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Zorlu Enerji Sustainability-Linked Bond Framework

Sept. 19, 2024


Editor's note: This SPO report is based on S&P Global Ratings' "[Analytical Approach: Second Party Opinions And Transaction Evaluations](#)" dated Dec. 7, 2022, which was partly superseded by S&P Global Ratings' "[Analytical Approach: Second Party Opinions: Use of Proceeds](#)," dated July 27, 2023, following the launch of our integrated use-of-proceeds SPOs.

Zorlu Enerji is a vertically integrated energy company headquartered in Istanbul, Türkiye. The majority of the company's operations are in Türkiye, while Zorlu also has a presence in Pakistan, Israel, and Palestine.

As of Dec. 31, 2023, about 52% of the company's EBITDA was generated from the electricity distribution business segment, 45% from production and trade, and about 3% from retail and wholesale electricity and gas sales. In 2023, the company had 2,619 employees and reported a revenue of €722.97 million. As of 2023, total installed capacity in Türkiye and abroad was 642.77 megawatts (MW) and 348.38 MW, respectively.

Zorlu Enerji's key shareholders include: Zorlu Holding AŞ (32.31%), Korteks Mensucat Sanayi ve Ticaret AŞ (17.55%), and Wren House Infrastructure LP (12.34%). Additionally, 37.40% of the company's shares are publicly traded.

In our view, Zorlu Enerji's sustainability-linked bond framework, published on Sept. 18, 2024, is aligned with:

 Sustainability-Linked Bond Principles, ICMA, 2024

Issuer's Sustainability Objectives

Zorlu Enerji's sustainability strategy focuses on the following three pillars: nature stewardship and value chain, people and culture, and impact-driven growth. The company conducted a materiality assessment in 2022 and identified the following high priority issues: health and safety, human rights, combating climate change, and responsible and sustainable financing, among others.

Zorlu Enerji's climate objectives are aligned with the Paris Agreement's goal of limiting the global temperature increase to 1.5°C by the end of the century. It is committed to achieving net-zero greenhouse gas emissions across its value chain by 2040.

To reach its climate objectives, Zorlu Enerji is committed to increasing the share of renewable energy in its total production to 100%. Currently, 62% of its total installed power and 87% of its production portfolio are based on renewable energy sources. The company plans to do this by investing in projects such as expanding smart grid systems, establishing hybrid energy facilities, and expanding electric vehicle infrastructure. The company plans to exit the natural gas

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distribution business as part of its decarbonization strategy in the medium term, although the success of this transaction is uncertain and will depend on market conditions. Additionally, the company is carrying out research and development (R&D) activities in the field of geothermal energy to address the emissions associated with gas leakages. Positively, as part of the Science-Based Targets Initiative (SBTi) validation process, the issuer is not permitted to use carbon offsets to reach its validated targets.

Zorlu Enerji has established a sustainability-linked bond framework to align its funding strategy with its corporate strategy, which is strongly linked to its sustainability ambitions. We expect the pursuit of sustainability-linked financing instruments issued under this framework will reinforce the commitments Zorlu Enerji has made sustainable goals, particularly with respect to renewable energy generation. The selection of key performance indicators (KPIs), specifically the focus on reducing greenhouse gas emissions on both an absolute and intensity basis, reflects how important decarbonization is to Zorlu Enerji, as shown by the materiality analysis conducted in 2022. The company's KPIs and near- and long-term sustainability performance targets (SPTs) included in the framework mirror the targets validated by the SBTi in 2024. All selected KPIs will only be included in future issuances in conjunction with other KPIs.

Selected Key Performance Indicators (KPIs) And Sustainability Performance Targets (SPTs)

