MOODY'S RATINGS

ASSESSMENT
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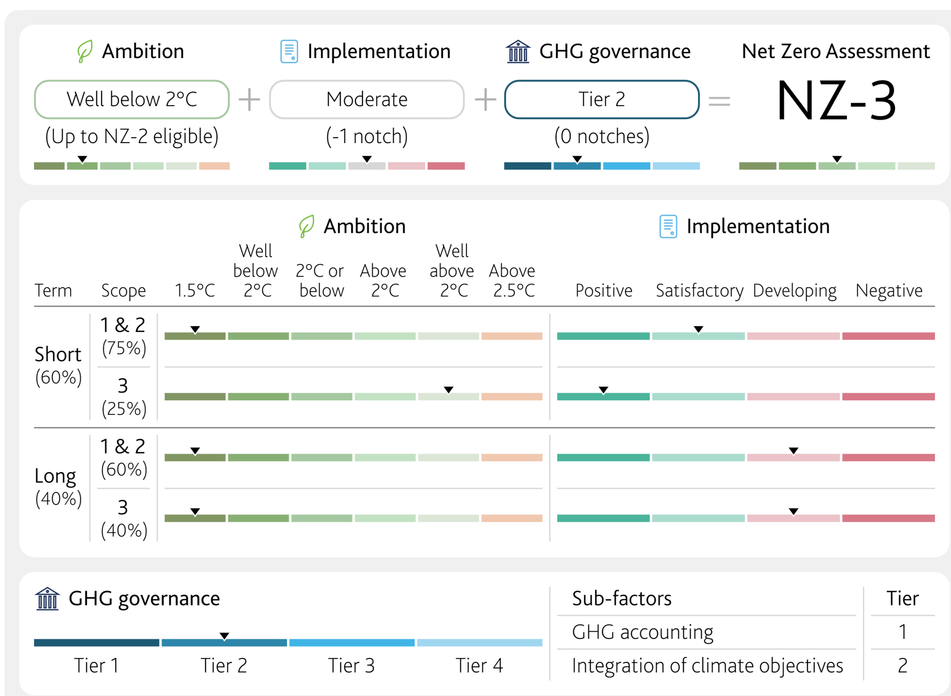
Latvenergo AS

Net Zero Assessment - Latvenergo AS assigned a NZ-3 score

Summary

We have assigned a NZ-3 net zero assessment (NZA) score (significant) to Latvenergo AS' carbon transition plan. The company'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. Latvenergo's moderate implementation score lowers the overall score from the NZ-2 potentially achievable at this level of ambition. Some of the key implementation risks relate to decarbonizing the CHPP units needed for heat production and the planned growth of their retail gas supply business which will see scope 3 emissions increases unless converted to heat pumps or renewable gases as the company plans to.

We assess Latvenergo's GHG Governance practices as Tier 2. While the company can improve expertise on the board, overall weaknesses were not material enough to merit any downward notching of the NZA score.



NZA strengths

- Implementation plan primarily reliant on well-proven technologies
- Simple business model with strong starting position
- Located in a supportive regulatory business environment
- Planned shift to EU grid from the BRELL grid bolsters energy security and allows for purchase of cleaner power in the future

NZA weaknesses

- Development of recently entered natural gas business is unclear
- Hydro generation variability implies continued need to purchase power
- CHPP assets needed to supply heat to customers are challenging to decarbonize
- Need for partners to execute offshore wind projects

What could strengthen or weaken the NZA?

