Welcome to your CDP Climate Change Questionnaire 2023

C0. Introduction

C0.1

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

This report discusses the following services covered by the company:
1. Electricity Generation:
· Geothermal Power Plants (GPP)
· Hydro PP
· Wind PP
· Natural Gas PP
· Thermal PP
2. **Electricity trade and sales**
3. Smart systems for energy use
The company's climate change strategy focuses on achieving net zero emissions from power generation and facilitating the transition to a low-carbon economy through the implementation of smart systems such as electric vehicle (EV) charging stations.
According to the report, more than 88% of emissions come from Geothermal Power Plants (GPP) and 100% of electricity generated are from all forms of renewable energy. However, the emissions and targets of the natural gas distribution and sales company (GAZDAŞ) and the electricity distribution company (OEDAŞ) are not covered in this report.
Company Profile: Established in 1993, Zorlu Energy (ZE) is currently one of the major players in Turkey's energy sector. Its operations include electricity generation, sales, trade, and distribution, as well as solar panel trade and installation, EV charging station sales and installation, and EV rental. As of 2022, ZE employs 2736 people and ZE's consolidated turnover in 2022 increased by 158% compared to the previous year and amounted to TL 30.1 billion.
ZE is the first energy company in Turkey to calculate its carbon footprint and hold the ISO 14064-1 Greenhouse Gas Emission Standard Certificate. It annually shares its carbon footprint with stakeholders in a transparent manner. ZE signed a Green Loan Agreement with Garanti Bank in 2017, making it the first signatory in Turkey. The company is also a signatory of The Women's Empowerment Principles and became a member of The UN Global Compact in 2021.
Sustainability Strategy: ZE aims to become the energy company of the future by focusing on the environmental, economic, and social impacts of its actions. Its sustainability strategy

revolves around combating the climate crisis, reducing carbon emissions, using sustainable resources, achieving energy efficiency and security, investing in clean technologies, water conservation, protecting human and employee rights, ensuring equal opportunity, and maintaining effective corporate governance. Zorlu Energy announced its sustainability strategy in 2020, which includes a Net Zero Target and a signed Science-Based Target (SBT) in 2022. Targets Related to Climate Change:

- Achieving Net Zero emissions by 2030 in all operations and energy generation
- Generating 100% renewable energy by 2030
- Investing 10 million TL in biodiversity loss and restoration
- Generating 20% of total revenue from innovative business models
- Ensuring sustainable financial resourcing for new projects in Turkey

Electricity Generation: By the end of 2022, ZE had a total installed capacity of 991 MW. This includes 305 MW of geothermal capacity, 191 MW of wind capacity, 1.5 MW of solar energy capacity, and 119 MW of hydroelectric capacity. ZE's generation portfolio consists of hydroelectric, wind, geothermal, and natural gas power plants in Turkey, as well as wind and solar power plants in Pakistan and Palestine, respectively. Renewable energy resources account for 87% of ZE's installed capacity in Turkey and 62% of its total installed capacity. ZE is a significant producer of geothermal energy, accounting for over 20% of Turkey's total geothermal energy production.
Smart Systems: Zorlu Energy Solutions (ZES) was established in 2018 to focus on smart and digital systems. Investments have been made in smart home technology, smart energy management systems, electric car systems, and electric vehicle charging stations. Fast-charging stations have been installed in cities and along intercity roads since 2019. ZE plays a role in facilitating the transition to low-carbon transportation through electric vehicles. The electricity obtained from ZE's stations is certified with an I-REC Certificate. As of the end of 2022, ZE has increased its EV charging station capacity to 1,570 points and 2,840 sockets (vehicle charging capacity) in 81 provinces. The number of ZES electric charging stations is 1592.
Electricity Trade and Sales: The scope of electricity trade services provided by ZE covers only office services. Electric transmission and distribution are not included. The emissions from electricity trade and sales account for less than 1% of ZE’s total emissions.

C0.2

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

Reporting year

Start date

January 1, 2022

End date

December 31, 2022

Indicate if you are providing emissions data for past reporting years

No

C0.3

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

Pakistan

Turkey

C0.4

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

TRY

C0.5

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

Operational control

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation

Other divisions

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
No	

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual or committee	Responsibilities for climate-related issues
Board Chair	1) Position and responsibility in the corporate structure: Climate-related matters are overseen by the top-level management, namely the Board Chair (BC), at Zorlu Energy (ZE). The BC assumes responsibility for the company's vision, strategy, evaluation of high and very high risks, and making final financial decisions. Furthermore, the BC provides guidance on strategies and policies that intersect with climate change and renewable energy concerns. 2) How the responsibilities are related to climate issues: Environmental consciousness is a fundamental element of our business strategy, and we reinforce this approach through our research and development and innovation endeavors. Our parent company, Zorlu Holding, unveiled the "Smart Life 2030" vision in 2020. Embracing this vision, we have pledged to achieve carbon neutrality in our operations and energy generation by 2030, and extend carbon neutrality across our entire value chain by 2040. Additionally, we aim to elevate the proportion of renewable energy in our overall production to 100% and invest 10 million TL by 2030 to enhance and safeguard biodiversity. 3) Example of a climate related decision: As part of our research and development projects, we initiated the GECO project, a CCS (Carbon Capture and Storage) pilot project, at our Kızıldere 3 power plant, which has a capacity to capture approximately 1000 tons of CO2 per year. ZE aims to increase the share of renewable energy in electricity generation through geothermal, wind, and hybrid solar generation licenses. In our most recent investment decision, we obtained a 375 MWe storage wind power plant license in Kırklareli and Tekirdağ. ZE has conducted reforestation efforts by planting 520,000 seedlings in the regions where our company operates. This initiative aligns with the regulations set by the General Directorate of Forestry for Memorial Forests. By the end of 2022, we aim to plant a total of 1,150,000 seedlings, with an annual target of 90,000 seedlings. This project has received two awards in 2022 for achieving a Zero Carbon Footprint.

	In partnership with the Electrip brand in Europe and the US, we have installed EV charging stations, while our collaboration with Wren House focuses on selling electricity for homes. Currently, Electrip operates internationally, while the ZES brand provides services for EV charging station installation and electricity sales within Turkey.
Other, please specify Independent Board Member	1. Position and Responsibility within the Corporate Structure: Zorlu Energy (ZE) appoints independent board members from professionals in the business field to provide an impartial and unbiased perspective in decision-making processes. The Board Member for Sustainability at ZE is a business strategist who plays a crucial role in guiding the company by conducting qualitative research to anticipate future expectations. 2. Relationship between Responsibilities and Climate Issues: The environmental pillar of ZE places significant importance on mapping out climate-related measures and performance. The Board Member for Sustainability is responsible for evaluating how ZE aligns its business strategy with climate change considerations and assists the company in creating added value while achieving sustainability objectives. Consequently, the Board Member prioritizes key issues, offers recommendations to facilitate potential transformations, and integrates sustainability into the company's operations. 3. Example of a climate related decision made: In line with Zorlu Holding's "Smart Life 2030" vision and Zorlu Energy's (ZE) Net Zero Target by 2030, ZE places significant emphasis on raising awareness about climate change. Climate change awareness holds paramount importance for ZE as its entire business strategy revolves around transitioning to a low carbon economy. As part of its Sustainability Policy and strategy, ZE invests in high technology within the scope of combating the climate crisis. In this context, investments are made in local, renewable and clean energies while focusing on energy efficiency. With the renewable energy investments made by ZE in recent years, as of the end of 2022, the share of renewable energy in Turkey's generation portfolio has reached 87%. Considering the opinions of the independent Board Members who are experts in sustainability ZE develops projects to become the most effective, visionary and technology developer player in Turkey in solar energy as well as in wind, hydroelectric, solar and geothermal.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding annual budgets	The Board of Directors (BoD) holds the highest level of responsibility for managing climate-related matters. The Board Chair (BC) assumes the role of overseeing Zorlu

	Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan Overseeing and guiding scenario analysis Overseeing the setting of corporate targets Monitoring progress towards corporate targets Overseeing and guiding public policy engagement Overseeing value chain engagement Reviewing and guiding the risk management process	Energy's vision, strategy, assessment of high and very high risks, and finalizing financial decisions. The BC also guides strategies and policies that intersect with climate change and renewable energy-related issues. Within this structure, the Independent Board Member for Sustainability plays a crucial role in providing guidance to the company regarding future expectations through qualitative research. This includes assessing the adaptation of the business strategy in light of climate change, guiding the company towards creating value while achieving sustainability goals, prioritizing key issues based on qualitative research findings, serving as a recommending body to facilitate potential transformations, and integrating sustainability into the company's operations. Under the guidance of the BoD, Zorlu Energy, has announced its sustainability strategy and long-term targets. Aligned with the Sustainable Development Goals (SDGs), Zorlu Energy supports Zorlu Holding's "Smart Life 2030" targets in transitioning towards a low carbon economy. As part of this strategy, the budget for transitioning to Hybrid Power Plants has been approved by the Executive Committee. In addition, through the leadership of the BoD our efforts centred around stakeholders, society, and the planet have resulted in a notable improvement in our ESG (Environmental, Social, and Governance) performance. We have increased our score by 4 points compared to the previous year, reaching a total of 61 points. This achievement has elevated our rating to the "Advanced Level." Furthermore, our strong performance in ESG activities has positioned us as the 4th highest-ranked company out of 57 energy companies globally that actively assess their ESG performance.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues

Row 1	Yes	The qualifications required for board members in relation to climate change include: • Critical and analytical thinking abilities • Capacity to adapt to and drive change • Flexibility, openness and willingness to explore new business opportunities • Proficiency in conducting research and analysis

C1.2

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

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Managing climate-related acquisitions, mergers, and divestitures

Coverage of responsibilities

Reporting line

Reports to the board directly

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

More frequently than quarterly

Please explain

The CEO heads the Sustainability Committee and has the following responsibilities:
• Supervising the implementation of the company's long-term corporate strategy.
• Evaluating the company's progress towards climate change targets.
• Collaborating with domestic and international organizations in climate change negotiations.
• Developing new investment strategies, such as research and development initiatives.
While fulfilling these duties, the CEO is responsible for managing budgets, including expenses related to climate mitigation efforts, and making investment decisions like mergers and acquisitions. The CEO leads the Sustainability Committee in taking actions to effectively address the climate crisis, and the CEO presents the findings and recommendations of the Sustainability Committee to the Board of Directors.
In 2022, under the leadership of the CEO, investments were made in Alkan Geothermal,

Rarik Turkison, Zador companies, and thus our organization acquired 100% capital share in these companies.

Position or committee

Other committee, please specify

Corporate Governance Committee

Climate-related responsibilities of this position

Providing climate-related employee incentives
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Managing climate-related risks and opportunities

Coverage of responsibilities

Reporting line

Reports to the board directly

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

More frequently than quarterly

Please explain

The primary responsibility for overall management and the guidance of strategies and policies lies with the Board Chair. To ensure a focus on sustainability and the transition to a low-carbon economy, an Independent Board Member-Sustainability has been appointed to provide a perspective on future expectations in business and sustainability matters. At Zorlu Energy, the risk management structure designates the CEO as the leader of the Sustainability Committee, which includes high-level executives and managers from various departments. This committee reports to the Corporate Governance Committee, which is responsible for strategic coordination. The Corporate Governance Committee consolidates all risks and presents high and very high risks to the Board of Directors. Meetings of the Corporate Governance Committee take place four times a year, during which they oversee the progress of the climate transition plan, incorporate climate-related concerns into the company's strategy, and effectively handle risks and opportunities associated with climate issues.

Position or committee

Sustainability committee

Climate-related responsibilities of this position

Conducting climate-related scenario analysis
Setting climate-related corporate targets

Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities

Coverage of responsibilities

Reporting line

Reports to the board directly

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

More frequently than quarterly

Please explain

The CEO leads the Sustainability Committee (SC), which comprises executives and managers from different departments and reports to the Corporate Governance Committee. The SC works towards achieving the “2030 Net Zero Emission” targets and the vision of Smart Life 2030, as approved by the Board of Directors. Within the scope of our climate actions, we have become committed to improve the "net zero emission targets" set for 2030 and 2040 in line with SBTi. By 2025, we aim to reduce Scope 1 and 2 emissions by 50%, and in 2022, emissions decreased to 1,081,723 tCO2, achieving 76% of the target.
The SC consists of four Working Groups aligned with Zorlu Energy's adopted values: Restorative Operations and Value Chain, Impact Driven Growth, People and Culture, and Strategic Foundations. These groups are responsible for assessing and managing climate-related risks and opportunities. The climate-related priorities of these working groups include innovation and new business models, sustainable finance and responsible investments, climate action, green and reliable energy supply, biodiversity, integrated risk management, and corporate governance and behavior.
The relevant positions within these committees have the following responsibilities:
• The Environment/Sustainability Manager (Mng) reports on sustainability-related risks, opportunities, and performance in terms of target achievement. They set emission reduction targets and review performance, while the Risk Manager guides risk management methodologies.
• The Internal Control Mng evaluates performance and provides recommendations on climate strategies aligned with ZH Smart Life-2030. They also guide supply chain management based on Supply Chain Principles and monitor and identify climate change-related regulations.
• The HR Director improves communication channels and tools to enable employee contribution to sustainability and climate change mitigation activities. They manage environmental and social contributions.
• The Corporate Communications Group Mng identifies and manages sustainability plans, programs, projects, and actions related to green energy. They review and manage corporate environmental policy, including climate-related initiatives.
• The Environmental and Corporate Affairs Mng evaluates corporate risks and

opportunities in line with sustainability and climate change policies. They coordinate GHG management and environmental issues at various sites.
• The Procurement Director manages the green supply policy and applies Supply Chain Principles.
• The Investments Mng recommends alternative solutions considering climate change risks and opportunities.
• The Finance and Development Mng monitors and reviews energy generation projects using local and renewable energy sources.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Zorlu Energy offers incentives to encourage the attainment of its climate-related targets. The company utilizes both financial and non-financial rewards to enhance its performance indicators related to climate issues, expedite the shift towards a low-carbon economy, and reinforce responsible production practices.

C1.3a

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

Entitled to incentive

Board Chair

Type of incentive

Non-monetary reward

Incentive(s)

Public recognition

Performance indicator(s)

Increased value chain visibility (traceability, mapping, transparency)

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

The Board Chair (BC) plays a crucial role in shaping the company's strategies and policies to align with the perspective of climate change and renewable energy. This guidance focuses on both adaptation and mitigation activities. In 2020, ZE announced

its Net Zero Target, emphasizing the transition to a low-carbon economy, and followed it up with the introduction of midterm targets in 2021. The company is committed to increasing the adoption of electric vehicles (EVs) and achieving net-zero emissions during power generation.
ZE operates with the mission of becoming a green and clean energy company of the future, and it makes substantial investments to expand the utilization of electric vehicle charging stations both domestically and internationally. Zorlu Energy Solutions (ZES), established in 2018, installs fast charging stations along urban and intercity roads. Additionally, ZES meets user demands by installing charging stations at homes and workplaces. By the end of 2021, ZES provided charging services at 934 locations in all 81 provinces of Turkey, utilizing clean electricity from renewable energy sources certified with I-REC. In 2022, ZES expanded its services to 1,570 points in all 81 provinces, with a charging capacity for 2,840 vehicles. With the guidance of the BC, ZES aims to enhance its leading position in this field by increasing the number of standard charging stations in densely populated residential areas and collaborating with municipalities to install fast charging stations in the future.
Recognizing the need for transformative behavior not only within the company but also throughout the value chain, ZE has made investments of 10.3 million TL in various collaborative initiatives. This includes 2.5 million TL for social projects and scholarships, as well as 7.8 million TL for environmental investments. These collaborations encompass corporate social responsibility projects such as providing clean water access in villages and supporting irrigation for agricultural land. ZE also offers annual scholarships to students to equip them with the necessary skills. Energy and water efficiency projects are implemented, along with efforts to preserve biodiversity, with a target of investing 10 million TL by 2030 for biodiversity protection and improvement. These actions not only contribute to the reputation of the BC but also demonstrate the vision for transitioning to a low-carbon economy within the energy industry and the wider business world.