KPI	SPT	Baseline	2023 performance
Scope 1 greenhouse gas emissions intensity from electricity and heat generation (tCO ₂ e/MWh).	Reduce scope 1 greenhouse gas emissions intensity from electricity and heat generation by 73.71% per MWh by 2030 and 97.7% per MWh by 2040 from a 2021 baseline.	0.402 tCO ₂ e/MWh (2021)	0.277 tCO ₂ e/MWh
Absolute scope 2 greenhouse gas emissions from electricity and heat generation.	Reduce absolute scope 2 greenhouse gas emissions from electricity and heat generation by 42% by 2030 and 90% by 2040 from a 2021 baseline.	240,010 tCO ₂ e (2021)	233,942 tCO ₂ e
Scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities (tCO ₂ e/MWh).	Reduce scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities by 73.71% per MWh by 2030 and 97.8% per MWh by 2040 from a 2021 baseline.	0.427 tCO ₂ e/MWh (2021)	0.408 tCO ₂ e/MWh
All other absolute scope 3 greenhouse gas emissions.	Reduce all other absolute scope 3 greenhouse gas emissions by 25% by 2030 and 90% by 2040 from a 2021 baseline.	665,027 tCO ₂ e (2021)	576,312 tCO ₂ e
tCO ₂ e/MWh--Tons of carbon dioxide equivalent per megawatt hour			

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Selection of key performance indicators (KPIs)

Alignment  Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

KPI 1	Scope 1 greenhouse gas emissions intensity from electricity and heat generation (tCO2e/MWh).	Not aligned	Aligned	Strong	Advanced
KPI 2	Absolute scope 2 greenhouse gas emissions from electricity and heat generation.	Not aligned	Aligned	Strong	Advanced
KPI 3	Scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities (tCO2e/MWh).	Not aligned	Aligned	Strong	Advanced
KPI 4	All other absolute scope 3 greenhouse gas emissions.	Not aligned	Aligned	Strong	Advanced

Calibration of sustainability performance targets (SPTs)

Alignment  Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

SPT 1	Reduce scope 1 greenhouse gas emissions intensity from electricity and heat generation by 73.71% per MWh by 2030 and 97.7% per MWh by 2040 from a 2021 baseline.	Not aligned	Aligned	Strong	Advanced
SPT 2	Reduce absolute scope 2 greenhouse gas emissions from electricity and heat generation by 42% by 2030 and 90% by 2040 from a 2021 baseline.	Not aligned	Aligned	Strong	Advanced
SPT 3	Reduce scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities by 73.71% per MWh by 2030 and 97.8% per MWh by 2040 from a 2021 baseline.	Not aligned	Aligned	Strong	Advanced
SPT 4	Reduce all other absolute scope 3 greenhouse gas emissions by 25% by 2030 and 90% by 2040 from a 2021 baseline.	Not aligned	Aligned	Strong	Advanced

Instrument characteristics

Alignment  Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

The sustainability-linked instruments issued under the framework will be subject to potential changes in their financial characteristics if they fail to meet the stated SPTs by the target observation date or if the issuer fails to comply with reporting and verification obligations in a timely manner. These changes may include a coupon step-up, margin adjustment, or premium

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payment. The legal documentation of the specific sustainability-linked transaction will include information pertaining to the relevant KPIs, SPTs, and the modifications to the financial and structural characteristics of the instrument.

Reporting

Alignment  Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

Score Not aligned **Aligned** Strong Advanced

Zorlu Enerji commits to disclosing the Sustainability-Linked Financing Progress Report either on a stand-alone basis or as part of its Integrated Annual Report on its website, at least once a year. The Sustainability-Linked Financing Progress Report will include information on the performance of all selected KPIs, as well as an external verification assurance report, outlining the performance of the KPIs against the SPTs, the related impact, and timing of such impact. In this report, the issuer also commits to disclosing any additional relevant information enabling investors to monitor the progress of the SPTs.

Post-issuance review

Alignment  Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

The issuer commits to obtaining an independent, third-party limited assurance verification of the KPIs' performance against the SPTs at least once a year. The external auditor's verification report, along with the verification of the KPI performance, will be publicly disclosed on Zorlu Enerji's website.

Framework Assessment

Selection of key performance indicators (KPIs)

The Principles make optional recommendations for stronger structuring practices, which inform our relevancy opinion as aligned, strong, or advanced. For each KPI, we consider how relevant the KPI is for sustainability by exploring the clarity and characteristics of the defined KPI; its significance for the issuer’s sustainability disclosures; and how material it is to the issuer’s industry and strategy.

 Zorlu Enerji’s Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

KPI 1	Scope 1 greenhouse gas emissions intensity from electricity and heat generation (tCO2e/MWh).	Not aligned	Aligned	Strong	Advanced
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We consider this KPI to be aligned with the Principles and with advanced characteristics. It covers the most material direct scope 1 emissions from Zorlu Enerji’s operations, addresses one of the most relevant sustainability issues faced by the energy sector, and is directly linked to the issuer’s sustainability strategy to achieve net-zero emissions. In addition, the scope, objective, and calculation methodology are clearly articulated in the framework.

