

# Second-Party Opinion

## TITAN Cement Group Sustainability-Linked Financing Framework



### Evaluation Summary

Sustainalytics is of the opinion that the TITAN Cement Group Sustainability-Linked Financing Framework aligns with the Sustainability-Linked Bond Principles 2023. This assessment is based on the following:

- Selection of Key Performance Indicators** The TITAN Cement Group Sustainability-Linked Financing Framework defines one KPI: Gross scope 1 GHG emissions intensity (in kgCO<sub>2</sub>/tonne of cementitious product). Sustainalytics considers the KPI chosen to be very strong based on its relevance, scope of applicability and comparability to external benchmarks.
- Calibration of Sustainability Performance Targets** Sustainalytics considers the SPTs to be aligned with TITAN's sustainability strategy. Sustainalytics further considers both SPT 1 and SPT 2 to be highly ambitious based on comparisons with past performance, peer performance and science-based trajectories.
- Bond Characteristics** TITAN will link the financial characteristics of the sustainability-linked notes to achievement of the SPTs, namely a step-up in coupon rate.
- Reporting** TITAN commits to report on an annual basis on its performance on the KPI in its Integrated Annual Report which will be published on its website. TITAN also commits to disclose relevant information that may materially affect the KPI, such as any recalculations or updates to the Company's sustainability strategy or ESG governance. The reporting commitments are aligned with the Sustainability-Linked Bond Principles 2023.
- Verification** TITAN commits to have external limited or reasonable assurance conducted against each SPT for the KPI at least once a year, which is aligned with the Sustainability-Linked Bond Principles 2023.

<b>Evaluation Date</b>	May 1, 2024
<b>Issuer Location</b>	Brussels, Belgium

The SPTs contribute to the following SDGs:



### Overview of KPIs and SPTs

KPI	Baseline	Strength of KPI	SPT	Ambitiousness of SPT
Gross scope 1 GHG emissions intensity (kgCO <sub>2</sub> /tonne of cementitious product)	2020	Very Strong	SPT 1: Reduction of scope 1 (gross) CO <sub>2</sub> emissions by 18.4% per tonne of cementitious product by 2028 from a 2020 baseline year	Highly Ambitious
			SPT 2: Reduction of scope 1 (gross) CO <sub>2</sub> emissions by 22.48% per tonne of cementitious product by 2030 from a 2020 baseline year	Highly Ambitious

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## Scope of Work and Limitations

TITAN Cement Group has engaged Sustainalytics to review the TITAN Cement Group Sustainability-Linked Financing Framework dated May 2024 (the “Framework”) and provide an opinion on its alignment with the Sustainability-Linked Bond Principles 2023 (SLBP).<sup>1</sup>

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent<sup>2</sup> opinion on the alignment of the Framework with the SLBP, as administered by ICMA.

As part of this engagement, Sustainalytics exchanged information with various members of TITAN’s management team to understand the sustainability impact of their business processes and SPTs, as well as the reporting and verification processes of aspects of the Framework. TITAN representatives have confirmed that:

- (1) They understand it is the sole responsibility of issuer to ensure that the information provided is complete, accurate and up to date;
- (2) They have provided Sustainalytics with all relevant information; and
- (3) Any provided material information has been duly disclosed in a timely manner.

Sustainalytics also reviewed relevant public documents and non-public information. This document contains Sustainalytics’ opinion of the Framework and should be read in conjunction with the Framework. Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and TITAN. Sustainalytics’ Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics’ Second-Party Opinion addresses the anticipated SPTs of KPIs but does not measure KPI performance.<sup>3</sup> The measurement and reporting of the KPIs is the responsibility of the issuer. No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that TITAN has made available to Sustainalytics for the purpose of this Second-Party Opinion.

The Second-Party Opinion is valid for issuances aligned with the Framework until one of the following occurs:

- (1) A material change to the external benchmarks<sup>4</sup> against which targets were set;
- (2) A material corporate action (such as a material M&A or change in business activity) that has a bearing on the achievement of the SPTs or the materiality of the KPIs.

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<sup>1</sup> The Sustainability-Linked Bond Principles are administered by the International Capital Market Association and are available at: <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp/>

<sup>2</sup> When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

<sup>3</sup> Sustainalytics has provided an opinion based on the understanding that the financial characteristics of instruments issued under this Framework will be tied to the achievement of SPTs corresponding to each of the KPIs included in the Framework.

<sup>4</sup> Benchmarks refers to science-based benchmarks.