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

The non-monetary incentive aligns with our commitment to achieve Net Zero emissions for Scope 1 and 2 by 2030 and Scope 3 by 2040.

Entitled to incentive

Chief Executive Officer (CEO)

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Bonus – set figure

Performance indicator(s)

Reduction in emissions intensity

Reduction in total energy consumption
Increased engagement with suppliers on climate-related issues

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

The CEO of Zorlu Energy is responsible for monitoring and achieving various key performance indicators (KPIs) outlined in the Smart Life 2030 targets. These KPIs include tracking the efficiency of power generation from renewable sources, implementing climate-related actions for adaptation and mitigation based on the company's sustainability policy, reducing energy and fossil fuel consumption, and leading Zorlu Energy's sustainability goals in alignment with the Smart Life 2030 vision, UN Sustainable Development Goals (SDGs), and Zorlu Energy Sustainability Strategy. Our CEO is entitled to a bonus of %100 of their salary on a yearly basis if the organization has achieved a 4,2% annual reduction in absolute emissions in line with the target defined in SBTi guidelines (see SBTi Net Zero Standard, version 1.1, Table 5 A)

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

The performance indicator aligns with our short-term science-based target, which aids our transition towards a low-carbon economy. Our goal is to achieve net-zero emissions by 2030 for Scope 1 and 2 emissions, and by 2040 for Scope 3 emissions.

Entitled to incentive

Other C-Suite Officer

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Bonus – set figure

Performance indicator(s)

Reduction in emissions intensity
Reduction in total energy consumption
Increased engagement with suppliers on climate-related issues

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

The defined KPI for the General Manager of Investments, Operation and Maintenance (GMIO) are energy efficiency and emission intensity reduction. In this regard GMIO
• Monitors organization’s energy consumption regarding the operations and

maintenance
• Oversees organization's GHG emissions
The GMIO is entitled to a bonus of %100 of their salary on a yearly basis if the organization has achieved an annual reduction in total energy consumption.

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

The performance indicator aligns with our short-term science-based target, which aids our transition towards a low-carbon economy. Our goal is to achieve net-zero emissions by 2030 for Scope 1 and 2 emissions, and by 2040 for Scope 3 emissions.

Entitled to incentive

Environment/Sustainability manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Increased value chain visibility (traceability, mapping, transparency)
Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)
Implementation of employee awareness campaign or training program on climate-related issues

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

The defined KPIs for Environment and Sustainability Manager are as follows:
• To support Smart Life-2030 vision in terms of data development in data collection systems
• To increase the sustainability index performance of the company
• To increase value chain transparency by coordinating traceability.

The Environment and Sustainability Manager is entitled to a bonus of %100 of their salary on an annual basis if the organization has increased the performance in a climate related sustainability index. The achievement level is followed through the scorecard systems.

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

The performance indicator aligns with our short-term science-based target, which aids our transition towards a low-carbon economy. Our goal is to achieve net-zero emissions by 2030 for Scope 1 and 2 emissions, and by 2040 for Scope 3 emissions.

Entitled to incentive

Business unit manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Implementation of an emissions reduction initiative
Increased investment in low-carbon R&D

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Our R&D team carries out projects to reduce emissions within the scope of our 2030 targets. The success monitoring of these projects is the responsibility of the Business Unit Manager (BUM). For example, within the scope of the FlexiGrid project, the feeding of electric vehicle charging stations to the grid with solar energy is a KPI defined for BUM. Depending on the success and output of the projects, if the annual target is achieved, BUM entitled to a bonus of 100% of their salary.

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

The performance indicator aligns with our short-term science-based target, which aids our transition towards a low-carbon economy. Our goal is to achieve net-zero emissions by 2030 for Scope 1 and 2 emissions, and by 2040 for Scope 3 emissions.

Entitled to incentive

Procurement manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Bonus – set figure

Performance indicator(s)

Implementation of an emissions reduction initiative
Reduction in absolute emissions
Increased engagement with suppliers on climate-related issues

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Zorlu Energy is dedicated to reaching a state of net-zero emissions by 2040, which includes addressing its Scope 3 emissions. The majority of these emissions stem from the products the company purchases. To address this, the Procurement Manager has established a goal of gathering climate change-related information from suppliers. This includes data on fuel consumption during transportation and the distance travelled by the purchased products. By obtaining this information, the procurement director aims to reduce Zorlu Energy's Scope 3 emissions.
The Procurement Manager is entitled to a bonus of of %100 of their salary on an annual basis if the organization has achieved an annual reduction in transportation emissions in Scope 3.

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

The performance indicator aligns with our short-term science-based target, which aids our transition towards a low-carbon economy. Our goal is to achieve net-zero emissions by 2030 for Scope 1 and 2 emissions, and by 2040 for Scope 3 emissions.

Entitled to incentive

All employees

Type of incentive

Non-monetary reward

Incentive(s)

Internal company award

Performance indicator(s)

Implementation of employee awareness campaign or training program on climate-related issues

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

To enhance employee understanding of climate change and the low-carbon economy, initiatives promoting eco-friendly actions for nature preservation are implemented. Accordingly:
• Internal messages emphasizing sustainability are delivered to employees.
• A calendar is created that highlights specific sustainability-related dates.

• A contest is conducted based on the prepared calendar.
These activities seek to strengthen employees' awareness and commitment to sustainability.

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

The performance indicator aligns with our short-term science-based target, which aids our transition towards a low-carbon economy. Our goal is to achieve net-zero emissions by 2030 for Scope 1 and 2 emissions, and by 2040 for Scope 3 emissions. In this journey the internalization of sustainability awareness by all our employees, their ownership of our sustainability goals and their contribution to the realization of our goals support our carbon neutral commitment and environmental sensitivities.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	3	We place short-term risks and opportunities on a 0-to-3-year time frame. We consider short-term horizon actions in relation to extreme weather conditions like storms, droughts, and floods. Also, we define emerging regulations about climate change in short-term horizon and prepare our strategic planning in line with our financial and operational targets adhering to our timeline.
Medium-term	3	10	Medium-term horizon covers the trends that may occur between 3 to 10 years in line with the SDG target year 2030, which we have determined also as the year of our "Smart Life Vision". The risks and opportunities defined for the medium-term are mostly board-level strategies and include strategic decisions related to transition to the low carbon economy. From this perspective, this time frame also reflects our updated long-term strategy, business plan, potential investments and opportunities in line with our financial forecasts. We periodically determine the risks and opportunities that would affect our business. Based on our assessments, we expect to create an

			opportunity with our electric vehicle charging stations in the medium time horizon.
Long-term	10	30	Long-term horizon focuses on the strategic planning that guides our company about customer behaviour, market dynamics, production model changes, asset management, new investment plans and product development. This time frame also reflects the achievement processes of our decarbonizing target in line with transition procedures. The effects of climate change are expected to occur mostly in this time horizon. We expect that most of the risks and opportunities of long-term horizon will be related to technological developments and R&D.

C2.1b

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

1**) <u>Substantive financial definition:</u>**

Risks are regarded as circumstances that have the potential to negatively affect our business operations. In line with this approach, we define significant financial impact as any situation where the magnitude of the impact exceeds 0.1% of our net income. We prioritize our risks based on their financial impacts, enabling us to effectively manage the most critical risks. We quantitatively categorize financial impacts as follows:

· Low: x < TL 30 million

· Medium: TL 30 million ≤ x < TL 300 million

· High: x ≥ TL 300 million

As of 2022, Zorlu Energy (ZE) has a net income of TL 30.067 billion. Therefore, our critical threshold for quantifiable indicators is set at TL 30 million. In the risk ranking process, we not only assign central importance to financial impacts but also carefully consider likelihood, frequency, relevance, the number of affected businesses, time frame, and the degree of impact. This approach ensures that we also incorporate non-financial metrics into our categorization process.