While this KPI alone covers only a small portion (16.9%) of the company’s total carbon footprint, we still consider it advanced. This is because this KPI will only be included in the future issuances in conjunction with other KPIs, which together represent a holistic picture of company’s greenhouse gas footprint.

The scope of the KPI includes all Zorlu Enerji’s business segments and the locations where the issuer has operational control. This applies to all its subsidiaries and countries, including Turkey, Pakistan, Palestine, and Israel. The company calculates its scope 1 greenhouse gas emissions in accordance with the International Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. This KPI will address the major source of operational emissions for the company associated with the geothermal power plants due to the potent gas leakages. These gases include nitrous oxide (N2O) and other fugitive emissions that are up to 265 times more potent than carbon dioxide. Positively, the historical performance, including the baseline, are externally verified and publicly available.

The KPI directly addresses climate transition risks, which are a key sustainability challenge for the industry (see "[ESG Materiality Map: Power Generators](#)," published May 18, 2022). Additionally, scope 1 greenhouse gas emissions intensity is classified as core in the International Capital Market Association (ICMA)’s KPI registry for the energy sector. The reduction in scope 1 emissions intensity from electricity and heat generation is consistent with the issuer’s sustainability strategy, whereby the company aims to increase the share of renewable energy in total production to 100% by 2030, along with investments in R&D, IT, and innovation to achieve net-zero emissions across the entire value chain by 2040.

This KPI is expressed in intensity terms, but we do not see it as a limitation, because for target setting purposes, the electricity generators, such as Zorlu Enerji, are required to follow the sectoral decarbonization approach (SDA) to set targets for scope 1 and scope 3, category 3 emissions. Also, the issuer has provided the absolute emissions forecast by 2030 and 2040, which illustrates that, in absolute terms, the company expects the emissions to decrease.

KPI 2	Absolute scope 2 greenhouse gas emissions from electricity and heat generation.	Not aligned	Aligned	Strong	Advanced
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We consider this KPI to be aligned with the Principles and with advanced characteristics.

The framework includes a clear reference to the scope, objective, and the calculation methodology. This KPI, aimed at reducing absolute scope 2 emissions from electricity and heat

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generation, contributes to the global effort to combat climate change. Together with scope 1, it is considered one of the most material sustainability issues faced by power generators.

While this KPI alone covers only a small portion (5.3%) of the company's total carbon footprint, we still consider it to be advanced, since this KPI will only be included in the future issuances in conjunction with other KPIs, which together represent a holistic picture of company's greenhouse gas footprint.

The issuer calculates its scope 2 emissions in accordance with the GHG protocol. We positively note that the company reports its scope 2 emissions using the location-based method, which reflects the average emissions intensity of the grids on which energy consumption occurs (as opposed to the market-based approach, which is more reflective of company's purchasing decisions and generally has a zero-emission factor). We view the location-based method of calculating emissions as more useful than the market-based approach because it closely tracks reductions at the company and global levels (see "[Purchased Energy Emissions In Second Party Opinions And ESG Evaluations](#)," published March 23, 2023, on RatingsDirect).

We assess favorably that the KPI is expressed as a sustainability outcome rather than a financial proxy and covers all subsidiaries and global facilities under Zorlu Enerji's operational control. Also, this KPI covers 100% of scope 2 emissions, and the baseline emissions and historical performance data have been externally verified.

This KPI is relevant to the companies that generate power given the energy-intensive nature of the business. Similarly, scope 2 emissions are classified as "core" under the ICMA KPI registry. We view favorably that the company has been measuring and reporting its absolute scope 2 emissions since 2018.

KPI 3 Scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities (tCO₂e/MWh).

Not aligned

Aligned

Strong

Advanced

We consider this KPI to be aligned with the Principles and with advanced characteristics. It addresses the most material part of the company's emissions (64.6% of its total carbon footprint), mostly stemming from the fuel and energy-related activities. This KPI will also be included in future issuances and in conjunction with other KPIs, which together represent a holistic picture of company's greenhouse gas footprint.

