environmental awareness through appropriate training
-

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (Area for protection of terrestrial ecosystems on national level (Wildlife Refuge))

Country/area

Greece

Name of the biodiversity-sensitive area

Diapori Dimou Lerou Nisou Lerou

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design
Scheduling
Operational controls
Abatement controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Biodiversity Management Plan in place with specific objectives and targets, actions and responsibilities, stakeholders engagement and monitoring plan. Actions include:

- Soil improvement, corrosion inhibition, habitat expansion with increase in surface of total phriganic vegetation on site
- Construction of watering sites to provide water for wild life
- Fencing to prevent grazing
- Preservation of rocky coastline

Classification of biodiversity -sensitive area

Other biodiversity sensitive area, please specify (Area for protection of terrestrial ecosystems on national level (Wildlife Refuge))

Country/area

Greece

Name of the biodiversity-sensitive area

Petalas (Amfilochias-Kechrinias-Papadatou-Stanou)

Proximity

Overlap

Briefly describe your organization's activities in the reporting year located in or near to the selected area

Mining activities - extraction of raw materials

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area

Project design
Scheduling
Operational controls
Abatement controls
Restoration

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Biodiversity Management Plan in place with specific objectives and targets, actions and responsibilities, stakeholders engagement and monitoring plan. Actions include:

- Raise awareness of local communities to avoid overgrazing and logging of old-growth oak trees and wild pears
- Construction of watering sites to provide water for wild horses
- Thickening of oak trees forest
- Fencing of rehabilitated area to protect from grazing

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Species management Education & awareness

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	State and benefit indicators Response indicators

C15.7

(C15.7) Have you published information about your organization’s response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
Other, please specify (TITAN Cement Group Integrated Annual Report (IAR 2022))	Governance Impacts on biodiversity Details on biodiversity indicators Risks and opportunities Biodiversity strategy	Integrated Annual Report page 29: Indicators/Targets page 80: Risks pages 92-93: Strategy/Risks/Opportunities/Targets/Indicators/Management page 100-101: Management/Targets page 121: Indicators/Performance page 124: Impacts assessment Intergrated_Annual_Report_2022_EN.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

In July 2023, the EU Commission has selected IFESTOS, TITAN Group’s groundbreaking Carbon Capture project in Greece, for grant agreement preparation in the context of the third call for large-scale projects under the EU Innovation Fund. IFESTOS, the largest project of its kind in Europe, will advance TITAN's decarbonization journey, expedite the sector’s green transition, and substantially contribute to promoting carbon capture technology throughout the continent. IFESTOS is a cornerstone of the Group’s accelerated decarbonization roadmap to net-zero. In line with EU climate policy, together with our technology partners, in TITAN we are pioneering an innovative carbon capture project, the largest in Europe, with a highly positive impact. The Group has strong capabilities and is committed to executing this project fast over the next few years, decarbonizing production and offering green growth opportunities to our customers in Europe. We embrace the opportunity to widely share our knowledge and expertise and promote green cements as modern materials for infrastructure and housing .

IFESTOS involves the construction of a large-scale carbon capture facility at TITAN’s flagship Kamari plant near Athens. This facility will enable the decarbonization of cement manufacturing and the offering of innovative green building materials in our markets, the demand for which is increasing as a major lever in creating a sustainable, climate-friendly built environment. TITAN will be producing about 3 million t/year of zero-carbon cement to serve the growing needs for green construction in the metropolitan area of Athens and beyond. Under an innovative setup, Kamari will be retrofitted with state-of-the-art carbon capture technologies. Subject to regulation and permits, this can result in an absolute annual GHG emissions avoidance of more than 1.9 million tons of CO2, making Kamari one of the largest carbon capture facilities in Europe. The project is intended to be part of an eco-system of projects to combine carbon capture points with transportation and storage infrastructure. TITAN has already signed MoUs with potential partners and will continue maturing the project. The EU Innovation Fund is one of the world’s largest funding programs for the deployment of net-zero and innovative technologies. It aims to bring to the market solutions to decarbonize European industry and support its transition to climate neutrality. In this year’s third call for large-scale projects, in which the EU will invest over €3.6 billion, IFESTOS was among 8 selected projects from 98 applications in its category across Europe.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Board Executive Director, and Chief Sustainability & Innovation Officer (CSO) of the Group	Director on board