<u>2) General Risk Management Framework:</u>

At ZE, we prioritize to create a strong bond between our business operations and sustainability strategy. In this regard, we adopt a comprehensive risk management and define any circumstance that may cause deviations from our sustainability targets or adversely affect our operational flow. In line with our risk appetite, we determined our risk impact categories as follows:

- Financial
- Operational
- Client
- Employee
- Reputational
- Legal

In accordance with our risk management model, which aligns with ISO Management Systems, all departments within Zorlu Energy have the responsibility to identify and report their risks to the Corporate Risk Management Department (CRMD). Through our integrated risk management procedures, CRMD consolidates these risks based on their strategic and financial impacts. CRMD also conducts quantitative analysis to assess both risks and opportunities. This analysis shapes the development and approval of strategic and financial plans. Subsequently, the risks are categorized using a heat map, taking into account factors such as legal sanctions, likelihood, frequency, relevance, the number of affected businesses, time frame, and degree of impact. Risks and opportunities are financialized, and cost and benefit ratios are identified in alignment with the TCFD (Task Force on Climate-related Financial Disclosures) approach. The action plans for high financial risks and their strategic impacts are then shared with the CEO and Board of Directors (BoD).

3) Definition of Major Circumstances: Situations that can create strategic impacts on the business are defined as major circumstances that may negatively influence our financial well-being and strategic goals. We categorized these incidents as follows:
Any circumstance that might
· Affect 50% of Zorlu Energy's clients
· Affect 50% of Zorlu Energy's employees
· Create bad reputation for the company through social, print, broadcast media, internet or any kind of digital means
· Result in a forced shutdown of operations by official authorities

Based on the risk assessments conducted quantitatively and qualitatively, if one or more points listed above emerges, then it is considered a high risk that might have a strategical impact on our business. When such a risk emerges, all related departments are responsible to define the solution for the emerged risk with the possible costs to provide a clear picture of the risk management. Climate risks are consolidated by the Sustainability Committee and reported to The Corporate Risk Management Department (CRMD). Then the CRMS forwards the risks and their solutions to **the** Board of Directors.

C2.2

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

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

1) How climate-related risks are identified at the company level:
The sustainability risks are defined by the Corporate Risk Management Department (CRMD) using the following methodology:

a) Goal Setting: Incorporating risk management principles into strategic planning and goal setting processes
b) Risk Identification: Identifying the risks and opportunities that may affect the company's goals through organization wide engagement and a shared understanding. Top risks are determined by their potential effect (both on operations and on all stakeholders), the likelihood of occurrence, the frequency and the potential consequences including legal sanctions and time horizon.
c) Risk Assessment: Evaluating the probability and impact of risks on the company in case of occurrence. Determining the value of risk before implementing control measures or taking actions, i.e. inherent risk
d) Determining Actions: Addressing the risks (Risk Acceptance, Risk Transfer, Risk Mitigation, Risk Avoidance) by considering the risk appetite and cost/benefit factors. Determining actions in line with the responses identified and creating proactive risk management
e) Residual Risk and Action Plan Follow-up: Assessing the residual risk after implementing actions and monitoring the completion of activities specified in action plans.
f) Reporting and Communication of Risks: Prioritizing and monitoring risks through Key Risk Indicators (KRI). Reporting and measuring KRIs that provide warnings, considering control points, and transparently sharing all activities. Integrating risk management into decision-making mechanisms and fostering a risk-aware culture across the organization.
A risk list is constituted and approved by the CRMD, Sustainability Committee and Board of Directors (BoD). In this process, each department also has the responsibility of defining its risks and reporting them to the CRMD with a focus on prevention, mitigation and monitoring of the mapped risks. Only the top risks are reported to the Executive Committee, BoD and the CEO, while all risks are carefully managed within the relevant departments.
2) How climate related risks which could have major financial or strategic impact are assessed at the company level:
We have implemented an integrated and centralized corporate risk management system to identify and address potential risks to our operations. This approach allows us to effectively detect, evaluate, and manage risks in a consistent, efficient, and cost-effective manner. We have adopted COSO's Internal Control-Integrated Framework and ISO 31000 Risk Management Standards to establish our risk management system. Additionally, we follow ISO 9001 and 14001 Management Systems' procedures based

on ISO 31000 Risk Management Standards.
Through this framework, we regularly assess and manage risks and opportunities in our daily operations, aligning them with our goals and risk appetite. This digitalized management approach enables us to assess, prioritize, and monitor risks effectively. The Corporate Risk Management Department (CRMD) and Finance Departments calculate the costs of risks based on various scenarios to understand their potential financial impacts. The CRMD informs the Sustainability Committee (SC) about the outcomes of these scenario analyses and consolidates risks to be shared with the SC. While the SC maps all sustainability-related risks, top risks are escalated to top-tier management for decision-making. The Executive Committee (EC) re-evaluates the risk levels and determines appropriate measures, sharing their insights with the Board of Directors (BoD) and the CEO. Required actions are then taken based on the EC's proposal and the consent of the BoD and CEO.
In line with our corporate risk management approach, we have defined our "Climate Related Risk Categories" to include areas such as energy efficiency, natural resource utilization, emission reduction projects, legal requirements, environmental protection, technology updates for efficiency, and low-carbon transition. To effectively assess and manage these categories, we have established the Early Risk Detection Committee (ERDC) under the CRMD. The ERDC is responsible for implementing risk mitigation measures and managing risks. In 2022, the ERDC convened six times to timely and accurately detect risks that could negatively impact our business.
During the risk assessment process, we consider several criteria, including legal sanctions, likelihood, frequency, relevance, the number of affected businesses, time frame, and degree of impact. We also refer to our existing risk inventory and assess economic, environmental, and social impacts, conducting a SWOT analysis to identify potential opportunities. The results of our risk management efforts are shared with the SC, which acts as a body to gather information from various channels, including GHG and energy data from facilities, environmental compliance indicators, SWOT analysis, stakeholder meeting results, and performance reports. Based on this information, quarterly Sustainability Committee Coordination Meetings are held to review and monitor environmental compliance and GHG emission reduction activities at our facilities.
3) Illustration of risk and its management:
Zorlu Energy committed to become Net Zero for Scope 1&2 by 2030 and Scope 3 by 2040. We consider the decline in biodiversity in the regions where we operate as a risk and we carry out projects to protect biodiversity and stand against deforestation. We won the silver medal in the "Climate Action" category in 2022 with the "Zero Carbon Footprint Forests Project" we realized with this perspective. 1.2 million saplings are planned to be planted within the scope of our project, which started in 2010 in cooperation with the Ministry of Agriculture and Forestry. With our project, which is also reflected in our 2030 targets, we envisage planting 90 thousand saplings every year until 2030. We also carry out annual maintenance and repair work to protect against the devastating effects of climate change and possible weather events, conduct extra inspections to protect the lines passing through forest areas from the risk of fire, and regularly review our business continuity and emergency action plans and conduct demonstration drills.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Relevance of the Risk: In Turkey, the Climate Law is under development and the World Bank and GIZ has been giving support for the development of the ETS system. Since 2015, "GHG Monitoring Reporting Verification" regulation is in force as a part of PMR project funded by the World Bank. We attach a big importance to the monitoring and transparent disclosure of carbon footprint. In this regard, since 2015 we have been publicly sharing our reports based on verified data through our Sustainability and CDP Reports and uploading MRV results into the system of the Ministry of Environment and Urbanization. Since a regulation will change the market parameters for us, we strictly follow up the current trends. We hold periodical meetings to discuss the current global situation in line with local parameters. In this process, our Sustainability Committee, the responsible Board Members and other relevant departments review the potential regulation related risks that can have an adverse effect on our financial well-being. Example of the Risk: Turkey ratified the Paris Agreement in 2021 and set a target to achieve carbon neutrality by 2053. The climate policy is still in development, and the publication titled "First Step in the Pathway to a Carbon Neutral Turkey: Phase Out Coal 2030" has been released. In anticipation of these changes, Zorlu Energy formulates its business strategy in line with the low carbon economy and refrains from constructing new fossil fuel power plants. Our primary focus is on investing in renewable energy. Currently, 87% of our global installed capacity is in renewable energy power plants. Additionally, we lead the sector by installing electric vehicle charging stations in Turkey. In this regard, we have received support from YEK-DEM, an incentive mechanism that promotes renewable energy investments in the country. YEK-DEM offers a feed-in tariff for a duration of 10 years after the commencement of renewable energy power plant operations. Recognizing this as an opportunity, we are increasing our investments in renewable energy and adhering to I-REC standards in our operations. In this context, we supply certified green electricity for our operations, including EV charging stations, Alasehir Geothermal, and our head office.