The KPI's scope, objectives, and calculation methodology are clearly outlined in the framework. Furthermore, this KPI is directly linked to Zorlu Enerji's sustainability strategy and plays a key role in achieving net-zero emissions across the value chain. The issuer obtained limited assurance from a third party to verify the historical performance, including the baseline for its scope 3 emission calculations for the locations with ISO 14064 certification. This applies to the issuer itself, and two subsidiaries.

The scope of the KPI covers all Zorlu Enerji's business segments and geographical locations. The company calculated its scope 1 emissions in accordance with the IPCC's 2006 Guidelines for National Greenhouse Gas Inventories, while the scope 3 emissions were calculated in accordance with the GHG Protocol. Emissions covered by this KPI are primarily associated with Well-to-Tank process emissions of consumed fuels and electricity. The activity data used in calculations is based on energy consumption that is monitored and cross-checked with the supplier invoice.

The KPI directly addresses climate transition risks, which we consider a key sustainability challenge for the industry, notably the power sector. According to the CDP technical notes, "scope 3, category 3--fuel and energy related activities" is one of the most relevant categories for the electric utility and vertically integrated companies. It accounts for the upstream generation, transmission, and distribution losses of electricity that is traded, purchased, and sold to customers. Likewise, the ICMA registry considers scope 3 greenhouse gas emissions reductions (both absolute and intensity) as "core" for the energy sector.

The KPI is expressed in intensity terms. This is common for the energy sector and allows for external benchmarking. We do not see this as a limitation in the issuer's case because it is a requirement to set a corresponding intensity target in line with the Sectoral Decarbonization Approach (SDA) tailored to power generators, according to the SBTi methodology. Additionally,

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the issuer has provided evidence that emissions covered under this KPI are expected to decrease by 2030 and 2040.

KPI 4 All other absolute scope 3 greenhouse gas emissions.

Not aligned

Aligned

Strong

Advanced

We consider this KPI to be aligned with the Principles and with advanced characteristics. It covers 100% of the remaining scope 3 emissions and is key for the issuer to reach its decarbonization objectives. Although this KPI alone covers a small portion (13.1%) of the total carbon footprint, we do not see it as a limitation to challenge an advanced score. This is because this KPI only will be included in future issuances and in conjunction with other KPIs, which together represent a holistic picture of company's greenhouse gas footprint.


The KPI's scope, objectives, and methodology are clearly articulated. Along with other KPIs, the objective of this KPI contributes to the EU environmental objective of climate change mitigation.

The scope of this KPI covers all Zorlu Enerji's business segments and geographical locations under its operational control. The KPI has been calculated in accordance with the GHG Protocol. The remaining emissions covered by this KPI are primarily associated with the electricity transmission and distribution, natural gas distribution, purchased goods and services, waste generated in operations, upstream transportation and distribution, business travel, employee commuting, and investments. scope 3 data received limited assurance for locations with ISO 14064 certification.

This KPI is directly linked to Zorlu Enerji's sustainability strategy, its materiality assessment, and contributes to the company's goal of aligning with Paris Agreement's 1.5C pathway. We view favorably that "category 11--the use of sold products" is included in the KPI's scope because it represents the largest proportion of scope 3 emissions reported by the sector, according to the 2022 CDP technical note on the relevance of scope 3 categories across sectors.

Calibration of sustainability performance targets (SPTs)

The Principles make optional recommendations for stronger structuring practices, which inform our ambition opinion as aligned, strong, or advanced. We consider the level of ambition for each target by assessing its clarity and characteristics, how the issuer defines the target with reference either to its past performance, or to external or competitor benchmarks, and how it explains what factors could influence future performance.

 Zorlu Enerji's Sustainability-Linked Finance Framework is aligned with this component of the SLB and SLL Principles.

SPT 1 Reduce scope 1 greenhouse gas emissions intensity from electricity and heat generation by 73.71% per MWh by 2030 and 97.7% per MWh by 2040 from a 2021 baseline.

Not aligned

Aligned

Strong

Advanced

We consider the ambition level and the clarity of the SPT to be aligned with the Principles and with advanced characteristics. The baseline, along with the minimum expected timeline for the target achievement, is clearly outlined in the framework. In addition, the issuer has outlined an action plan to reach the target, focusing mostly on addressing emissions stemming from geothermal power plants. Zorlu Enerji has also laid out interim targets in the framework that are consistent with the ambition level of its near- and long-term SPTs.