## Introduction

TITAN Cement Group (“TITAN” or the “Company”) is engaged in the production, transportation and distribution of cement and building materials. As of 2023, the Company employs more than 5,700 people and is present in over 25 countries through a network of more than 240 operational sites across four continents.<sup>5</sup> TITAN also operates a joint venture in Brazil.

TITAN has developed the Framework under which it and its subsidiaries intend to issue sustainability-linked notes. TITAN engaged Sustainalytics to review the Framework and provide a Second-Party Opinion on the Framework’s alignment with the Sustainability-Linked Bond Principles 2023 (SLBP). The Framework will be published in a separate document.<sup>6</sup>

The financial characteristics of the sustainability-linked notes will be tied to achievement of sustainability performance targets (SPTs) for one key performance indicator (KPI): scope 1 GHG emissions intensity measured in kgCO<sub>2</sub>/tonne of cementitious product.

TITAN has defined the following KPIs and SPTs:

**Table 1: KPI Definitions**

KPI	Definition
Gross scope 1 GHG emissions intensity (kgCO <sub>2</sub> /tonne of cementitious product)	KPI 1 is a measure of the gross direct CO <sub>2</sub> emissions intensity (scope 1) expressed as kgCO <sub>2</sub> emitted per tonne of cementitious product. Gross emissions are defined as total direct CO <sub>2</sub> emissions (excluding on-site power generation) from cement plants, including CO <sub>2</sub> from fossil waste but excluding CO <sub>2</sub> from biomass.  Cementitious product refers to clinker, cement and cement substitutes produced by the Company, <sup>7</sup> including production by a joint venture in Brazil.

**Table 2: SPTs and Past Performance**

KPI	2020 (baseline)	2021	2022	2023	SPT 2028	SPT 2030
KPI 1: Gross scope 1 GHG emissions intensity (kgCO <sub>2</sub> /tonne of cementitious product)	694.7	678.2	646.4	636.9	566.9	536.3
SPT 1 and 2: Percentage reduction of scope 1 (gross) CO <sub>2</sub> emissions per tonne of cementitious product	-	2.4%	7.0%	8.3%	18.4%	22.8%

## Sustainalytics’ Opinion

### Section 1: Sustainalytics’ Opinion on the Alignment of the TITAN Cement Group Sustainability-Linked Financing Framework with the Sustainability-Linked Bond Principles

Sustainalytics is of the opinion that the TITAN Cement Group Sustainability-Linked Financing Framework aligns with the five core components of the Sustainability-Linked Bond Principles 2023.

<sup>5</sup> TITAN, “Integrated Annual Report 2023”, at: [https://www.TITAN-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.TITAN-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>6</sup> The TITAN Sustainability-Linked Financing Framework is available on TITAN’s website at: <https://www.titan-cement.com/sustainability/>

<sup>7</sup> Science Based Targets initiative, “Cement Science Based Target Setting Guidance Version 1.0”, (2022), at: <https://sciencebasedtargets.org/resources/files/SBTi-Cement-Guidance.pdf>



## Selection of Key Performance Indicators

### Relevance and Materiality of KPIs

In its assessment of materiality and relevance, Sustainalytics considers: i) whether an indicator speaks to a material impact of the issuer's business on environmental or social issues, and ii) to what extent the KPI is applicable.

Sustainalytics considers the KPI to be material and relevant, given that:

- Cement manufacturing is one of the most carbon-intensive industries, accounting for approximately 7% of total CO<sub>2</sub> emissions released globally.<sup>8</sup> These emissions primarily result from energy use, which accounts for 40% of the GHG emissions of the cement industry; while the remaining 60% of the industry's GHG emissions are related to chemical reactions during the calcination process.<sup>9</sup>
- The Sustainability Accounting Standards Board (SASB) identifies GHG emissions as a relevant sustainability issue for the construction materials industry, particularly cement production. According to SASB, energy efficiency, use of alternative and renewable fuels, carbon sequestration and clinker substitution are strategies for reducing GHG emissions in the production of construction materials.<sup>10</sup> The KPI defined by TITAN in the Framework therefore aligns with the SASB's recommended performance metrics in the construction materials subindustry.
- Sustainalytics' ESG Risk Rating Report identifies Carbon - Own Operations<sup>11</sup> as a material ESG issue for companies in the Construction Materials industry and a key area of risk mitigation given the high energy intensity of the industry.

In assessing the KPI's scope of applicability, Sustainalytics analyzes the scope of impact of the KPI on the issuer's overall operations.

In terms of applicability, Sustainalytics notes that of TITAN's total gross annual CO<sub>2</sub> emissions, nearly 80% are directly related to TITAN's own operations and production processes (scope 1 emissions). Given this, Sustainalytics considers KPI 1 to have a high scope of applicability.