Emerging regulation	Relevant, always included	Relevance of the Risk: PMR (Partnership of Market Readiness) project funded by the World Bank proposes market-based emission reduction instruments such as emission trading system and carbon tax. In this regard, the enforcement of Emission Trading Scheme (ETS) constitutes one of our risks. First, the CAP-and-trade systems will cause higher operational costs for us due to the emissions at our coal and natural gas plants. Secondly, the regulation might also affect our geothermal energy plants. Despite the common belief that geothermal energy is emission-free, it causes high emissions according to the recent studies. Thus, the regulatory framework that supports geothermal energy might undergo a change. In that scenario, on the one hand, the financial incentives provided by banks and governments can be cut off, on the other hand, emerging carbon taxes can create additional financial burdens for our operations. Example of the Risk: In order to effectively address the financial risks associated with the carbon tax, we engage in research and development projects that specifically focus on technologies related to Carbon Capture, Utilization, and Storage (CCUS). Additionally, we have made a commitment to achieve net-zero emissions in all our operations and have signed up for Science-Based Targets (SBT). Furthermore, we prioritize investments in smart grid infrastructure, electric vehicles, and charging stations as part of our transition towards a low-carbon economy. As a result, our business plan centers around renewable energy, shifting away from power plants that rely on coal and natural gas. We strictly adhere to responsible production requirements and acquire the necessary certifications to validate our approach. Two key certificates we possess are the YEK-G Certificate and the IREC, which serve as evidence and transparently disclose the origin of the energy we produce. *The YEK-G Certificate verifies that the energy consumed by end-users is generated from renewable energy sources.
Technology	Relevant, always included	Relevance of the Risk: Energy sector is a technology driven, fast changing and highly competitive industry. Technology plays a central role in the development of alternative fuels and carbon capture mechanisms. From this aspect, technology is also enabler of the GHG emission reductions. In line with our net zero commitment for Scope 1&2 by 2030 and Scope 3 by 2040, we see technological developments as an opportunity to adapt our existing power plants to the energy ecosystem of the future. As a part this transformation, we are aware of the importance of establishing strong bonds with high-technologies in our journey to become the energy company of the future.

		Therefore, we keep pace with technological developments and increase our investments in R&D, IT and innovation. Example of the Risk: In order to establish ourselves as a leading company in the future, we have adopted a business strategy that embraces the adoption of new technologies. We recognize that failure to adapt to these technologies could result in the loss of market share and customers. Consequently, we thoroughly evaluate the short-term, medium-term, and long-term effects of new technologies and assess how they can help us mitigate risks. We closely monitor technological advancements in all areas of our operations and invest in information technologies, innovation, and research and development (R&D) projects. Our focus on R&D activities aligns with our prioritization of carbon capture and storage technologies. Additionally, our transition plan, Smart Life 2030, guides our efforts towards achieving carbon neutrality. We are dedicated to building the necessary infrastructure and network for electric vehicles in the Turkish market. Therefore, our primary investments are directed towards expanding renewable energy to balance greenhouse gas emissions, implementing Smart Grid systems, establishing hybrid plants and expanding our electric vehicle (EV) and EV charging stations network. Through these initiatives, we aim to lead the way in our sector.
Legal	Not relevant, explanation provided	Relevance of the Risk: In the current legal context of Turkey, climate-related legal risks are not at a high level that may affect our operations. Climate law is still under development phase in Turkey and the only direct regulation impacting our industry is GHG Monitoring, Reporting and Verification which has no enforcement. Although there is no legally binding financial burden or expected legal risk for, we attach a big importance to the follow up of the global and local legal climate. In this regard, our Corporate Risk Management and Legal Compliance Department monitor the legal regulations and periodically forward the findings regarding the possible sanctions to our Sustainability Committee. Example of the Risk: Climate-related legal risks are not considered a high-level risk that could impact the activities of our company. However, we still closely monitor and evaluate any climate-related litigation to stay informed about potential risks, even though there are currently no anticipated legal burdens or binding financial obligations. We understand that legal risks can also give rise to market and reputational risks. Therefore, we actively monitor lawsuits that target industrial emissions, which have a negative impact on the climate, in order to

		proactively manage any potential risks before they affect our operations.
Market	Relevant, always included	Relevance of the Risk: Market risks have a significant impact on our business continuity and economic growth. Therefore, we prioritize the management of these risks by integrating them into our risk assessment procedures. We focus on understanding customer behaviors, technological advancements, and social trends that influence the demand for our products and services. We recognize that climate change can lead to changes in customer behavior and preferences, potentially resulting in decreased sales or the need to adjust our product portfolio. We evaluate and monitor these possibilities and aim to transform these risks into opportunities. Our business strategy is designed to ensure compatibility with changing market dynamics, maintaining flexibility, and demonstrating resilience in the face of market-related risks. Example of the Risk: We primarily define market risks as those related to regulations, carbon taxes, and CO2 markets. The implementation of emissions monitoring and verification regulations, along with the introduction of cap-and-trade schemes, will impact market parameters. To manage this risk, we are working on projects that can generate carbon credits. Another major risk we anticipate due to climate change is potential fluctuations in energy prices. Higher CO2 prices will directly affect our operating costs for fossil fuel plants. Considering that consumers may reduce their demands and opt for off-grid technologies, we may not be able to pass on these increased costs to consumers. As a result, we prioritize our investments in renewable energy. Currently, 87% of our installed capacity is from renewable sources, and we plan to further invest in renewable power plants. Additionally, we recognize our responsibility to contribute to decarbonization targets and meet the demand for emission-free services. Despite the proliferation of off-grid technologies, market trends and international reports indicate that electricity demand will continue to rise due to improving living standards, the electrification of existing technologies, and the emergence of new energy-intensive technologies. Considering these factors, we anticipate a growing market and are developing projects to participate responsibly in this market.
Reputation	Relevant, always included	Relevance of the Risk: Reputational risk is considered and managed as part of our risk assessment, with a focus on social responsibility. Failing to meet our sustainability commitments can have a detrimental impact on our stakeholders and our business as a whole. This can result in a loss of trust and a negative perception of our brand, leading to a decrease in market value, investor indifference, difficulties in entering new

		markets, reduced customer loyalty, and lower employee engagement. These negative effects will inevitably result in financial consequences, such as a potential decrease in demand for our products and services. With a holistic understanding of the situation, we recognize the importance of safeguarding our corporate reputation. Therefore, we believe that the measures we take to manage this risk, our sustainability performance, and our environmental actions will also create various opportunities for us. We understand that our corporate commitment to the environment demonstrates our responsible stance and strengthens our reputation with stakeholders. Example of the Risk: As a player in the energy sector, one of the primary risks we face is the perception by our stakeholders that our actions against climate change are inadequate. To address this, we have established a clear roadmap for our climate actions. We have committed to achieving Net Zero emissions in Scope 1 and 2 by 2030 and Scope 3 emissions by 2040. As part of our Smart Life 2030 plan, we aim to reduce CO2 emissions and facilitate a smooth transition to a low carbon economy. We have also increased our investment in research and development, allocating 16,173,841.95 TL for our projects in 2022. In this regard, we have placed particular emphasis on effective water management, especially in our hydroelectric power plants. We strive to meet the increased water demand for irrigation during the summer while minimizing environmental impact. Throughout this process, we also prioritize respecting all forms of life in the areas where we operate and support biodiversity. Reputational risks are managed through a corporate responsibility approach implemented by employees at all levels. In support of this approach, we engage in stakeholder consultations and shape our plans based on the results we achieve. When negative feedback is received, we assign relevant departments to evaluate the feedback and take the necessary measures to address and mitigate the concerns.
Acute physical	Relevant, always included	Relevance of the Risk: Acute weather events pose significant risks to our electricity generation operations as they directly impact our infrastructure, assets, technical equipment, and generation capacity. These weather events can cause physical damage to dams, power grids, wind and solar power plants, and other operational facilities. Such damages can result in service interruptions, outages, and put our business continuity at risk. Therefore, we incorporate acute physical risks into our risk assessment procedures to effectively manage these risks and ensure the safety of our operations. Example of the Risk:

		Extreme weather events such as windstorms, hailstorms, wildfires, floods, lightning, or hurricanes can have adverse effects on our production capacity and lead to operational costs. For instance, excessive precipitation can cause floods and disrupt dam flows, resulting in interruptions in electricity generation. Windstorms can damage wind turbines, solar panels, and power lines. Wildfires can destroy facilities and lead to asset loss. High temperatures can negatively impact hydroelectric power plants that are not well-suited to operate in hot and dry conditions. Extreme weather conditions can also hinder the supply of natural gas, which is transported through pipelines like the BTC (Baku-Tbilisi-Ceyhan Pipeline). In response to these risks, we strive to be prepared for such scenarios. We prioritize rapid maintenance of the power supply and have established emergency maintenance teams to effectively address system breakdowns. We have also made technological investments to enhance our operational processes, including updates to our system and regular maintenance at our facilities. We invest in the expansion, reinforcement, renewal, and upgrading of our grid system. Periodic evaluations are conducted to assess the resilience of our power generation facilities against extreme weather events. Based on our findings, we have insured our most high-risk facilities. In addition, fire protection systems have been installed in all our facilities, and emergency shutdown measures are in place to be activated if necessary.
Chronic physical	Not relevant, explanation provided	Relevance of the Risk: Based on the IPCC's 6th Assessment and 1.5ºC Report, there is a moderate confidence that our region will experience extreme precipitation patterns and droughts, leading to water scarcity. The availability of water is crucial for the operation of our natural gas and coal-fired power generation processes in hydroelectric and geothermal power plants. The performance of hydroelectric power plants heavily relies on water availability and rainfall patterns. These climate change-induced negative effects can result in operational costs. Therefore, we proactively address chronic physical risks associated with climate change by integrating them into our risk assessment procedures. Example of the Risk: Precipitation patterns play a critical role in water supply, which in turn affects electricity generation. When water reservoirs fall below a certain threshold, hydroelectric power plants cannot produce electricity. For instance, electricity production from Zorlu Energy's hydro power plants decreased by 5% on average in the last years (in 2020: 318,291,930 kWh; in 2022: 303,174,551 kWh) due to this risk. To refrain from these types of impact, we adopt a diversified approach

		to electricity generation by operating wind, geothermal, and solar power plants, and we have started investing in hybrid power plants. Furthermore, future predictions indicate a further decrease in precipitation patterns and an increase in drought frequency in our region. Prolonged drought periods escalate the risk of wildfires, posing significant threats to our operations. Additionally, changes in wind speed resulting from climate change can affect power generation from our wind turbines. To manage all these risks, we prioritize incorporating advanced technologies into our power plants. We are also aware that changing climate conditions will influence electricity demand. Warmer winters may decrease the energy requirement for heating, while hotter summers may increase the demand for cooling-related electricity. This increased demand can strain our production capacity. To address this, we utilize smart grid systems and thermostats to effectively manage stress and meet our customers' demand accurately.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Cyclone, hurricane, typhoon

Primary potential financial impact

Increased capital expenditures

Company-specific description

Zorlu Energy produces %100 of its electricity from renewable sources which is directly dependent on weather conditions. Weather conditions are one of the important scenarios that have financial impacts on our production. Extreme floods or cyclones may cause interruption in our operation processes due to the damage on our assets. In

scenario analysis one of the critical variables used was weather conditions based on IEA 1.5 Degree Special Report.
The maximum financial impact comes from the switchyard damage that interrupts the transmission of the produced electricity. Damage on switchyard or transmission line has to be solved with TEIAS (Turkish responsible authority for power transmission), it is not only under the control of Zorlu Energy.
The minimum financial impact scenario due to the extreme weather conditions studied was for the wind farm and the damage of one turbine.
We acknowledge that given the estimated climate change and weather patterns are likely to get more off-balance, our production equipment is more likely to get affected.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

64,361

Potential financial impact figure – maximum (currency)

50,000,000

Explanation of financial impact figure

In order to calculate the financial impact of the extreme weather events on our operations, we benefitted from scenario analyses. In this analysis, we used weather conditions based on IEA 1.5 ºC Special Report as our critical variable. We calculated the maximum impact as the switchyard damage that interrupts the transmission of the generated electricity and the minimum financial impact as the wind turbine damage. The damages on switchyard or transmission line have to be solved in cooperation with TEİAŞ.
In line with this scenario, we implemented a minimum financial impact scenario for our wind farms and foresaw a possible damage in one turbine.
9300 MWh: Annual energy production of one turbine
2526 TL/MWh: Electricity sales price
9300*2526 = 23,491,800 TL (1 year interruption cost in 1 turbine)
23,481,800/365= 64,361 TL (1-day electricity generation interruption cost)
The maximum financial impact of the scenario is calculated as ten-days annual interruption of production in geothermal power plants. The guaranteed max price for geothermal power energy is defined as 112 USD /MWh and in 2022 total sold energy

from Kızıldere 3 which is the biggest plant was 999.150 MWh.
(112*999,150)*16.55= 1 Billion TL / 365 = 5 Million TL (per day)
5Million*10 (days)=50 Million TL
(1 USD is accepted as 16.55TL)

Cost of response to risk

46,640,000

Description of response and explanation of cost calculation

Interruption in electric supply has financial impacts on our company. To manage any risks that would stem from interruption or outage, we regularly monitor the transmission lines. Also, we are in close contact with TEİAŞ, the responsible actor for the transmission of electricity in Turkey, via regular inspections and preventive maintenance.
Secondly, we project to install solar power plants on hydropower plants and next to the geothermal and wind powerplants. Here solar power plants decrease evaporation in dams creating a shading effect on the dam. We also operate hybrid power plants where we generate energy by combining at least 2 different energy sources.
“Combined Renewable Power Generation Plant” established to generate electricity from solar energy in integration with Alaşehir 1 Geothermal Power Plant (GPP) in Manisa was approved and the generation license of the plant was amended as 45.5880 MWm / 45 MWe with 2.8 million USD investment.
1 USD = 16.55 TL 2.8 Million USD= 46,340,000 TL
Thirdly, we gave priority to the quick maintenance of the power supply. In this context, we formed emergency maintenance teams to effectively eliminate the breakdowns in the system and carried out regular maintenance at the facilities based on our crisis management plans. We also updated our system with the necessary technological investments to improve our operational processes. We conducted system expansion, reinforcement, renewal and upgrade works. In this regard, we periodically evaluated if our power generation facilities can be resilient against an extreme weather event. Based on our findings, we have insured our most risky facilities. Investments to prevent the damages on our assets that interrupt our electricity sales is equivalent to %0.001 of our revenue from power generation. As of 2022, Zorlu Energy (ZE) has a net income of TL 30.067 billion. 30.067 Billion * 0.00001= 300,000 TL
Total cost: 46,40,000+300,000= 46,640,000 TL (While the risks are calculated annually, since the investments are long term, the cost benefit ratios are considered appropriate and taken into consideration).

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

The Paris Agreement entered into force by the Turkish Parliament in 2021. Although the climate law is still under development, as in many other countries, we are trying to manage the crisis we are facing by prioritizing country-based solutions in the fight against climate change. In this context, the Local MRV Regulation developed by PMR with World Bank funding has been in force since 2015. The next expected stages are the local ETS (Emission Trading Scheme) and Carbon Tax. Although these stages are planned to come into effect within 5 years, a clear date has not been officially announced yet.