The SPT is benchmarked against Zorlu Enerji's three-year historical performance (FY2021-FY2023). Between 2021 and 2023, Zorlu Enerji's scope 1 emissions intensity from electricity and heat generation decreased by 31%. The emission reduction was primarily attributed to the decrease in electricity generation from fossil fuel sources (MWh). In terms of annual average reduction between 2021-2023, the scope 1 emissions intensity showed an annual reduction rate of -16%, reaching 0.277 tCO₂e/MWh (tons of carbon dioxide equivalent per megawatt hour) in 2023. Between 2023 and 2030, the expected compound annual reduction rate to get to SPT 1.1. (-

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73.71% per MWh by 2030) is -12.8%, while for SPT 1.2 (-97.7% per MWh by 2040) it stands at -18.3%. Therefore, although the annual average future performance rate between 2023-2040 is more ambitious than in the past, the near-term target by 2030 requires a smaller annual reduction rate than Zorlu Enerji has achieved previously. We do not see this as a limitation given the target's alignment with the Paris Agreement's 1.5C pathway. This reflects emissions intensity improvements from the gradual increase in renewable power generation since the 2021 baseline.

We note positively that both the near- and long-term SPT 1, along with other SPTs, have been validated by the SBTi in 2024, allowing for external benchmarking. This validation confirms that Zorlu Enerji's scope 1 emissions target, both until 2030 and 2040, is aligned with the Paris Agreement's 1.5C pathway. The SPT 1 is modeled based on the Sectoral Decarbonization Approach (SDA). The key principle of this approach is that all companies in a sector must converge to a certain emissions intensity by a chosen year. We note that while most companies operating in other sectors have the choice to select the absolute contraction approach, i.e., to set targets in absolute terms for scope 1 emissions, electricity generators are required to follow the sectoral decarbonization approach. According to the SBTi guidance, the Power Generation SDA typically results in more ambitious emissions reduction targets (in aggregate) than the absolute contraction approach.

The issuer has outlined its strategy to reach the SPT. Specifically, it aims to further increase the share of renewable energy in its total energy production portfolio to 100% by 2030. It will do this primarily through strategic investments made in hydroelectric, wind, geothermal, and solar power plants. This will significantly reduce the country's dependence on imported fossil-fuel based energy. Since the company aims to increase electricity generation from geothermal power plants, there is a risk that emissions associated with potent gas leakages may increase. To address this issue, Zorlu Enerji has implemented a number of projects. For example, the GECCO (Geothermal Gas Emissions Control) Project, which is in cooperation with international institutions and with the support of the European Union's Horizon 2020 program. The purpose of the project is to significantly reduce emissions during electricity generation from geothermal resources. Other initiatives include deploying high-performance renewable technologies in cogeneration plants, testing new equipment and technologies by conducting field applications between countries, and improving operating processes to better understand the chemical and physical properties of geothermal energy.

Baseline	Interim SPTs						
2021	2025	2026	2027	2028	2029	2030	2040
0.402	0.270	0.238	0.205	0.172	0.139	0.106	0.009
tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh
	Equivalent to a 33 % reduction	Equivalent to a 41% reduction	Equivalent to a 49% reduction	Equivalent to a 57% reduction	Equivalent to a 65% reduction	Equivalent to a 74% reduction	Equivalent to a 98 % reduction

SPT 2 Reduce absolute scope 2 greenhouse gas emissions from electricity and heat generation by 42% by 2030 and 90% by 2040 from a 2021 baseline.

Not aligned

Aligned

Strong

Advanced

The ambition, clarity, and characteristics of the SPT 2 are aligned and go beyond the requirements of the Principles. The framework clearly includes references to the expected observation period, baseline, target timeline, and trigger events. The issuer has also included interim targets that are consistent with the ambition level of its near- and long-term scope 2 targets.

Between 2021 and 2023, Zorlu Enerji's absolute scope 2 emissions have decreased by 3%, which reflects the reduction in electricity consumption for the company's own use. The performance rates between 2023-2030 and 2023-2040 are more ambitious than in the past, equaling to -40% and -90% respectively. In terms of annual averages, the average annual reduction rate between 2021-2023 was 1%. From 2023-2030, the expected compound annual reduction rate to achieve

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SPT 2.1 (42% by 2030) is 7.1%, while for SPT 2.2 it is 12.5%. This demonstrates that for both near- and long-term SPTs, the average annual future performance rate is more ambitious than in the past.

The SPT 2, along with other SPTs, have been validated by the SBTi in 2024. This verification affirms that the target aligns with the 1.5C Paris Agreement pathway. Target coverage is 100%, which means that all material scope 2 emissions are included in the target boundary, without any exclusions. We note positively that the issuer chose a location-based approach for this target, which will reduce actual scope 2 emissions from the grid. The SBTi criteria allows power generators to model the scope 2 targets using the absolute contraction approach, which the issuer has chosen for this SPT. We note that out of 154 companies globally that have committed to setting science-based targets, only 24, including Zorlu Enerji, have set both near- and long-term targets (including all SPTs) that are aligned with 1.5C/net-zero.

The issuer has also outlined its strategy for achieving this SPT, which includes increasing the share of renewable energy generation in total production to 100%. For example, the wind power plants with storage units will provide efficient use of renewable energy, as well as energy storage capacity, and help minimize location-based emissions. However, we note that the framework mainly focuses on the strategy to minimize market-based emissions, such as procuring electricity from I-REC and YEK-G certified renewable energy sources. I-REC is an internationally recognized certificate that guarantees the origin of one MWh of green electricity injected into the grid. Similarly, the YEK-G certificate, which is a national renewable energy certification system of the Republic of Türkiye, verifies that the energy supplied to consumers is produced by renewable energy sources.

Baseline	Interim SPTs						
2021	2025	2026	2027	2028	2029	2030	2040
240,010	195,208	184,008	172,807	161,607	150,406	139,206	24,001
tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e
	Equivalent to a 19% reduction.	Equivalent to a 23% reduction.	Equivalent to a 28% reduction.	Equivalent to a 33% reduction.	Equivalent to a 37% reduction.	Equivalent to a 42% reduction.	Equivalent to a 90% reduction.

SPT 3 Reduce scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities by 73.71% per MWh by 2030 and 97.8% per MWh by 2040 from a 2021 baseline.

Not aligned

Aligned

Strong

Advanced

We consider the ambition, clarity, and characteristics of the SPT 3 to be aligned with the Principles, with advanced characteristics. The target baseline, timeline, and expected target observation dates are clearly outlined in the framework. Similar to other SPTs, interim targets have been provided for the period between 2025-2030, while maintaining the same level of ambition as the near- and long-term SPT 3.

The issuer has provided the minimum required three years of historical performance to determine the target's level of ambition. Over 2021-2023, Zorlu Enerji's emissions intensity from fuel and energy-related activities decreased by 4.4%. This is significantly lower than what the company expects to achieve in the 2023-2030 and 2023-2040 timeframes, representing -73% and -98% reduction, respectively. Annually, between 2021-2023, emissions decreased by 2% on average. The decrease in greenhouse gas emissions intensity in the past was due to a decrease in emissions from electricity trading within Category 3.3. Between 2023-2030, the emissions intensity from fuel and energy-related activities shows an expected annual compound reduction rate of 16.9% for the SPT 3.1 (73.71% reduction per MWh by 2030) while for SPT 3.2, it accounts for 20.1%. This affirms that the annual future performance rate for both the near- and long-term targets is more ambitious than the past performance annual average decrease.

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Along with other SPTs, the SPT 3 has been validated by the SBTi in 2024 and is aligned with the 1.5C Paris Agreement pathway. The approach for this target follows the Sectoral Decarbonization Approach (SDA) for power generators, which is a requirement for scope 3, Category 3 emissions for the sector. Out of 154 companies in the energy sector that set science-based targets, 84 have set a scope 3 target and only 24 (15.6%) companies, including Zorlu Enerji, have a scope 3 target that is net-zero aligned.

The company outlined some insights on how it plans to achieve this target, such as reducing emissions stemming from fossil fuels, while increasing its share of renewable energy sources. In this regard, the issuer is also evaluating investment opportunities in energy storage technologies. Specifically, the R&D department of OEDAŞ keeps working on energy storage, digitalization, and innovation. It plans to implement innovative practices in the energy distribution industry.