Based on the above, Sustainalytics considers KPI 1 to be material, relevant and highly applicable.

### KPI Characteristics

In its assessment of the KPI's characteristics, Sustainalytics considers: i) whether it uses a clear and consistent methodology, ii) whether it follows an externally recognized definition, iii) whether the KPI is a direct measure of the issuer's performance on the material environmental or social issue, and iv) if applicable, whether the methodology can be benchmarked against an external contextual benchmark.<sup>12</sup>

#### KPI 1: Gross scope 1 GHG emissions intensity (kgCO<sub>2</sub>/tonne of cementitious product)

Sustainalytics considers TITAN's definition and methodology for calculating KPI 1 to be clear and consistent with the Company's historical disclosures on scope 1 GHG emissions. Sustainalytics considers the KPI to be directly linked to the Company's performance regarding material impact, given that the KPI measures CO<sub>2</sub> emissions, which is a material environmental issue for the cement industry.

<sup>8</sup> International Energy Agency, "Energy Technology Perspectives 2020", at: [https://iea.blob.core.windows.net/assets/7f8aed40-89af-4348-be19-c8a67df0b9ea/Energy\\_Technology\\_Perspectives\\_2020\\_PDF.pdf](https://iea.blob.core.windows.net/assets/7f8aed40-89af-4348-be19-c8a67df0b9ea/Energy_Technology_Perspectives_2020_PDF.pdf)

<sup>9</sup> Global Efficiency Intelligence, "Global Cement Industry's GHG Emissions", (2021) at: <https://www.globalefficiencyintel.com/new-blog/2021/global-cement-industry-ghg-emissions>

<sup>10</sup> SASB, "Materiality Finder – SCIS Industry – Construction Materials", at: [https://sasb.org/standards/materiality-finder/find/?company\[0\]=MXP225612300](https://sasb.org/standards/materiality-finder/find/?company[0]=MXP225612300)

<sup>11</sup> Sustainalytics' Carbon – Own Operations MEI refers to a company's management of risks related to its own operational energy use and scope 1 and scope 2 GHG emissions. It also includes parts of scope 3 GHG emissions.

<sup>12</sup> External contextual benchmarks provide guidance on alignment with ecological system boundaries. This criterion is not applied to social KPIs or impact areas for which such contextual benchmarks are not available.

In addition, KPI 1 follows an externally recognised methodology, namely the Global Cement and Concrete Association’s (GCCA) Sustainability Guidelines,<sup>13</sup> which provides technical guidelines and applicable protocols for a harmonized methodology for the calculation, monitoring and reporting of CO<sub>2</sub> emissions from cement production.

Sustainalytics further notes that KPI 1 supports benchmarking against external emissions reduction trajectories such as those developed by the Science Based Targets initiative (SBTi)<sup>14</sup> and the Transition Pathway Initiative.<sup>15</sup>

**Overall Assessment**

Sustainalytics considers KPI 1 to be very strong, given that: i) it speaks to relevant and material environmental issues for cement manufacturers; ii) it follows a recognized, clear and consistent methodology; iii) it lends itself to benchmarking against external contextual benchmarks; and iv) it has a high scope of applicability.

KPI	Strength of KPI			
KPI 1: Gross scope 1 GHG emissions intensity (kgCO <sub>2</sub> /tonne of cementitious product)	Not Aligned	Adequate	Strong	Very strong



**Calibration of Sustainability Performance Targets**

**Alignment with TITAN’s Sustainability Strategy**

TITAN has set the following SPTs for its KPI:

- SPT 1: Reduction of scope 1 (gross) CO<sub>2</sub> emissions by 18.4% per tonne of cementitious product by 2028 from a 2020 baseline year
- SPT 2: Reduction of scope 1 (gross) CO<sub>2</sub> emissions by 22.48% per tonne of cementitious product by 2030 from a 2020 baseline year

Sustainalytics considers the SPTs to be aligned with TITAN’s sustainability strategy. Please refer to Section 2 for an analysis of the credibility of TITAN’s sustainability strategy.