Emissions trading schemes often aim to achieve emissions reductions by setting quotas and defining penalties. It also limits emissions from emissions-intensive industries by establishing mechanisms for emission trading. In the current regulations, only facilities that produce with fossil fuels are subject to carbon tax. However, as Zorlu Energy, we know that the geothermal facilities we own also cause high emissions although they produce energy with renewable resources. We act considering that this situation will change in the regulation and geothermal facilities can also be included in the scope of the emission trading system. We have made a commitment to a science-based target with a Net 0 commitment. We have defined the cost that will occur if all the emissions we cause are evaluated under the emission trading system as a risk.

This can lead to cost increases related to:

• Affected by carbon taxes due to plant-based emissions or production volumes,

• Adoption of new equipment standards and carbon dioxide equivalent (CO2e) emission reduction technologies,

• Establishing the necessary institutional resources and systems to manage risks,

• Ensuring compatibility and renewal of existing equipment/processes.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

91,884,612

Potential financial impact figure – maximum (currency)

1,189,094,989

Explanation of financial impact figure

In order to predict the financial impact, we conducted 3 scenario studies covering the years 2025, 2030 and 2035:
Bloomberg NEF Science Based Targets Initiative (SBTi) Scenario: In October 2021, SBTi released its net zero framework, allowing companies to take their science-based goals a step further and pledge to completely reduce and/or offset their emissions by 2050. In this scenario, prices are expected to rise to $44/tonne in 2027 and to $224/tonne in 2029 due to supply shortages. While it is expected that prices will decrease gradually until 2050, it is remarkable that prices never fall below $120/tonne in this scenario.
Bloomberg NEF Hybrid Scenario(s2): In this scenario, the market changes gradually. First, it is assumed that by 2030 the demand for loans from companies will be limited and the supply of any type of loan will be available. In this scenario, prices are rising moderately to $48/ton by 2030. In 2031, with the effect of SBTi, the supply becomes insufficient in the market and the price rises to $207/ton. In this scenario, average prices are expected to decrease gradually to $99/ton by 2050.
Bloomberg NEF Voluntary Carbon Market (GKP) Scenario(s1): Initiatives such as SBTi and TSVCM (The Taskforce on Scaling VCM) establish quality standards for what type of offset credit can be obtained and used according to their quality and industry. If these standards are successfully implemented, they can deplete the potential supply available to corporate customers. There is also the possibility of countries being included in the global carbon market. According to the estimations made by taking these factors into account, while there will be no increase in prices until 2040, the prices reach an average of $14/tonne in 2040 and $47/tonne in 2050.
Based on our scenarios, the risk amount of carbon tax calculated with multiplying the alternative carbon price scenarios for 2030 with the required emission reduction volume due to our emission reduction target. (1 USD in 2022 accepted as 16.55 TL)
SBTi Scenario;
Emission Reduction (ER): 326,584.72 tCO2e
Price (P): 220 USD/ tCO2e
Total: 71,848,639 USD
Total in TL: 71,848,639 * 16.55 = 1,189,094,989 (Max. impact)
S2 Scenario;
ER: 326,584.72 tCO2e
P: 50 USD/ tCO2e
Total: 16,329,236 USD
Total in TL: 16,329,236 * 16.55 = 270,248,861
S3 Scenario;
ER: 326,584.72 tCO2e
P: 17 USD/ tCO2e
Total: 5,551,940 USD
Total in TL: 5,551,940 * 16.55 = 91,884,612 (min. impact)

Cost of response to risk

10,055,653

Description of response and explanation of cost calculation

Zorlu Energy continues its R&D studies under the Green and Reliable Energy Supply Working Group with the target of 2030 Net Zero. The total budget of R&D in 2022 is defined as the cost of response to risk. In 2022 we conducted the following projects:
GECO: Within the scope of the project, pilot carbon capture and storage facility was established at our Kızıldere III Geothermal Power Plant and capture and storage activities were initiated. With the project, it is aimed to reduce carbon emissions to zero in areas where geothermal activities are carried out. With the pilot project, 1000 tons of CO2 was pumped into the reservoir annually. The cost of investment is 8,223,612 TL
GeoSmart Project: With the GeoSmart Project, it is aimed to apply high-performance renewable technologies to combined heat-power plants, to test new equipment and technologies and to transfer knowledge by carrying out field applications between countries. Within the scope of the project, it is planned to carry out trials with the Kızıldere Geothermal Power Plants in Insheim field of Germany. Storage of geothermal fluid in liquid and vapor phase, examining the effects of Concentrated Solar Power (CSP) and biomass technologies that can be integrated into geothermal power plants on plant performance and reducing reinjection temperatures are among the objectives of the project. The cost of investment is 1,832,041 TL
Total cost= 8,223,612 TL + 1,832,041 = 10,055,653 TL

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Chronic physical
Changing precipitation patterns and types (rain, hail, snow/ice)

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Our hydroelectric power plants are directly affected by precipitation patterns. According to the IPCC 6th Assessment Report, precipitation is expected to decrease except for the north-eastern region of Turkey. The availability of water will directly affect our generation capacity as hydroelectric power plants cannot function well when the water level remains below a certain threshold. In addition, hot and dry weather creates adverse conditions for the operation of hydroelectric plants. Thirdly, we see that changes in

water stress also create risks for our hydroelectric power plants. In this regard, we periodically analyse the water stress level. Thus, we aim to manage the factors that will cause outages in our electricity supply and adversely affect our financial situation.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

49,090,284

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Tercan Hydroelectric Power Plant: Due to the fact that the amount of water in Tercan Power Plant is below seasonal normals, the planned production in the flooding season was not realized. Production was suspended in July, August and September in order to maintain the lake level due to the low incoming water and the priority of irrigation. In this context, the total loss was determined as 10,402 MWh, while the loss due to physical risks was determined as 9,764 MWh. The average market electricity sales price in 2022 was determined as 2,526 TL/MWh, and the production loss due to physical risks was determined as 24,663,864 TL.

Kuzgun Hydroelectric Power Plant: Production was suspended at the Kuzgun Power Plant due to the low level of the lake. All loss in this context is equal to the loss arising from physical risks and is 370 MWh. In this case, production loss was calculated as 934,620 TL.

Ataköy Hydroelectric Power Plant: Ataköy Power Plant did not produce due to the closing of the irrigation season. The total amount of loss occurred was determined as 4.002 MWh. Production loss of 10,109,052 TL was calculated in line with the average annual electricity sales price of 2,526 TL/MWh.

Mercan Hydroelectric Power Plant: Due to the low amount of snow and rain falling at the Mercan Power Plant, the amount of incoming water was less than expected. In this case, all losses are due to physical risks. The loss was calculated as 322 MWh and 813,372 TL.

Çıldır Hydroelectric Power Plant: The arid seasonal conditions in Lake Çıldır have caused the incoming water to be low. The loss was calculated as 386 MWh and 975,036 TL.

Beyköy Hydroelectric Power Plant: During the period between January and December at Beyköy Power Plant, the precipitation amounts in the spring and summer months were below seasonal normals, causing the power plants in the upper basin to not produce. Although there was a slight increase in production in September, there was a serious decrease in production as of October due to the rains. In this context, the total loss was equal to the loss due to physical risk and was calculated as 4,590 MWh and 11,594,340 TL.
Total Cost: 24,663,864 + 934,620 + 10,109,052 + 813,372 + 975,036 + 11,594,340 = 49,090,284 TL

Cost of response to risk

46,340,000

Description of response and explanation of cost calculation

Expected physical effects related to climate, such as a decrease or change in precipitation patterns, may result in less water in Hydroelectric Power Plants. In this context, development of hybrid plants and decreasing the energy generation sources are important. In this regard, we project to install solar power plants on hydropower plants and next to the geothermal and wind powerplants. Here solar power plants decrease evaporation in dams creating a shading effect on the dam. We also operate hybrid power plants where we generate energy by combining at least 2 different energy sources.
“Combined Renewable Power Generation Plant” established to generate electricity from solar energy in integration with Alaşehir 1 Geothermal Power Plant (GPP) in Manisa was approved and the generation license of the plant was amended as 45.5880 MWm / 45 MWe with 2.8 million USD investment.
1 USD = 16.55 TL; 2,8 Million USD= 46,340,000 TL (While the risks are calculated annually, since the investments are long term, the cost benefit ratios are considered appropriate and taken into consideration).