- ▲ Widespread execution of plans to transition existing natural gas customers to heat pumps
- ▲ Decarbonization of or reduced reliance on CHPP plants
- ▼ Significant delays in building out renewables capacity per projections before 2030
- ▼ Increasing reliance on CHPP generation or unmitigated growth in natural gas sales

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

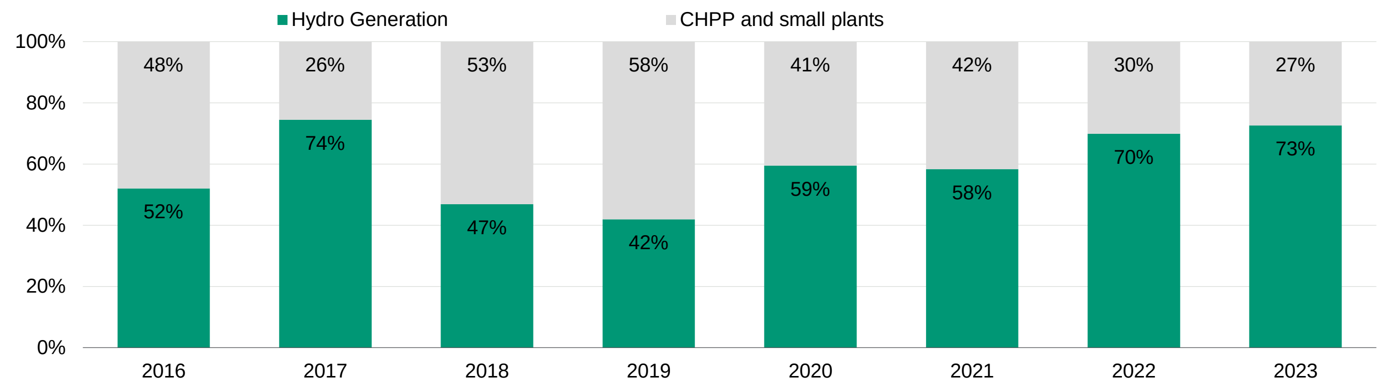
Latvenergo is the dominant vertically integrated utility in Latvia, with a total installed capacity of around 2.6 gigawatts (GW), representing around 90% of the total Latvian electricity generation capacity. Latvenergo's main power plants comprise three hydropower plants (HPPs, 1.6 GW) on River Daugava, and two gas-fueled combined heat and power plants (CHPPs, 1.0 GW) in Riga. The group also owns and operates the Latvian electricity distribution network. In 2023 the company entered a new venture and began selling natural gas direct to consumers in the Latvian market.

Currently, the company relies on purchased power to meet total demand, although the extent of purchases varies based on hydro conditions as seen in Exhibit 2 below. They can generate enough to cover fixed price contracts.

Exhibit 1

Latvenergo's hydro generation, as a percentage of total output

History shows year-to-year variation on hydro generation output



Source: Company and Moody's Ratings

Latvia is disconnecting from the BRELL grid to ensure independence from Russia and Belarus. Synchronization with the EU will also have the longer term benefit of allowing Latvenergo to purchase from a cleaner power grid.

Exhibit 2

GHG inventory as of 2022, short and long-term GHG reduction targets

GHG emission categories	Percentage of total emissions in 2023	Relevant short-term target	Relevant long-term target
Scope 1	**19.0%**	Scope 1 emissions to decrease 47% on both an absolute and intensity basis (by 2030 vs base year 2021)	Scope 1 emissions to decrease 100% on both an absolute and intensity basis, achieving climate neutrality (by 2040 vs base year 2021)
From CHP plants	18.8%		
From fuel for transportation and machinery	0.2%		
Scope 2	**2.8%**		Achieve climate neutrality by 2050 (includes scopes 1, 2 and 3)
From generation of purchased electricity	0.2%		
From generation of purchased thermal energy	0.0%		
From electricity distribution losses	2.6%		
Scope 3	**78.1%**	Scope 3 emissions from use of sold products (category 3.11) to decrease by 20% on an absolute basis (by 2030 vs base year 2022)	Scope 3 emissions from use of sold products (category 3.11) to decrease by 100% on an absolute basis (by 2050 vs base year 2022)
3.1: Purchased goods and services	1.8%		
3.2: Capital goods	0.2%		
3.3: Fuel and energy related	71.5%		
3.11: Use of sold products	4.7%		

Emissions from direct to consumer gas sales business are excluded from scope 3 targets at this time.