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Building on our strong sustainability performance over the years, in 2021 we launched our Environmental, Social and Governance (ESG) targets for 2025 and beyond, focusing on four areas, **defined as material by our stakeholders: De-carbonization and digitalization; Growth-enabling work environment; Positive local impact; and Responsible sourcing, all underpinned by good governance, transparency and business ethics.** In TITAN, we aim to transform our business, focusing on resilience, innovation and building solutions to serve our customers more efficiently as we move towards a carbon-neutral, digital world. We empower business ecosystems to incorporate sustainability considerations in their business decisions and daily behaviors, while using natural resources responsibly. One of our disclosed targets is to have 70% of key suppliers meeting TITAN ESG supplier standards by 2025. We have in place a sustainable supply chain roadmap and Group procurement policy and in 2022, we published a new group code of conduct for procurement and ESG criteria to evaluate key suppliers. In 2022, TITAN Group was among the first three cement companies worldwide to have its CO2 emissions reduction targets validated by the Science Based Targets initiative (SBTi) as consistent with the reductions required to keep global warming to 1.5°C, in accordance with the goals of the Paris Agreement. With its new science-based targets, TITAN seeks to address not only direct (Scope 1) emissions and indirect emissions from the generation of purchased electricity (Scope 2), but also other indirect emissions of the supply chain (Scope 3) In 2022, TITAN successfully measured and reported its supply chain (Scope 3) emissions that were verified by an independent assurance provider. In the Customer Experience domain, TITAN is working on digitalizing the way the Group interacts with its customers to improve customer experience and create a more efficient commercial operating model. TITAN is enhancing its commercial transformation which, together with digitalization, decarbonization and operational excellence, will allow the Group to address the evolving needs of customers in each market and segment, and offer more innovative, decarbonized and cost-effective materials and solutions To that end, as of 2022, TITAN has deployed digital customer applications in business units in the USA and Southeastern Europe and in some import businesses in Europe. In 2022, TITAN continued its Group Procurement transformation program by further improving the sourcing efficiency of the global categories while focusing more extensively on supply chain sustainability topics. Supplier landscape optimization, building and maintaining long-term supplier relationships and a holistic review of supplier performance (including sustainability) are key elements for enabling "total cost" optimization, transparency of value creation and propagation of sustainability practices in the supply chain. The Group has been closely working in accordance with its Sustainable Supply Chain Roadmap, which outlines specific milestones and deadlines to ensure that the responsible sourcing targets (as part of TITAN's ESG Targets) are achieved in a timely manner: "We will ensure that 70% of our key suppliers meet TITAN ESG supplier standards by 2025." TITAN's Group Procurement Policy is the cornerstone of this initiative, which sets forth the fundamental principles governing Procurement in the Group, incorporating upgraded procurement practices that enhance the Group's commitment to being a socially responsible, ethical and environmentally sensitive business organization. During 2022, TITAN updated its Group Code of Conduct for Procurement to bring it in line with the Group Procurement Policy. The Group Code of Conduct was published on TITAN's website and distributed to all business units for further dissemination to supply chain constituents. Additionally, the process of expanding the respective ESG criteria to be used for the evaluation of TITAN's "key suppliers" was completed in 2022. The newly developed ESG criteria are in line with the GCCA guidelines for Sustainable Supply Chain management and the 10 UN Global Compact principles. TITAN defines key suppliers as critical suppliers (according to GCCA Guidance for Sustainable Supply Chain management) with a meaningful level of spend (i.e. 80%) for each TITAN business unit. Key suppliers for the global categories and the individual business units have been identified and a process of ESG evaluation has been initiated. With that in mind, the Group has expanded its cooperation with Avetta, the leading provider of supply chain risk management (SCRM) software to include a full ESG evaluation cycle of the identified "key suppliers" by using the "Avetta One" solution. TITAN's efforts to engage with our suppliers on climate change have been recognized by CDP with an "A-" score in the CDP Supplier Engagement rating, which is in the Leadership band of CDP.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	2282200000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member
CNH Industrial NV

Scope of emissions
Scope 1

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
<Not Applicable>

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
0

Uncertainty (±%)
0

Major sources of emissions

Verified
Please select

Allocation method
Please select

Market value or quantity of goods/services supplied to the requesting member

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Please note that we don't have any project in place/collaboration with CNH Industrials, thus the above values are zero.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

No, since the requesting company does not belong to our customer base

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	<p>TITAN monitors and reports Scope 1,2 and 3 emissions which are also independently verified. Our new CO2 targets, which have been validated by the SBTi, include targets on:</p> <ul style="list-style-type: none"> • specific Scope 3 emissions related to purchased cement and clinker (part of Category 1) • absolute Scope 3 emissions related to the sales of fossil fuels (part of Category 11) - specifically the sale of grinded solid fuel, a minor activity in a limited number of countries. <p>Moreover, since last year, TITAN Group has been working on enabling its suppliers to make a decarbonization commitment. TITAN Group is continuously refining its Scope 3 reporting approach, identifying gaps and exploring alternative ways to increase accuracy while establishing the required management systems needed in consultation with all business units. Also, we have already starting using data obtained from suppliers or value chain partners.</p> <p>The on-demand availability of CO2 emissions allocated at the product/customer level is rather challenging, since the customer base is too large and diverse. We address this demand through the EPDs we publish for our products which offer an inclusive information not restricted to but including also the CO2-impact of our products. In 2022, new EPDs were developed for innovative ready-mix products such as the Antaeus HPC and Dry Mortars, as well as for limestone aggregates for the Xirorama quarry, the first aggregates quarry with an EPD in Europe. Third-party verified EPDs for all cement and key concrete products produced in Greece have been published and updated as needed since 2021, marking our product and process excellence and supplying customers with the information they need for sustainable construction. Cement and other building materials' EPDs will help shape the way the construction industry analyses the environmental impact of buildings and infrastructure works, now and in the future. Our EPDs will also provide a rigorous, science-based framework for driving environmental improvement throughout TITAN's sites and supply chain, offering at the same time an advantage to customers wanting to be leaders in the sustainable infrastructure and building industry. Customers are already using the information provided in the EPDs for zero carbon buildings and green public procurement schemes.</p>

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

developing a methodology based on Scope3 emissions for products and transportation and market based emission factors. Also, collecting data from our suppliers , which we have already started implementing and intend to expand across more value chain partners

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

CNH Industrial NV

Group type of project

Other, please specify (Not relevant)

Type of project

Please select

Emissions targeted

Please select

Estimated timeframe for carbon reductions to be realized

Please select

Estimated lifetime CO2e savings

Estimated payback

Please select

Details of proposal

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms