MOODY'S
INVESTORS SERVICE

ASSESSMENT
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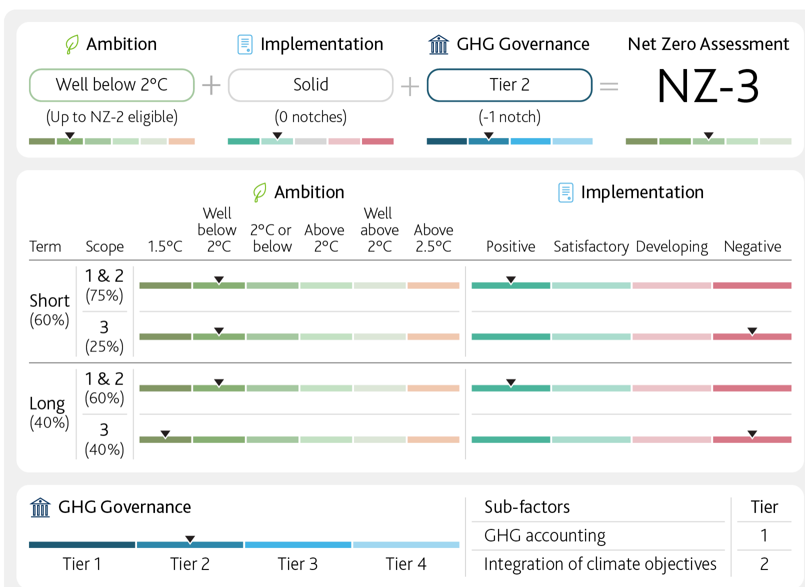
Snam S.p.A.

Net Zero Assessment — Snam assigned a NZ-3 score

Summary

We have assigned an NZ-3 net zero assessment (NZA) score (significant) to Snam S.p.A. (Snam)'s carbon transition plan. The group's ambition score is well below 2 C on our scoring scale (i.e., within a 1.55 C to 1.80 C temperature range), consistent with Paris Agreement goals. Snam's solid implementation is driven by the company's clear action plan on scope 1 and 2 emissions, based on proven and easy-to-scale-up technology, partly offset by greater implementation hurdles for its scope 3 emissions.

Snam's assessed scope 1 to 3 emissions reduction targets and associated implementation plans do not include the natural gas transported through its pipelines on behalf of third parties. There is currently no consensus on accounting and target-setting for such gas. Although the combination of its ambition and implementation assessments warrants a higher score of NZ-2, the ultimate outcome reflects the limited visibility on the likely long-term decline of the transport of natural gas currently at the heart of Snam's business, despite its efforts to promote hydrogen and biogas as alternative fuels.



This report was republished on 16 February 2024 to precise the categories used in Exhibit 1.

NZA strengths

- Relatively low emissions (not including shipped gas), much of which can be reduced using proven and widely available technology
- Most expenditure necessary to reduce emissions will be incremental to the regulated asset base (RAB), and hence benefit from stable, regulated returns

NZA weaknesses

- Relatively high share of residual emission reductions arising from harder-to-control sources, such as suppliers of capital goods, or emissions from affiliates
- Potential for sustained relatively high level of capital expenditure, with increased complexity, should large-scale hydrogen transmission network be commissioned
- Transportation of large amounts of third-party gas, over which it has no control; material uncertainty about the pathway for reduction of gas transportation

What could strengthen or weaken the NZA

- ▲ A clearer path toward the reduction of scope 3 in the long term, through the carbon transition of its affiliates, and through clearer ways to decarbonise its procurement and capital expenditure
- ▲ Clearer pathway to reducing its exposure to natural gas transportation, potentially through the confirmation of a hydrogen transmission network, or through a more rapid and complete substitution with biogas
- ▼ A potential (although not currently expected) weakening of regulatory support, prompting a reduction or delay of SNAM's capital expenditure plans, forcing a revision of our implementation score

This assessment reflects our point-in-time opinion of the company's carbon transition plan as of the publication date of this report. Our view draws on public and non-public information provided by the company and is based on our Net Zero Assessments framework, published on 9 November 2023.

Entity profile

Snam is the main operator of natural gas transport and storage assets in Italy. As of the end of 2022, the company's asset base included around 33,000 kilometres of transportation pipeline, 10 storage concessions (including one field under development), one re-gasification facility and three liquefied natural gas (LNG) terminals. The gas transport business accounts for about 80% of the company's consolidated RAB and is the main contributor to Snam's operating profit.

The company has recently published new targets for all its greenhouse gas (GHG) emissions scopes, based on data for 2022, the latest available year. The amount and main shares of its GHG inventory are detailed below. The change from a 2018/19 base year to 2022 better captures the important operational changes that the company had to establish following the Russia-Ukraine military conflict, which led to the interruption of one of its main sources of gas, and a change in flow and activity in its transport operations.

The short-term targets are restricted to the regulated operations of the group (i.e., its gas transmission operations; the group is also active in energy efficiency services and in the production of biogas in particular). Snam expects emissions from non-regulated activities to remain limited within the time horizon of its short-term targets. These targets capture 95.6% of 2022 scope 1 and 2 emissions, as well as 82.5% of 2022 scope 3 emissions. Long-term targets focus on the whole group, without differentiation of activities.

Snam’s emissions arise mostly from the running of its extensive gas network in Italy, specifically the combustion of methane to power the compressors which move the gas. This accounted for 32% of the group’s total environmental footprint from regulated operations in 2022. The methane leaking from the network through worn-out joints or valves, a widespread occurrence in the industry, or released to regulate the pressure inside the pipes (venting), added a further 18%, taking the scope 1 portion of emissions to 50% of regulated operations’ footprint. Scope 2 emissions, focusing on the electricity and heat consumed by the company, were much smaller in comparison, at about 1% of the total.

Scope 3 indirect emissions, accounting for around 50% of overall emissions, were mostly from affiliate networks and pipes in which Snam holds an equity share. Snam reports its share of its affiliates’ scope 1 and 2 emissions according to the amount of its equity stake in them. These emissions, reported in Snam’s category 15 of scope 3, account for about 25% of the group’s emissions from regulated operations in 2022. They are bundled in the table below with the upstream emissions from the energy used by Snam. The other main source of indirect emissions for the company arises from its supply chain for procurement and capital goods.

The company's scope 3 inventory does not include the impact of the gas it merely transports, but does not own or control (the near-totality of the gas it transports, as Snam does not market gas). We do not add that impact as part of our assessment of ambition and implementation, although we reflect the implications of that activity in our GHG governance assessment.

Exhibit 1

GHG inventory as of 2022 base year and greenhouse-gas reduction targets

Snam's GHG emissions, in CO2eq Tmn	**Base year**		**Emissions targets (announced 01/2024)**	
(Perimeter restricted to Regulated operations in ST: 95.6% of Scope 1+2 emisions, 82.5% Scope 3 emissions in 2022)	**2022**		Short Term targets (restricted to Regulated Operations)	Long Term (2050, on full group)
Scope 1, of which:	**1.430**	**50%**	Sc 1+2 emissions (vs 2022) -40% by 2030; -50% by 2032	90% reduction
CO2 from Combustion	0.921	32%		
CO2eq from CH4 venting and fugitive CH4	0.508	18%		
other SC1	0.001	0%		
Scope 2	**0.021**	**1%**		
Scope 3, of which:	**1.434**	**50%**	Sc 3 emissions (vs 2022) -30% by 2030; -35% by 2032	90% reduction
Supply chain (Scope 3 categories 1, 2, 4, 5 and 8)	0.556	19%		
Affiliates + energy	0.878	30%		
	2.885	**100%**		

Source: Snam and Moody's Investors Service

Ambition assessment — Well below 2 C

We assess Snam's ambition score at well below 2 C. Its aims for its operations are consistent with science-based pathways that limit temperature rises to well below 2 C for both its short- and long-term scope 1 and 2 targets, and respectively well below 2 C and 1.5 C temperature rise for its short- and long-term scope 3 targets.

For Snam's scope 1 and 2 targets we have used in our temperature alignment calculations our oil and gas global benchmark: although Snam isn't active in the exploration and production of gas, its main sources of emissions, including fugitive methane or the use of methane to power compressors, are similar to those encountered by oil and gas companies, both upstream and midstream.

For scope 3 targets, we have selected our sector-agnostic rate of reduction benchmark, which addresses the wider diversity of those emissions.

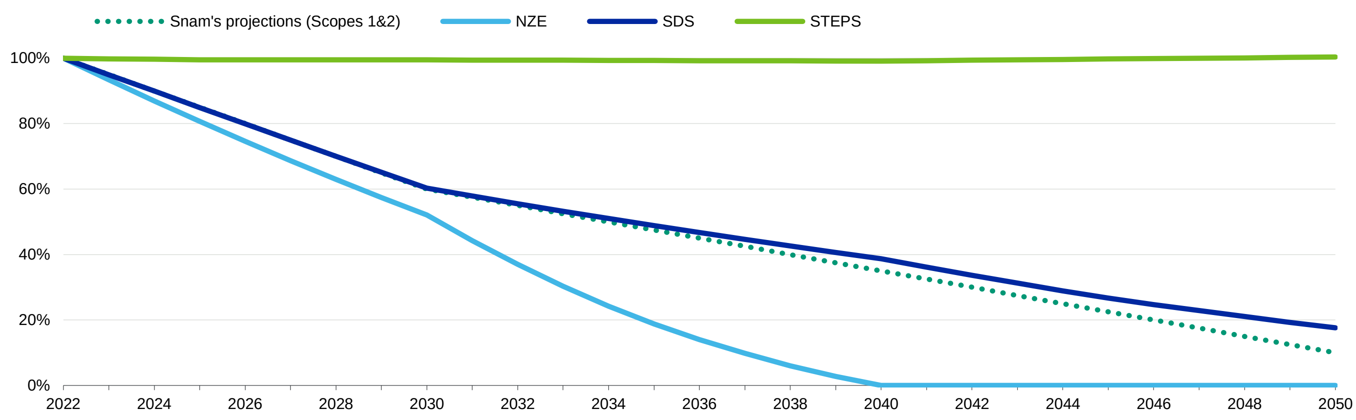
Short-term scope 1 and 2 — Well below 2 C
The 40% absolute reduction in scope 1 and 2 emissions by 2030 versus 2022 is in line with a well below 2 C trajectory under our oil and gas reference benchmark (see Exhibit 2).

Short-term scope 3 — Well below 2 C
Snam's short-term scope 3 ambition is aligned with a well below 2 C trajectory. The absolute reduction target of 30% by 2030 on the emissions of Snam's regulated operations is consistent with a 1.5 C trajectory, but only applies to 82.5% of the reference year scope 3 emissions. Our methodology accounts for that limited coverage, resulting here in a one notch downward adjustment.

Long-term scope 1 and 2 — Well below 2 C
Snam has committed to a long-term "net zero" scope 1 and 2 emissions reduction target for 2050. In our discussions, the company indicated that they are targeting at least a 90% reduction in emissions, for the whole group, without the use of any potential offsets, as compared to 2022. This translates into a well below 2 C trajectory under our oil and gas reference benchmark. To align with a 1.5 C trajectory under this benchmark, a 90% reduction would need to be reached by 2040.

Long-term scope 3 — 1.5 C
Similar to scopes 1 and 2, Snam's long-term "net zero" scope 3 emission reduction target for 2050 would also mean at least a 90% reduction from 2022 without the use of offsets.The different benchmark used for the assessment of scope 3 means that this decrease is compatible with a 1.5 C aligned scenario.

Exhibit 2
Scope 1 and 2 targets compared with the oil and gas absolute rate of reduction benchmark
Snam's scope 1 and 2 targets are aligned with a well below 2 C trajectory in the short and long term

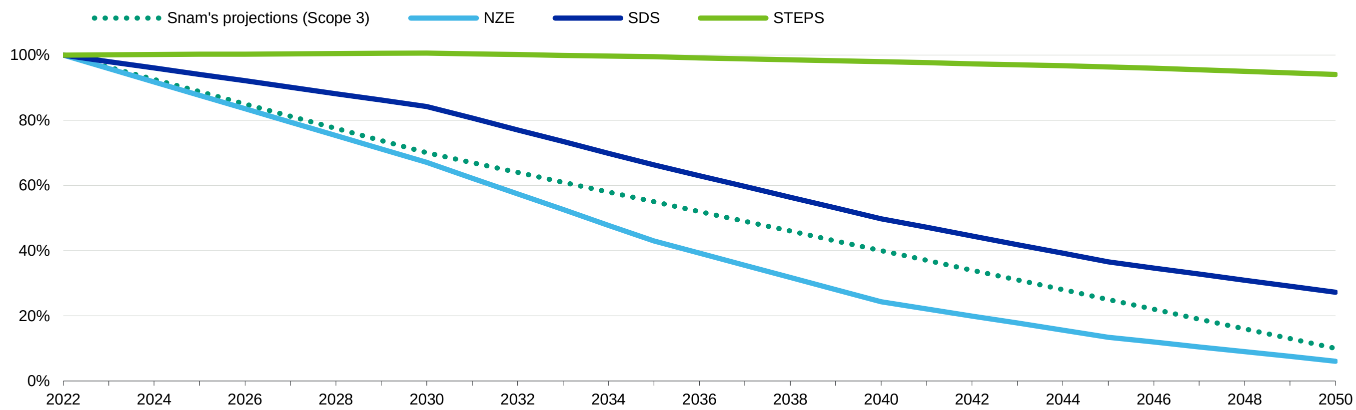


Source: Moody's Investors Service

Exhibit 3

Scope 3 targets compared with the sector-agnostic absolute rate of reduction benchmark

Snam's short term target's 1.5 C trajectory alignment does not reflect here our adjustment for limited coverage



Source: Moody's Investors Service

Implementation assessment — Solid

Snam's implementation quality is solidly supportive of its ambition.

Scope 1: To reduce, and eventually eliminate, emissions related to compressors, Snam intends to replace all its older gas-powered compressors with more efficient dual-fuel (electricity and gas) compressors that can eventually run on renewable electricity or biogas. Methane leakage would be reduced by a combination of improved detection and repair techniques, network upgrades to ensure the suitability of the network toward potential future hydrogen volumes, and better maintenance processes. The maintenance processes have already been widely implemented throughout the group, helping to capture the methane while venting.

Scope 2: Although the group will increase its consumption of electricity (especially to power its compressors), the main component of this scope, Snam will gradually rely on renewable sources for all of the energy.

Scope 3: Snam will focus on both influencing its affiliate companies through sharing of best practices, and selecting as well as influencing suppliers, where possible.

The techniques used for scope 1 and 2 reductions are well proven and easily deployable technology. These are standard actions that have proved efficient in similar networks, and will not materially impact the company's operations. Bioenergy needed to power up its compressors is not yet available at sufficient scale in Italy, but Snam is gearing up its own production of biogas (for its own consumption only), and is confident in securing adequate future supply of renewable electricity.

The same techniques used by Snam to reduce its scope 1 and 2 emissions are available to its affiliates. Not all are located in Europe, however, so the incentives and regulatory pressure to reduce their own emissions may vary.

The bulk of the necessary investments to modernise compressors and network have been confirmed as part of Snam's regulated investments, on which the group will earn a set return. The significant scale of its investment requirements to improve its network therefore does not increase the risk of its business.

Short-term scope 1 and 2 — Positive

We assess Snam's short-term scope 1 and 2 plans to be positive, despite the lack of track record (and somewhat mixed track record on its previous targets), given the relative ease of implementation of well proven solutions.

The compressor upgrade, to be completed by 2032, would only underpin about half of the targeted 2030 emissions reduction. Leak detection and repairs would provide most of the rest. Snam had a demonstrated track record of reducing loss of methane through changes in its operating practices, although that progress is already embedded in the 2022 base year figures: performances for that year included a 45% decrease in fugitive natural gas, as compared to 2019, as well as a 57% level of natural gas recovery during maintenance operations. Similar efforts should continue to yield reductions as they are implemented throughout the network.

Short-term scope 3 — Negative

Our overall assessment is negative for this scope, given implementation hurdles on both its planned actions, relative to the ambition of the target:

Although the track record of its affiliates' GHG reduction is favourable, it reflects especially the loss in volume from some of the pipes following Russia-Ukraine military conflict. New affiliates outside Europe (especially the jointly managed SeaCorridor business, accounting for nearly half of all affiliates' emissions in 2022) remain to be tested on their willingness and ability to reduce their emissions in time for the 2030 target. The company expects its affiliates' GHG reductions to account for most the scope 3 target, with a rate of reduction comparable to Snam's own ambitious scope 1 and 2 target.

The recent track record for the procurement-linked emissions has been weak, especially as overall capital expenditure has grown. Although we only expect overall capital spending to grow marginally from its 2022 levels, and Snam is developing ways to incorporate some ESG performance in its suppliers' selection process, the nature of its procurement is likely to remain more commoditised and carbon intensive, making reductions difficult in the short term.

Long-term scope 1 and 2 — Positive

Our positive outcome for the long-term scope 1 and 2 transition plan is very much in keeping with our short-term assessment. Although the target is more ambitious, aiming for 90% of reductions by 2050 from 2022, that progress could be within reach through the full rollout of the well-proven solutions already being deployed or considered for the short-term target, together with a full use of decarbonised energy to power its network requirements.

Apart from the necessary reliance on the regulator for the timing of deployment of the new compressors and for network upgrades, Snam does not face any significant dependency on other external actors, or changes to its business model. Incremental costs linked to the transition (not including the potential dedicated hydrogen network) are limited compared to the maintenance of its current network, and most will contribute to its regulated asset base.

Long-term scope 3 — Negative

Our negative assessment is in keeping with the lesser definition of the relevant long-term transition plan for scope 3 emissions, beyond 2032. Although the company will continue its short-term efforts, centred on its affiliates and on efficiency of procurement, progress will become increasingly difficult toward the 90% reduction rate. The volume and mix of gas transported by affiliates may significantly impact their emissions prospects, but remains uncertain.

The volume and composition of procurement is likely to be much reduced, irrespective of the decision on the hydrogen network, as construction should have been completed by then, lending credibility to the target. However, these aspects remain speculative so far.

GHG governance assessment — Tier 2

We score Snam's transition-related governance practices as tier 2 (see Appendix for scorecard), the second-highest possible outcome. Although the group's practices reflect a superior performance on most aspects of our governance analysis, its corporate climate conduct score is impacted by the inconsistency we perceive between Snam's stated emissions targets and its exposure to natural gas transportation.

Its GHG-related accounting and disclosure practices for reported scopes are solid, although they include some uncertainties on the reporting of the impact of the gas Snam transports, but does not own. The overall volume of gas transported is disclosed, although its impact is neither detailed nor added to the GHG inventory.

The integration of climate objectives includes strong scores on most factors. The group has clear board-level responsibility, reporting and scrutiny for its sustainability objectives. Its board appears competent on environmental matters, and includes a specialist on sustainability. Its CEO and senior executives are incentivised to achieve climate-related targets, although this constitutes a relatively small part of their overall remuneration.

The inconsistency we highlight under “integration of climate objectives” refers to the company's business model, not any specific inconsistent action or behaviour. There is no evidence of strategic objectives or goals at executive committee level contradicting its stated environmental commitments. The score for coherence between the entity's activity and its stated environmental objectives is weakened by the business reliance on the transportation of large amounts of third-party gas.

Notching for exposure to third-party gas transportation

We have lowered the overall NZA score given by the conjunction of the company's ambition and implementation results by one notch to reflect its exposure to the third-party natural gas that it ships and the uncertainties it faces in managing down that exposure.

There is currently no consensus on accounting and target-setting for natural gas owned by a third party that an operator transports. Snam does not own that gas, has no control on its sources and uses, and is legally obliged to transport it as a regulated monopoly operator. Snam also plays an active role in mitigating the carbon content of the gas it transports, through building connections allowing biogas producers access to the grid, and through efforts and influence in promoting a hydrogen transmission network, for example. However, its influence, as neither a supplier nor a marketer, nor a large end-user of gas, is limited. Even its own biogas production is curtailed by regulation (it can only produce for its own consumption).

As a result, there is limited visibility on the likely long-term decline of the transport of natural gas within its business. The volume and mix of the gas that will flow through the company's network will be shaped by international policies, technological progress and cost-benefit choices yet to be settled, in which Snam will only be one of a multitude of influences.

Appendix – Detailed governance scorecard

Exhibit 4

Sub-factors	Aspect	Score	Comment
GHG accounting	Emissions reported comprehensively for all scopes	2	Volume of overall gas shipped by SNAM is reported, but its impact not added to scope 3. No distinction between gas owned or not (would be negligible, though). Beside this issue, reporting is comprehensive. Marginal but significant categories (travel, commuting) are detailed in annual public climate change report.
	The entity separately reports the carbon offsets, carbon removals and avoided emissions in its key metrics and targets	4	No current use of offsets. Targets set net of potential offsets.
	GHG disclosures for scope 1 and 2 are third-party verified	4	Limited assurance from Deloitte
	GHG disclosures for scope 3 are third-party verified	4	Limited assurance from Deloitte
	Targets are formulated based on absolute emissions	4	All targets now defined on an absolute basis.
	Progress against key material targets is tracked and reported (inc. for scope 3)	4	Detailed annual reporting, including progress on targets, and GHG emissions.
	Total GHG accounting score	**22**	**Tier 1**
Integration of climate objectives	The entity's behaviour is coherent with its stated environmental commitments	0	Despite its ambition, SNAM remains the operator of infrastructure that facilitates the use of a fossil fuel. Although the gas mix may evolve, SNAM's management of its exposure to natural gas remains uncertain.
	Environmental and social risks associated with the implementation of transition plans are identified and managed	4	Low exposure to just transition, as the company does not produce any fossil fuel. Processes to assess risks and opportunities, reported as part of its TCFD-format sustainability report, appear robust.
	The entity discloses evidence of board or board committee oversight of the management of climate change	4	Four-member board-level committee in charge of ESG and energy transition scenarios met 12 times in 2022. Well defined and regularly implemented processes.
	The board demonstrates experience with respect to managing climate risks	4	Board includes two independent members with respective backgrounds in renewables and B-Corps. Regular training for all board members on environmental topics.
	Climate-related key performance indicators (KPIs) are tied to CEO or other senior executive compensation plans	4	10% of the executive committee members' long-term incentive plan reflects the company's progress in natural gas emissions reduction. No other driver of their remuneration appears to contradict the company's net zero objectives.
	Targets are subject to approval and oversight by owners or public authorities	3	No formal binding vote from shareholders on transition strategy. However, partly government-owned, and acts in a regulated industry. Most of the capex for emission reduction is part of approved regulated asset base.
	Total integration of climate objectives score	**19**	**Tier 2**

Source: Moody's Investors Service

Moody's Net Zero Assessment: Summary of scoring approach

The Moody's Net Zero Assessment provides an independent and comparable evaluation of an entity's carbon transition plan, consisting of the Ambition score and the Implementation score.

Ambition score

The Ambition score assesses the level of ambition in an entity's emissions reduction targets. Moody's compares the entity's emissions targets with sector-specific decarbonisation pathways derived from scenario modelling conducted by the International Energy Agency (IEA). The most ambitious pathway considered aims to achieve global net zero emissions by 2050 and limit global temperature increases to 1.5 degrees Celsius.

Moody's assigns a score to each target based on the implied global warming, known as the Implied Temperature Rise (ITR). To determine the ITR, Moody's projects the entity's greenhouse gas (GHG) emissions using reported emissions and targets, comparing them with emissions estimates from three benchmarks (corresponding to three IEA scenarios: Net Zero Emissions by 2050, Announced Pledges Scenario and Stated Policies Scenario) in the target year. Linear interpolation is used between these three benchmarks (that imply different levels of global warming) and the entity's projected emissions in the target year, to determine the implied level of global warming in the entity's targets (the ITR).

The Ambition score is expressed on a six-point temperature scale, ranging from 1.5 C to Above 2.5 C.

Implementation score

The Implementation score evaluates the quality of an entity's transition plan implementation. Moody's examines the actions, assumptions, and strategic coherence of the entity's emissions transition plan. A higher Implementation score indicates a higher likelihood of achieving targeted emission reductions. This score is expressed on a five-point scale.

Implementation is evaluated by scoring the same four subfactors as Ambition: Short-term Scopes 1 and 2, Short-term Scope 3, Long-term Scopes 1 and 2, and Long-term Scope 3. Each subfactor is scored on a four-point scale (positive, satisfactory, developing, negative) based on the strengths and areas requiring further development along technical, business, and financial considerations.

GHG Governance score

Governance is assessed using a predefined list of questions, assigning points for each and mapping them to a final factor score along a four-point scale of Tier 1-4.

Arriving at the final Net Zero Assessment score

The Ambition and Implementation scores are combined to generate the final NZA score, which represents the overall assessment of an entity's carbon transition plan. The Ambition score determines the maximum NZA that a company may receive, which may be lowered on account of implementation or governance risks. The NZA is expressed on a five-point scale, ranging from NZ-1 (Leading) to NZ-5 (Undeveloped).

For more details, please see the Net Zero Assessments framework, 9 November 2023.

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