- TITAN has established an ESG strategy built on four pillars, one of which includes its 2030 decarbonization roadmap for reducing GHG emissions from cement production and achieving carbon neutrality by 2050. The 2030 roadmap identifies four levers for achieving decarbonization: i) increased use of alternative fuels; ii) substitution of clinker with cementitious materials that have lower carbon intensity; iii) increased energy efficiency; and iv) optimization of the raw materials mix.<sup>16</sup>

**Strategy to Achieve the SPT**

TITAN intends to achieve the SPT through the following strategy:<sup>17</sup>

- Accelerated use of clinker content that allows for a lower carbon footprint of the cement produced and reduces the consumption of energy and natural raw materials in the cement manufacturing process. As of 2023, lower-carbon cement products (which have a carbon footprint at least 25% lower than the typical cement, known as ordinary Portland cement (OPC)), comprised 23.4% of TITAN’s total portfolio of cement and cementitious products. This share is expected to reach 44.5% and 62% by 2027 and 2030, respectively.
- Increased use of alternative fuels in cement production, or thermal substitution rate, that results in both lower emissions and conservation of natural resources.

<sup>13</sup> GCCA, “GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing”, (2019), at: [https://gccassociation.org/wp-content/uploads/2023/03/GCCA\\_Guidelines\\_CO2Emissions\\_v04\\_AMEND.pdf](https://gccassociation.org/wp-content/uploads/2023/03/GCCA_Guidelines_CO2Emissions_v04_AMEND.pdf)

<sup>14</sup> Science Based Targets initiative, Corporate Manual, (2021) at: <https://sciencebasedtargets.org/resources/files/SBTi-Corporate-Manual.pdf>

<sup>15</sup> Transition Pathway Initiative – Cement, <https://www.transitionpathwayinitiative.org/sectors/cement>

<sup>16</sup> TITAN, “Integrated Annual Report 2023”, at: [https://www.titan-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.titan-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>17</sup> As per information provided in the Framework.

- Improving the energy consumption and resource efficiency by reducing heat consumption in the cement manufacturing process through investments in energy efficient equipment, such as grate coolers and five-stage preheaters with calciner and new burners. Additionally, regular inspections and preventative maintenance are also expected to help improve thermal energy consumption and energy efficiency.

**Ambitiousness, Baseline and Benchmarks**

To determine the ambitiousness of the SPTs, Sustainalytics considers: i) whether the SPTs go beyond a business-as-usual trajectory; ii) how the SPTs compare to targets set by peers; and iii) how the SPTs compare with science.<sup>18</sup>

TITAN has set 2020 as the baseline year for all SPTs, aligning it with its SBTi-validated targets.

Sustainalytics was able to use the following benchmarks to assess ambitiousness: past performance, peer performance and alignment with the science-based decarbonization trajectories.

Regarding past performance, TITAN achieved a reduction of 8.3% in its scope 1 (gross) CO<sub>2</sub> emissions per tonne of cementitious product between 2020 and 2023, which represents an annual average reduction of 2.8% during this period. Sustainalytics notes that SPT 1 and SPT 2 represent an average annual reduction in scope 1 (gross) CO<sub>2</sub> emissions per tonne of cementitious product of 2.5% by both 2028 and 2030, relative to the 2020 baseline. Given this, Sustainalytics considers the established SPTs to be aligned with the Company’s past performance.

Analyzing the performance of 11 of TITAN’s peers in the cement industry or building materials sub-sector, Sustainalytics notes that the targets set by TITAN are more ambitious than similar CO<sub>2</sub> emissions reduction targets set by four of its peers, while the others have not set any quantitative targets. Therefore, Sustainalytics is of the opinion that the SPTs are above peer performance.

Regarding science-based decarbonization trajectories, TITAN has confirmed to Sustainalytics that its gross scope 1 target for 2030 has been validated by the SBTi as aligned with a 1.5°C scenario. This validated scope 1 reduction target corresponds to SPT 1 and SPT 2, which are aligned with the SBTi trajectory.

**Overall Assessment**

Sustainalytics considers both SPTs to align with TITAN’s sustainability strategy and to be highly ambitious given that they are: i) aligned with past performance; ii) exceed the targets set out by peers; and iii) are aligned with a science-based decarbonization trajectory.

SPT	Ambitiousness of SPT			
SPT 1: Reduction of scope 1 (gross) CO <sub>2</sub> emissions by 18.4% per tonne of cementitious product by 2028 from a 2020 baseline year	Not Aligned	Moderately Ambitious	Ambitious	Highly Ambitious
SPT 2: Reduction of scope 1 (gross) CO <sub>2</sub> emissions by 22.8% per tonne of cementitious product by 2030 from a 2020 baseline year	Not Aligned	Moderately Ambitious	Ambitious	Highly Ambitious



**Bond Characteristics**

TITAN has confirmed that the financial characteristics of the sustainability-linked notes will be tied to achievement of the SPTs. TITAN will incur a step-up in the coupon rate if a trigger event occurs, such as: i) the SPTs not being achieved by the respective observation dates; ii) the reporting does not meet the requirements set out in the Framework; and iii) verification of progress towards the SPT has not been provided and made public on or prior to the respective reporting end year.