Source: Company and Moody's Ratings

Ambition assessment — Well below 2 C

Latvenergo's ambition score is well below 2 C, based on an implied temperature rise of 2 C or below for short-term targets and 1.5 C for long-term targets. Our assessment uses the global utilities intensity rate of reduction of CO2 emissions benchmark for scope 1 and 2 targets. For scope 3 targets, our assessment uses the global utilities absolute rate of reduction benchmark.

Our choice of benchmark is determined by the primary source of the company's emissions. The decision to apply the global utilities intensity benchmark to scope 1 and 2 targets reflects the operation of natural gas-fired CHP plants, the company's main emissions-generating activity.

Similarly, we've chosen to apply to the global utilities intensity benchmark to Latvenergo's scope 3 targets considering that the largest component of their scope 3 emissions is upstream emissions from electricity they've purchased from the grid.

Short-term scope 1 and 2 — 1.5 C

The company aims to reduce scope 1 absolute emissions by 47% by 2030; it also aims to reduce its intensity from .116 tCO2/MWh to .061 tCO2/MWh by 2030 (also 47%). The intensity target does not cover heat production, but it is covered by the absolute target. This target only applies to scope 1. Scope two emissions are excluded as they only make up 3% of total emissions. Even if scope 2 emissions were included, the position of the company would still be aligned with 1.5 C.

Short-term scope 3 — Well above 2 C

The short-term scope 3 target aims to reduce covered scope 3 emissions by 20%. This includes only power purchases, and thus excludes retail natural gas sales and a minimal amount of biomass. Because this covers only 73% of emissions, we incorporate the target coverage adjustment here. Despite applying this adjustment, our sliding-scale methodolgoy does not result in any change to the implied temperature rise.

While there are a few additional items we would have expected an entity from this sector to report, we estimate that over 95% of scope 3 emissions are reported based on similar peer comps. Because of the target's relatively weak ambition and coverage limitations, we believe it is aligned with a well above 2 C pathway.

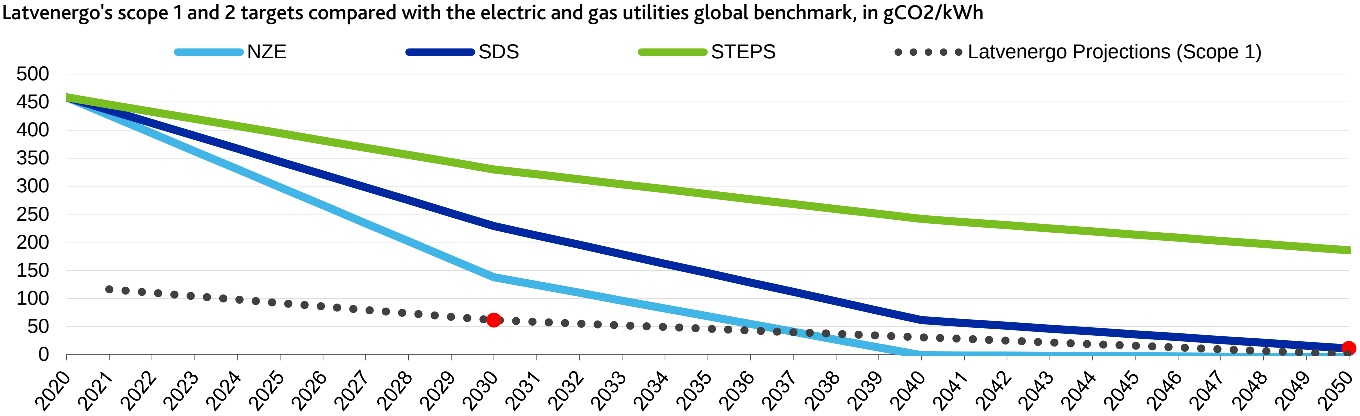
Long-term scope 1, 2 and 3 —1.5 C

Latvenergo scope 1 target is to be climate neutral by 2040, in line with the EU's Green Deal. This means achieving zero emissions from electricity generation by 2040. Their scope 2 and 3 targets are to be climate neutral - or net zero emissions - by 2050. We do not believe the company will be using offsets as part of their strategy to achieve these targets, which are well aligned with a 1.5 C pathway.