Baseline	Interim SPTs						
2021	2025	2026	2027	2028	2029	2030	2040
0.427	0.287	0.252	0.217	0.182	0.147	0.112	0.009
tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh	tCO2e/MWh
	Equivalent to a 33 % reduction.	Equivalent to a 41% reduction.	Equivalent to a 49% reduction.	Equivalent to a 57% reduction.	Equivalent to a 66% reduction.	Equivalent to a 74% reduction.	Equivalent to a 98 % reduction.

Not aligned

Aligned

Strong

Advanced

SPT 4 Reduce all other absolute scope 3 greenhouse gas emissions by 25% by 2030 and 90% by 2040 from a 2021 baseline.

We consider the ambition, clarity, and characteristics of the SPT 4 to be aligned with the Principles, and with advanced characteristics. Its level of ambition is aligned with what is required to reach net-zero emissions by 2040. The issuer clearly outlines the baseline, target achievement timeline, and expected target observation dates in the framework. Similar to other SPTs, the interim targets between 2025-2030 are included in the framework, while maintaining the ambition levels of the near- and long-term SPT 4.

As required by the Principles, the issuer provided three years of historical performance between 2021 and 2023. The emissions over this timeframe decreased by 13%, mainly due to the divestment process for existing natural gas-fired power plants. Emissions from this specific category are expected to become immaterial (0.2% of total emissions) after exiting the gas distribution business. However, since the timing of this exit is uncertain and can depend on market conditions, we still think the level of ambition aligns with the Principles' requirement.

From 2023-2030, the performance rate indicates a 13% reduction, while for 2023-2040 it accounts for 88%. Over the 2021-2023 timeframe, the annual average reduction rate was 6.5%. The SPT 4.1 (-25% by 2030) showed a compound annual average reduction rate of 2%, while for SPT 4.2 between 2030-2040, it equals 11.9%. We do not see it as a limitation given that the near-term target (until 2030), and the long-term target (until 2040), are aligned with the ambitious 1.5C trajectory of the Paris Agreement.

The SPT 4 is part of the issuer's objective to achieve net-zero emissions across the entire value chain and has been validated as such by the SBTi in 2024. The target coverage is 100%, implying that absolute emissions from all other scope 3 categories are 100% covered by the target. To model the target, the issuer followed an absolute contraction approach.

The issuer's strategy to reach this SPT targets the most significant category of "scope 3 emissions, category 11--use of sold products." These emissions are primarily generated by the natural gas distribution business. Nevertheless, as part of the issuer's plan to phase out natural gas power plants and transition to 100% renewable energy, the significant portion of emissions in this category will be reduced, along with "scope 3, category 1--investments." This aligns with the

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issuer's goal to reduce emissions in all other scope 3 categories 25% and 90% by 2030 and 2040, respectively.

We note that the issuer has a very strong supplier management strategy in place which will help minimize the remaining scope 3 emissions from the supply chain. This includes evaluating suppliers based on their environmental and social performance in purchasing processes, conducting comprehensive audits and control mechanisms to improve their competencies, and giving priority to suppliers that manage their environmental and social impacts. Zorlu Enerji's supplier evaluation report, as well as the sustainable supply chain policy and supply chain principles are publicly available.

For all SPTs, the company discloses some of the external factors that can impact the target achievement. These include, for example, the risks associated with renewable energy investment opportunities that Zorlu Enerji can find and execute, as well as risks associated with electricity certificate availability, non-guaranteed outcomes from R&D activities, and supply chain issues and regulatory changes that may disrupt capacity to execute strategic plans.

Baseline	Interim SPTs						
2021	2025	2026	2027	2028	2029	2030	2040
665,027	591,135	572,662	554,189	535,716	517,243	498,770	66,503
tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e
	Equivalent to a 11% reduction.	Equivalent to a 14% reduction.	Equivalent to a 17% reduction.	Equivalent to a 19% reduction.	Equivalent to a 22% reduction.	Equivalent to a 25% reduction.	Equivalent to a 90% reduction.

Instrument characteristics

The Principles require disclosure of the type of financial and/or structural impact involving trigger event(s), as well as the potential variation of the instrument's financial and/or structural characteristics.

 Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

As stated in the framework, the sustainability-linked financing instruments will incorporate all four KPIs as specified in each sustainability-linked financing instrument's respective legal documentation. The company's ability or failure to reach its targets or to meet its respective verification and reporting obligations will affect the features of all sustainability-linked financing instruments issued under the framework. These potential variations include a coupon or margin adjustment, or a premium payment. Zorlu Enerji commits to disclosing this information in relevant legal documentation of the specific sustainability-linked transaction, such as the final terms of the relevant sustainability-linked bond.

The framework includes a reference to a fallback mechanism. In addition, if there are significant changes (an increase or decrease in greenhouse gas emissions of 5% or greater) in a calculation methodology, applicable regulations, data accessibility and quality, or in corporate structure, the issuer commits to remain consistent with its sustainability strategy and maintain the level of ambition of the relevant targets. These changes will be reported by Zorlu Enerji in its Sustainability-Linked Financing progress report.

Reporting

The Principles make optional recommendations for stronger disclosure practices, which inform our disclosure opinion as aligned, strong, or advanced. We consider plans for updates on the sustainability performance of the issuer for general purpose

Second Party Opinion

funding, or the sustainability performance of the financed projects over the lifetime of any dedicated funding, including any commitments to post-issuance reporting.

✓ Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

Disclosure score

Not aligned

Aligned

Strong

Advanced

We consider Zorlu Enerji's overall reporting practices to be aligned with the Principles.

Zorlu Enerji commits to disclosing the sustainability-linked progress report annually and for any date relevant for assessing the trigger of the SPT performance, either as part of the Integrated Annual Report, which also includes the Annual Sustainability Report, or on a standalone basis, on their website.

The report will include information on the performance of KPIs and their baselines, where relevant, as well as a third-party verification assurance report, outlining the performance of the KPIs against the SPTs, the related impact, and timing of such impact. Zorlu Enerji will also disclose any additional relevant information enabling investors to monitor the progress of the SPTs.

The reporting may also include a qualitative or quantitative explanation of the contribution of the main factors, including M&A activity, behind the evolution of each selected KPI, when feasible and possible. It should also provide an illustration of the positive sustainability impact of the performance improvement, and any recalculations and relevant updates to the SPTs and/or baselines. Finally, the company will disclose any updates on new or proposed regulations from regulatory bodies that are relevant to the KPIs and their corresponding SPTs. While we view these commitments to be good practice, we do not see the framework as having a firm commitment to such reporting.

Post-issuance review

The Principles require post-issuance review commitments including the type of post-issuance third-party verification, periodicity and how this will be made available to key stakeholders. Our opinion describes whether the documentation is aligned or not aligned with these requirements. Please note, our second party opinion is not itself a post-issuance review.

✓ Zorlu Enerji's Sustainability-Linked Bond Framework is aligned with this component of the SLB Principles.

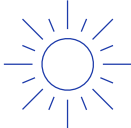

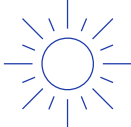

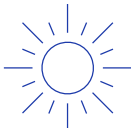

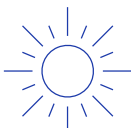

Annually, and for any date relevant to assess KPI performance against SPTs until the SPT trigger event of an instrument is reached, the issuer commits to obtaining an independent, external limited assurance verification on the performance of selected KPIs against their corresponding SPTs.

Zorlu Enerji commits to publicly disclosing the verification of KPI performance, along with the external auditor's verification report, on its website.

Mapping To The U.N.'s Sustainable Development Goals

The Sustainable Development Goals (SDGs), which the United Nations (U.N.) set up in 2015, form an agenda for achieving sustainable development by 2030.

Zorlu Enerji's Sustainability-Linked Bond framework intends to contribute to the following SDGs:

KPI	SDGs
Scope 1 greenhouse gas emissions intensity from electricity and heat generation, (tCO ₂ e/MWh)	  7. Affordable and clean energy and 13. Climate action
Absolute scope 2 greenhouse gas emissions (tCO ₂ e) from electricity and heat generation	  7. Affordable and clean energy and 13. Climate action
Scope 1 and 3 greenhouse gas emissions intensity from fuel and energy-related activities, (tCO ₂ e/MWh)	  7. Affordable and clean energy and 13. Climate action
All other absolute scope 3 greenhouse gas emissions, (tCO ₂ e)	  7. Affordable and clean energy and 13. Climate action

§The KPI is likely to contribute to the SDGs.

Second Party Opinion

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