TITAN may recalculate and adjust the SPTs or the baselines due to change in: i) the structure of the Company due to acquisitions, demerger, restructuring, consolidation, spin off or divestures; ii) any applicable laws, regulations or guidelines related to the Company’s business; and iii) change in the KPI calculation methodology used by the industry.

<sup>18</sup> We refer here to contextual benchmarks that indicate the alignment of targets with ecosystem boundaries.

Sustainalytics notes that details on the specific trigger events and pricing adjustments will be specified in the transaction documentation for each instrument issued under the Framework. The documentation will also disclose any exceptional events that substantially impact the calculation of SPTs or scope of KPI.



### Reporting

TITAN commits to report on its performance on the KPI on an annual basis in its Integrated Annual Report which will be published on its website. The Company further commits to publish an SPT statement to share information related to achievement of the SPTs in their respective observation years.

TITAN will also disclose on its website any relevant information that may enable investors to monitor the level of ambition of the SPTs and assess the KPIs, such as updates to the Company's sustainability strategy or ESG governance. This is aligned with the SLBP.



### Verification

TITAN commits to have an external verifier provide limited or reasonable assurance against each SPT for each KPI at least once a year, which is aligned with the SLBP on verification.

## Section 2: Assessment of TITAN's Sustainability Strategy

### Credibility of TITAN's sustainability and transition strategy

Sustainalytics recognizes that proceeds from the sustainability-linked notes issued under the Framework would be for general corporate purposes or any other purpose specified in the relevant documentation of the instruments, which may include the payment of debt that supports TITAN's transition to low-carbon operations. In this context, Sustainalytics has assessed TITAN's climate transition strategy below:

#### Climate Transition Governance

TITAN demonstrates a commitment to sustainability by focusing on the following four pillars as part of its sustainability and growth-oriented strategy: i) decarbonization and digitalization of its portfolio; ii) creating a growth-enabling work environment; iii) creating positive local impact; and iv) responsible sourcing.<sup>19</sup>

Two governance bodies at TITAN, the Board of Directors and the Group Executive Committee oversee the implementation of TITAN's sustainability strategy. Additionally, the Group Executive Committee has setup an ExCo Sustainability Committee comprising Executive Directors of TITAN, the Group ESG Performance Director and other senior managers of TITAN. The ExCo Sustainability Committee is convened by TITAN's Chief Sustainability Officer to implement TITAN's sustainability strategy, monitor progress versus ESG targets, and propose corrective actions on focus areas where needed. The committee is also tasked with reviewing TITAN's materiality assessment. TITAN follows a dynamic process for conducting its materiality assessment which is conducted at regular intervals to identify TITAN's material issues in consultation with stakeholders from all business units. Further, TITAN reports on its climate transition strategy and initiatives in its integrated annual report, which is based on the reporting guidelines of the following disclosure platforms: i) the Global Reporting Initiative; ii) the Sustainability Accounting Standards Board; and iii) the Taskforce on Climate-Related Financial Disclosures.<sup>20</sup>

#### Emission Reduction Targets

In 2021, TITAN established ESG targets including its goal of achieving carbon neutrality by 2050. TITAN's emissions reduction targets under its decarbonization roadmap include reducing gross scope 1, 2 and 3 GHG emissions by 25.1% per tonne of cementitious product sold by 2030, from a 2020 base year. This target includes the reduction of gross scope 1 GHG emissions and gross scope 2 GHG emissions by 22.8% and 58.1% per tonne of cementitious product, respectively. Further, TITAN has also committed to reduce its absolute scope 3 GHG emissions from the use of sold fossil fuels by 80.9% by 2030, versus a 2020 baseline. To achieve its decarbonization and climate transition goals, TITAN has committed to an estimated capex investments of EUR 100 to 150 million over the ten-year period between 2020 and 2030. These investments are aimed at improving the thermal

<sup>19</sup> TITAN, "Integrated Annual Report 2023", at: [https://www.titan-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.titan-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>20</sup> Ibid.



substitution rate, increasing the use of alternative fuels and enhancing the storage, handling and feeding infrastructure across various plants.<sup>21</sup> TITAN's 2030 decarbonization targets for reducing scope 1 and 2 GHG emissions are validated by the SBTi as being in line with a 1.5°C scenario.<sup>22</sup>