Exhibit 3

Latvenergo's scope 1 and 2 targets are aligned with a 1.5 C trajectory

Latvenergo's scope 1 and 2 targets compared with the electric and gas utilities global benchmark, in gCO2/kWh



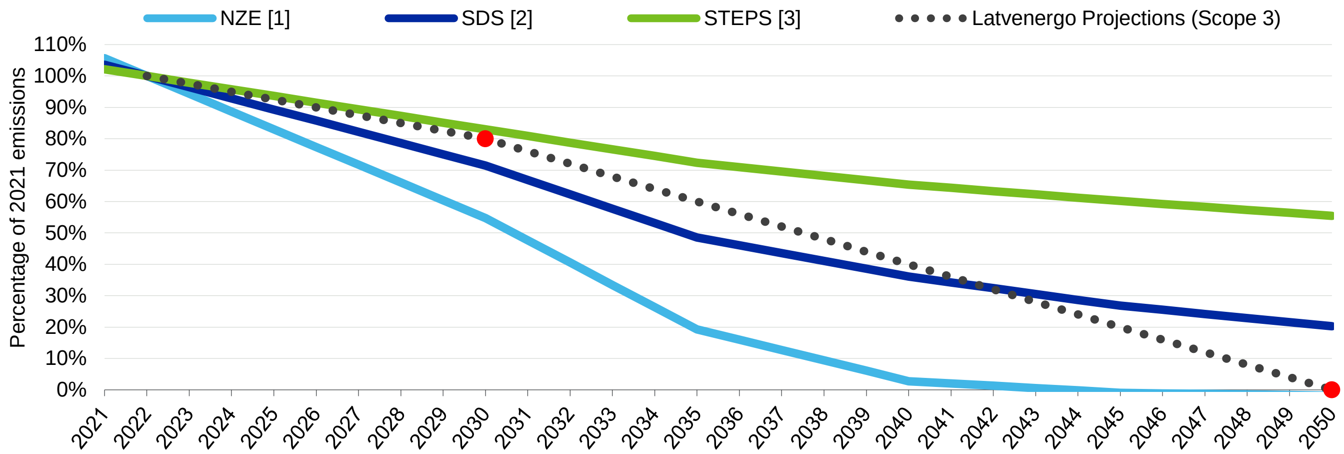
NZE = International Energy Agency (IEA) Net Zero Emissions by 2050 Scenario; SDS = IEA Sustainable Development Scenario; STEPS = IEA Stated Policies Scenario

Source: Moody's Ratings

Exhibit 4

Latvenergo's Scope 3 targets are aligned with a well above 2 C trajectory in the short term and a 1.5 C trajectory in the long term

Latvenergo's scope 3 targets compared with the electric and gas utilities global benchmark, in percentage of reduction



NZE = International Energy Agency (IEA) Net Zero Emissions by 2050 Scenario; SDS = IEA Sustainable Development Scenario; STEPS = IEA Stated Policies Scenario
Source: Moody's Ratings

Implementation assessment — Moderate

We assess Latvenergo's implementation as moderate. Latvenergo's implementation plan consists of the following key strategies:

- Build 2,300 MW of additional renewables capacity (wind and solar) by 2030
- Decarbonize CHPP generation by 2040 using lower-carbon gases and/or carbon capture technology
- Grow retail gas sales, but then convert customers to heat pumps thereby converting them to electricity and staying on path to net zero by 2040
- Balance seasonal variations in hydro generation through purchase of low-carbon power from EU grid

The transition plans primarily leverage renewable growth to cover shortfalls in generation as well as hydro variability throughout the year. This serves the dual purpose of reducing the intensity of generation as well as scope 3 emissions from purchased power. The company has strong incentives to decarbonize, considering its location in the EU and variable production.

The technology is well-proven and the company has sufficient capital to finance development. We note that there may be some delays in development of wind build out, however, even in a scenario where wind development is delayed three years, we expect targets to be met.

Short-term scope 1 and 2 — Satisfactory

Latvenergo has two short-term scope 1 and 2 targets: one for absolute emissions and one for intensity. We think that it is highly likely that they will achieve their intensity target, which is the target for which ambition is assessed. We are less confident regarding the absolute emissions targets because substantial absolute emissions reductions are not expected in the short-term since CHPP generation, which constitutes nearly 99% of scope 1 emissions, is not expected to decrease in line with targets. Further efficiency measures and access to renewable fuels will not likely be material enough to meet this gap. The essential role of CHPP in providing heat across Latvia limits our expectations for emissions reductions from these plants.

The company has an aggressive but generally achievable plan for deploying wind and solar to meet its intensity target. We expect nearly 600 MW of solar capacity to come online before the end of the decade. Latvenergo has very ambitious goals related to deploying wind however, and could have delays related to permitting or project identification. Even if some of these wind projects are delayed, the target of 47% reduction in scope 1 intensity is likely to be met as long as CHPP generation remains flat as projected. Doubts regarding the company's ability to achieve its short-term absolute emissions target inform our view of satisfactory.

Exhibit 5

Latvenergo's projected future generation mix, and resulting scope 1 emissions intensity

In a conservative case, the target of 47% scope 1 intensity reduction is still met

Company Projections

Generation Type	Base Year 2021	Target Year 2030
	(%) Share of Generation	
Hydro	58%	29%
Wind	0%	51%
Solar	0%	6%
CHP and other small plants	42%	13%
Scope 1 Emissions Intensity (tCO2/MWh)	0.116	0.037
(%) Reduction Scope 1 Emissions Intensity (tCO2/MWh)	-68%	

Conservative Case

Generation Type	Base Year 2021	Target Year 2030
	(%) Share of Generation	
Hydro	58%	47%
Wind	0%	21%
Solar	0%	10%
CHP and other small plants	42%	22%
Scope 1 Emissions Intensity (tCO2/MWh)	0.116	0.060
(%) Reduction Scope 1 Emissions Intensity (tCO2/MWh)	-48%	

Conservative case assumes the wind power build out is delayed three years.

Source: Company and Moody's Ratings

Short-term scope 3 — Positive

We assess Latvenergo's short-term scope 3 as positive. Scope 1 and scope 3 emissions are strongly linked, as the majority of the company's scope 3 emissions come from electricity purchases. As they build out renewable capacity, we expect the company to purchase substantially less power. Should all renewable plans come to fruition, the company would not need to purchase power on a net basis. Furthermore, the company will be buying from the EU grid (following disconnection from the BRELL grid), which we expect will lower intensity over time. We think it is highly likely that Latvenergo achieves their targets for this scope.

Long-term scope 1 and 2 — Developing

We assess Latvenergo's long-term scope 1 and 2 as developing. The challenges related to the costs and partnership availability for offshore wind development are mitigated by long lead times. Consequently, we expect the company to have a substantial renewable power base by 2040 and their goal of achieving zero emissions by this date could be inhibited by their CHP plants. These plants will not be decommissioned for reasons of energy security and need for heat production. While the company has indentified both CCUS and alternative fuels as pathways to lower carbon emissions at these sites, there is currently no concrete plan to pursue either route that would meaningful decarbonize the plants. Both cost and physical space concerns limit the potential for building CCUS infrastructure at these sites. While biogas may have a future role in transitioning these units, supply is too limited and the company is likely to prioritize the production heat. Costly prerequisite "H2 ready" upgrades, and a lack of infrastructure for transporting hydrogen into Latvia are considerable challenges of transitioning these assets to green hydrogen power.

Long-term scope 3 — Developing

We assess Latvenergo's long-term scope 3 as developing. We expect the company to purchase very little power in the long term, as new renewables capacity will help them meet demand. To the extent that power is still purchased in the long term, the intensity to be low given expectations for EU grid intensity to decrease over time. For power which may need to be purchased, the company has indicated the ability to provide guarantees of origins to those customers who have switched to renewable energy.