Additionally, TITAN also aims to mitigate the impact of its operations on local biodiversity and ecosystems, such as the impact of raw materials extraction. To this end, TITAN has established targets for rehabilitating 25% of areas affected by its operations and ensuring 100% of its sites have quarry rehabilitation and biodiversity management plans. TITAN also commits to ensuring that two-thirds of its spend is directed towards local suppliers to benefit local communities.<sup>23</sup> Furthermore, to improve resource efficiency and support circularity, TITAN has committed to responsible sourcing such that 70% of its water demand is met by recycled water. Additionally, TITAN is also targeting to have 85% of its production covered by ISO 50001 or energy audits, 50% of production certified to Zero Waste to Landfill, and 70% of key suppliers that comply with TITAN's ESG supplier standards.<sup>24</sup>

### Decarbonization Pathway and Implementation Plan

TITAN's decarbonization roadmap focuses on the following areas:

1. Increasing the use of alternative fuels
2. Accelerating its efforts in energy efficiency
3. Developing low-carbon or green products
4. Adopting innovative technologies and solutions.

To achieve its decarbonization targets, TITAN has identified a capex plan of between EUR 100 million and EUR 150 million until 2030, covering more than 90 actions or projects. As of 2023, 28.3% of the capex plan, or EUR 63.4 million have been invested in environmentally sustainable activities as aligned with the EU Taxonomy.<sup>25</sup>

During 2023, TITAN enhanced its initiatives to increase the use of alternative fuels through investments in alternative fuel processing facilities or in cement plants' feeding and combustion infrastructure, resulting in the TITAN's share of alternative fuels used in cement production improving to 19.6% in 2023 versus 17.5% in 2022.<sup>26</sup> TITAN's initiatives to improve energy and resource efficiency are focused on investments in energy efficient equipment, such as grate coolers, five-stage pre-heaters with a pre-calciner, new burners, etc. Additionally, regular inspections, development of diagnostic tools and preventative maintenance are key levers deployed by TITAN to improve energy and resource efficiency. Another key lever in TITAN's decarbonization roadmap includes increasing the share of low-carbon or green products, which focuses on manufacturing cement products with a clinker content that is significantly lower than that of ordinary Portland cement (OPC). To this end, TITAN has made several investments to expand the share of new lower-carbon cements in Albania, Serbia, Kosovo, Egypt and Turkey.

Sustainalytics considers TITAN's climate transition strategy as credible and supportive of its short- and medium-term decarbonization targets and long-term decarbonization goal.

### TITAN's Environmental and Social Risk Management

Overall, Sustainalytics notes that the ESG risk management of TITAN is considered average. Sustainalytics also acknowledges that TITAN's defined targets are impactful, but achieving the SPTs bears environmental and social risks. Sustainalytics' ESG Risk Rating methodology identifies Carbon – Own Operations, Resource Use, and E&S Impact of Products and Services as material ESG issues for TITAN.

Sustainalytics comments below on TITAN's ability to mitigate such potential risks.

- **Carbon – Own Operations:** to address risks pertaining to carbon emissions, TITAN has set near-and long-term reduction targets that include: i) reducing gross scope 1, 2 and 3 GHG emissions from its operations and value chain by 25.1% per tonne of cementitious product sold by 2030, compared to 2020 base year; and ii) achieving net-zero GHG emissions across the value chain by 2050.<sup>27</sup> TITAN's near-term target has been validated by the SBTi to be aligned with its 1.5°C decarbonization pathway.<sup>28</sup> In 2018, TITAN established its Environmental Policy to reduce the adverse environmental

<sup>21</sup> TITAN, "Integrated Annual Report 2023", at: [https://www.titan-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.titan-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>22</sup> TITAN, "Science Based Targets initiative (SBTi) validates TITAN Cement Group's CO<sub>2</sub> reduction targets", (2021), at: [https://www.titan-cement.com/wp-content/uploads/2021/07/15072021\\_SBTi\\_validates\\_TITAN\\_Cement\\_Groups\\_CO2\\_reduction\\_targets\\_EN.pdf](https://www.titan-cement.com/wp-content/uploads/2021/07/15072021_SBTi_validates_TITAN_Cement_Groups_CO2_reduction_targets_EN.pdf)

<sup>23</sup> TITAN, "Integrated Annual Report 2023", at: [https://www.TITAN-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.TITAN-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

<sup>27</sup> TITAN, "Integrated Annual Report 2023", at: [https://www.TITAN-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.TITAN-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>28</sup> TITAN, "Science Based Targets initiative (SBTi) validates TITAN Cement Group's CO<sub>2</sub> reduction targets", (2021), at: [https://www.titan-cement.com/wp-content/uploads/2021/07/15072021\\_SBTi\\_validates\\_TITAN\\_Cement\\_Groups\\_CO2\\_reduction\\_targets\\_EN.pdf](https://www.titan-cement.com/wp-content/uploads/2021/07/15072021_SBTi_validates_TITAN_Cement_Groups_CO2_reduction_targets_EN.pdf)

effects of TITAN's operations and promote sustainability.<sup>29</sup> TITAN has also implemented an energy management system that is certified to ISO 14001:2015<sup>30</sup> and ISO 50001:2018<sup>31</sup> across 85% of its cement plants, for higher energy efficiency and reduced energy related emissions.<sup>32</sup>

- **Resource Use:** TITAN's Environmental Policy focuses on conservation of resources, reduction of waste and circularity in the economy.<sup>33</sup> To promote resource conservation, TITAN focuses on responsible sourcing practices which have resulted in: i) 55% of TITAN's clinker production being "zero waste to landfill" certified; ii) a rate of 7.7% of alternative raw materials among all materials used in cement production; and iii) 85.7% of TITAN's total clinker production being covered by ISO 50001 or energy audits to efficiently reduce energy use.<sup>34</sup> Water stress poses the third highest physical risk for cement manufacturing facilities across TITAN's global operations, with 73% of its cement and cement grinding plant sites, 65% of quarries for industrial minerals, and 62% of ready-mix concrete sites operating in water-stressed areas. To address this risk, TITAN is focused on enhancing practices towards sustainable water management have led to it increasing its use of recycled water as a share of overall water consumption to 68% in 2023, or close to the 70% target set for 2025. TITAN also operates an integrated water management system (IWMS) across all operations to monitor and optimize water consumption and disclose water data in a consistent way aligned with international practices and cement sector guidelines.<sup>35</sup>
- **E&S Impact of Products and Services:** TITAN addresses the environmental and social impact of its operations and end products through management systems that monitor and report the impacts from all its plants. TITAN's Environmental Policy provides guidelines for reducing impacts through reduction of air emissions, protection of biodiversity, water and waste management, quarry rehabilitation, energy efficiency and community and stakeholder engagement.<sup>36,37</sup>

Overall, Sustainalytics considers that TITAN has adequate management programmes and policies to mitigate the above risks.

### Section 3: Impact of the SPTs

The chemical and thermal combustion processes involved in the production of cement account for approximately 7% of global CO<sub>2</sub> emissions as of 2019.<sup>38</sup> By 2050, global cement production is set to grow by 20% compared to 2020 levels.<sup>39</sup> The International Energy Agency estimates that the direct CO<sub>2</sub> intensity of cement production needs to fall by 4% every year for the sector to reach net zero by 2050 and align with the 1.5°C target. However, the carbon intensity of cement production has remained largely flat in the last five years, and in fact is estimated to have increased by 1% in 2022.<sup>40</sup>

Decarbonizing the cement sector while producing enough cement to meet global demand poses significant challenges due to process emissions. Strategies that can reduce carbon emissions include improving energy efficiency, switching to lower-carbon fuels, reducing clinker content in cement or cement content in concrete, and using emerging technologies such as bioenergy with carbon capture and storage, electrification and novel binders.<sup>41</sup> In September 2020, the GCCA, with 40 member companies representing approximately 80% of global cement production outside of China, announced a commitment to achieve carbon-neutral concrete production by 2050.<sup>42</sup> In October 2021, the GCCA published its 2050 Net Zero Roadmap, which sets out an implementation plan to achieve this goal. The roadmap targets a 20% reduction in CO<sub>2</sub> emissions per tonne of cement over the next decade from a 2020 baseline and includes the following as key priorities: i) reducing fossil fuels and increasing the use of

<sup>29</sup> TITAN, "Environmental Policy", (2018), at: <https://www.TITAN-cement.com/wp-content/uploads/2021/09/TITAN-Group-Environmental-Policy-June-2018.pdf>

<sup>30</sup> ISO, "ISO 14001:2015 Environmental management systems", at: <https://www.iso.org/standard/60857.html>

<sup>31</sup> ISO, "ISO 50001 Energy Management", at: <https://www.iso.org/iso-50001-energy-management.html>

<sup>32</sup> TITAN, "Integrated Annual Report 2023", at: [https://www.TITAN-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.TITAN-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>33</sup> TITAN, "Environmental Policy", (2018), at: <https://www.TITAN-cement.com/wp-content/uploads/2021/09/TITAN-Group-Environmental-Policy-June-2018.pdf>