The challenge around long-term scope 3 emissions thus revolves around the gas retail market which Latvenergo recently entered and which currently accounts for just under 20% of their scope 3 emissions. Because this business is so new, the scale to which it could grow, with corresponding growth in scope 3 emissions, is unclear. The company has targets decarbonizing this business by switching customers to heat pumps, though it remains unclear what the uptake of this technology will be against the size of the business. The assessment for this category will likely be constrained until there is more visibility.

GHG governance assessment — Tier 2

We score Latvenergo's transition-related governance practices as Tier 2 (see Appendix for scorecard). Although the company largely performs well with regards to GHG accounting practices, there remains room for improvement across sub-factors related to the integration of climate objectives. Specifically, the company could go to greater lengths to in formalizing the involvement of the board, and well as deepening the expertise of the board related to climate matters.

While the company's GHG-related accounting and disclosure practices for reported scopes are solid and have improved year over year, scope 3 reporting is still somewhat limited by the number of categories disclosed. The omitted categories are not expected to represent a significant portion of total emissions, but their inclusion is common practice amongst sector peers.

There are some areas of weakness related to integration of climate objectives, which contribute to the overall tier-2 assessment. A review of company materials did not find a high degree of experience with managing climate risks amongst the board. Company materials also did not provide any evidence that climate objectives are subject to further approvals beyond the management board. While it is evident that the CFO (who is also the chair of the company's Sustainability Committee) has objectives related to climate targets.

Appendix – Detailed governance scorecard

Exhibit 6

Sub-factors	Aspect	Score	Comment
GHG Accounting	Emissions reported comprehensively for all scopes	2	Latvenergo does not have as complete an inventory as other sector peers, with respect to the number of scope 3 categories disclosed. It is possible that the addition of these categories for Latvenergo would not make up more than 5% of emissions.
	The entity separately reports the carbon offsets, carbon removals and avoided emissions in its key GHG metrics and target disclosures	4	The company is currently not using any carbon offsets or credits as part of their transition strategy. Company shared that they plan to evaluate this as an opportunity during the strategy period. In the event that they consider this option, they will report any "reductions" from carbon offsets separately
	GHG disclosures for Scope 1&2 are third-party verified	4	Limited assurance provided by EY.
	GHG disclosures for Scope 3 are third-party verified	4	Limited assurance provided by EY.
	Targets are formulated based on absolute emissions	4	Targets cover scopes 1 and 3. Scope 2 only makes up about 3% of total emissions.
	Progress against key material targets is tracked and reported (inc. for Scope 3)	4	One year of track record reporting scope 3 emissions.
	Total GHG Accounting score	**22**	**Tier 1**
Integration of Climate Objectives	The entity's behaviour is coherent with its stated environmental commitments	4	No clear evidence to the contrary at this time.
	Environmental and social risks associated with the implementation of transition plans are identified and managed	4	No clear evidence to the contrary at this time.
	The entity discloses evidence of board or board committee oversight of the management of climate change	3	Per the annual report, the company created the Sustainability Committee of Latvenergo AS. "Its activities are supervised by the Management Board of the company, and it is chaired by the chief financial officer (CFO). One of the tasks of the committee is to coordinate sustainability-related activities at interdepartmental and Group levels and to formulate and recommend environmental, social and governance targets to be achieved." The charter lays-out that the committee should meet at least 4 times per year.
	The board demonstrates experience with respect to managing climate risks	2	No evidence to support a score higher than 2.
	Climate-related Key Performance Indicators (KPIs) are tied to CEO or other senior executive compensation plans	3	The CFO has objectives related to implementing the sustainability strategy, and other members of the management board have objectives related to renewable energy build-out. While clear, compensation metrics are not formulaic enough to merit the highest score for this aspect.
	Targets are subject to approval and oversight by owners or public authorities	2	Targets were not subject to further approvals beyond management board.
	Total Integration of Climate Objectives score	**18**	**Tier 2**

Source: Moody's Ratings

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 decarbonization pathways derived from scenario modeling 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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