<sup>34</sup> TITAN, "Integrated Annual Report 2023", at: [https://www.TITAN-cement.com/integrated\\_annual\\_report\\_2023\\_EN.pdf](https://www.TITAN-cement.com/integrated_annual_report_2023_EN.pdf)

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

<sup>37</sup> TITAN, "Environmental Policy", (2018), at: <https://www.TITAN-cement.com/wp-content/uploads/2021/09/TITAN-Group-Environmental-Policy-June-2018.pdf>

<sup>38</sup> International Energy Agency, "Energy Technology Perspectives 2020", at: [https://iea.blob.core.windows.net/assets/7f8aed40-89af-4348-be19-c8a67df0b9ea/Energy\\_Technology\\_Perspectives\\_2020\\_PDF.pdf](https://iea.blob.core.windows.net/assets/7f8aed40-89af-4348-be19-c8a67df0b9ea/Energy_Technology_Perspectives_2020_PDF.pdf)

<sup>39</sup> Ibid.

<sup>40</sup> International Energy Agency, "Cement", at: <https://www.iea.org/energy-system/industry/cement#tracking>

<sup>41</sup> Science Based Targets initiative, "Cement Science Based Target Setting Guidance", (2022), at: <https://sciencebasedtargets.org/resources/files/SBTi-Cement-Guidance.pdf>

<sup>42</sup> GCCA, "Global Cement and Concrete Industry Announces Roadmap to achieve Groundbreaking 'Net Zero' CO<sub>2</sub> Emissions By 2050", at: <https://gccassociation.org/news/global-cement-and-concrete-industry-announces-roadmap-to-achieve-groundbreaking-net-zero-co2-emissions-by-2050/>

alternative fuels; ii) improving the efficiency of concrete production; iii) improving the efficiency of concrete project design; and iv) investing in technological innovations.<sup>43</sup>

Despite these efforts, more ambitious targets are necessary to reduce GHG emissions from the cement industry.<sup>44</sup> Mitigating CO<sub>2</sub> emissions may prove difficult as demand for cement grows, but Sustainalytics notes that the Framework’s focus on CO<sub>2</sub> reduction through reduced clinker factor and increased use of alternative fuels, can help in reducing TITAN’s carbon footprint and contribute to the overall decarbonization of the industry.

**Contribution to SDGs**

The Sustainable Development Goals were adopted by the United Nations General Assembly in September 2015 and form part of an agenda for achieving sustainable development by the year 2030. The sustainability-linked notes issued under the Framework are expected to help advance the following SDG goals and targets:

KPI	SDG	SDG Target
Scope 1 GHG emissions intensity (kgCO <sub>2</sub> /tonne of cementitious product)	7. Affordable and clean energy	7.3 By 2030, double the global rate of improvement in energy efficiency
	9. Industry, innovation and infrastructure	9.4. By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

**Conclusion**

TITAN intends to issue sustainability-linked notes tying the coupon rate to achievement of the following SPTs:

- SPT 1:** Reduction of scope 1 (gross) CO<sub>2</sub> emissions by 18.4% per tonne of cementitious product by 2028 from a 2020 baseline year
- SPT 2:** Reduction of scope 1 (gross) CO<sub>2</sub> emissions by 22.48% per tonne of cementitious product by 2030 from a 2020 baseline year

Sustainalytics considers the KPI chosen to be very strong, given that it: i) speaks to relevant and material environmental issues for cement manufacturers; ii) follows a recognized, clear and consistent methodology; iii) lends itself to benchmarking against external contextual benchmarks; and iv) has a high scope of applicability.

Sustainalytics considers both SPT 1 and SPT 2 to align with TITAN’s sustainability strategy and to be highly ambitious given that they are: i) aligned with past performance; ii) exceed the targets set out by peers; and iii) are aligned with a science-based decarbonization trajectory.

Sustainalytics considers the reporting and verification commitments to be aligned with the Sustainability-Linked Bond Principles.

Based on the above, Sustainalytics considers the TITAN Cement Group Sustainability-Linked Financing Framework to be in alignment with the five core components of the Sustainability-Linked Bond Principles 2023 and the prospective achievement of the SPTs to be impactful.

<sup>43</sup> GCCA, “Concrete Future – GCCA 2050 Cement and Concrete Industry Roadmap for Net Zero Concrete”, (2021), at: <https://gccassociation.org/concretefuture/wp-content/uploads/2021/10/GCCA-Concrete-Future-Roadmap-Overview.pdf>

<sup>44</sup> McKinsey & Company, “Laying the foundation for zero-carbon cement”, (2020), at: <https://www.mckinsey.com/industries/chemicals/our-insights/laying-the-foundation-for-zero-carbon-cement>

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