Comment

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Zorlu Energy derives 100% of its electricity generation from renewable resources such as geothermal, hydro, and wind power plants. This aligns with the growing public awareness surrounding climate change. The fact that our services and products are based on green energy provides a competitive advantage, considering the increasing consumer demand for renewable energy sources, particularly in B2C companies. Our commitment to the environment, sustainable corporate approach to climate change, and overall performance in these areas enhance the reputation of our organization among all stakeholders, particularly investors and customers. The potential for increased demand for I-REC Certification and incomes from carbon credits presents another opportunity.

In Turkey, although there is currently no mandatory carbon market, the public's awareness of climate change and sustainability is steadily increasing. This growing awareness is reflected in the rising number of renewable energy projects in the country. Most of these projects are designed with a focus on reducing emissions. Zorlu Energy, in particular, has developed emission reduction projects following the guidelines of Voluntary Carbon Markets (VCS or Gold Standard), using UNFCCC - CDM (United Nations Framework Convention on Climate Change - Clean Development Mechanism) methodologies as reference.

To ensure the credibility and transparency of its emission reduction efforts, Zorlu Energy engages accredited third-party organizations to validate and verify its emission reduction studies. By incorporating advanced technological assets that contribute to emission reduction, Zorlu Energy generates additional income each year based on its electricity generation from renewable resources. These efforts not only demonstrate the company's commitment to sustainability but also align with the growing demand for renewable energy and emission reduction initiatives in the market.

The opportunity scenario is defined by the anticipated rise in electricity demand from renewable sources and emission reduction credits due to increased public awareness.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

329,136,200

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The potential for increased demand for I-REC Certification and incomes from carbon credits presents another opportunity.
In 2022, I-REC revenues amounted to TL 8 million: Kızıldere 3 GPP: 310,597 MWh and Alaşehir GPP: 129,899 MWh were certified and we obtained 8 Million TL income.
We plan to sell carbon credits from 882,000 tonnes of CO2 removal with our existing and planned commissioning facilities. When we accept the carbon credit price of 22 USD for 2030, the revenue we expect is 19.404.000 USD.1 USD is 16.55 TL
19,404,000*16.55= 321,136,200 TL + 8,000,000 = 329,136,200 TL

Cost to realize opportunity

20,000

Strategy to realize opportunity and explanation of cost calculation

Zorlu Energy is committed to achieving net zero in Scope 1&2 emissions by ensuring the use of emission-free electricity in its operations. To achieve this, the company procures I-REC certified electricity, which guarantees the emissions-free nature of the energy. Additionally, Zorlu Energy has set a target to achieve net zero emissions in its supply chain network by 2040 and aims to have a positive impact on the network by being a distributor of PV technologies, thereby reducing its Scope 3 emissions. The company places great importance on aligning its actions with evolving consumer preferences that prioritize ecological awareness throughout its value chain.
The demand for certified electricity, such as I-REC and YEK-G certificates, is growing as more industries focus on decarbonizing their Scope 2 emissions. Zorlu Energy started selling I-REC certified renewable energy in 2021 to meet this demand. In 2022 I-REC revenues amounted to TL 8 million.
The money we pay to relevant consultants for carbon credits and IREC certifications cost to realize this opportunity.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Turkey, being a developing country, experiences a yearly increase in energy demand per person due to factors like digitalization and industrial growth. The IEA Report predicts a minimum annual energy demand growth of 6.7% for Turkey (in the low-case scenario). Taking this prediction into account, we have utilized the data from the IEA Report to calculate the potential financial impact of our opportunity scenario.
Zorlu Energy is a company that not only owns electricity generation facilities but also invests in electricity charging stations. This investment not only contributes to the transition towards a low-carbon economy but also provides a sustainable solution to meet the growing electricity demand. Additionally, Zorlu Energy supports distributed electricity generation by investing in solar panel production within Turkey. By engaging in various aspects of electricity production and sales, we aim to maximize the benefits derived from the rising demand for our products and services, adopting a comprehensive approach.
As Zorlu Energy, we take pride in being the leading provider of electric vehicle charging stations in Turkey. While the transition to electric vehicles has already begun in the automotive sector, it is essential to further promote and increase the use of electric vehicles. To facilitate this increase, supportive investments play a crucial role. In 2020, we successfully delivered 305 MWh of energy to end-users through the ZES network, marking a remarkable 27% growth compared to 2019. In 2021, ZES had expanded to 934 locations across Turkey, offering the capacity to simultaneously serve 1605 cars with its EV charging stations. As of the end of 2022, ZE has increased its EV charging station capacity to 1,570 points and 2,840 sockets (vehicle charging capacity) in 81 provinces. The number of ZES electric charging stations is 1592.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

2,014,489,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Based on the low-case scenario presented in the IEA Report, which forecasts a minimum annual energy demand growth of 6.7%, we have utilized the data from the report to calculate the potential financial impact in our opportunity scenario. Specifically, we have focused on revenue generated from electricity generation in 2022 and estimated the additional revenue resulting from the projected increase in energy demand. Our calculations indicate that the potential additional revenue from this increase amounts to TL 2,014,489,000.

Cost to realize opportunity

94,701,000

Strategy to realize opportunity and explanation of cost calculation

We rely on reputable international reports such as the IEA to forecast market prices in the short, medium, and long term. Additionally, we collaborate with technical and financial experts to assess the impact of seasonal factors on energy supply. In conjunction with this approach, we have published an official local report in partnership with Bloomberg New Energy Finance (BNEF). The BNEF Report provides insights into the present and future of wind energy in Turkey, highlighting an anticipated increase in electricity demand in the upcoming years.

Aligned with this foresight, Zorlu Energy is investing in electric vehicle charging stations as part of our Smart Life 2030 vision. Similarly, we are investing in solar panel production to capitalize on potential changes in customer behavior. We have allocated a budget within our Smart Life 2030 investment plans to realize these opportunities.

In 2022, our investments in the electric vehicle charging network and innovative technologies have led to a 158% increase in turnover. We have successfully establish hybrid energy power plants that integrate solar power generation. Thus, we broke new ground in geothermal energy, in which we are the leader in Turkey, and converted the Alaşehir Geothermal PP into a hybrid PP with the support of a solar energy unit. Furthermore, we have initiated the divestment process for our existing natural gas-fired power plants and formulated a gradual shift towards 100% renewable energy in accordance with our 2030 Net Zero targets.

Through the ZES network, we promote the use of 100% renewable energy during the transition to a low-carbon economy. We project a 41% increase in the use of electric vehicles by 2030.

As part of our commitment to embracing new-generation technologies, we have implemented two initiatives: "Zorlu Energy Solutions (ZES)," a network of electric vehicle

(EV) charging stations, and "electrip," an hourly electric vehicle rental platform. Through these brands, we actively participated in the eCharge4Drivers Project, which was launched in Europe to promote the adoption of environmentally friendly electric vehicles. The estimated cost for the charging station investment opportunity is approximately 25,000 TL per station, taking into account the average installation expenses. This calculation pertains to a scenario involving 100 charging stations. 25,000*100= TL 2,500,000
The total cost:
Solar panel investment = TL 92,201,000
92,201,000 + 2,500,000 = TL 94,701,000

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased access to capital

Company-specific description

Zorlu Energy recognizes the importance of access to capital based on environmental, social, and governance (ESG) criteria. In line with our sustainable business model and targets, we have developed alternative financing options. Zorlu Energy secured a loan of USD 10 million from Garanti BBVA, with an interest rate tied to the sustainability performance of our company. This landmark agreement marked Turkey's first green loan agreement.
Under this agreement, our company's ESG performance, encompassing environmental, social, and governance aspects, is evaluated and scored annually by an independent ESG rating company. Since the inception of the agreement, our ratings have consistently improved, demonstrating our ongoing commitment to sustainable practices and responsible business operations.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

156,940,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Zorlu Energy secured a loan of USD 10 million from Garanti BBVA, with an interest rate tied to the sustainability performance of our company. This landmark agreement marked Turkey's first green loan agreement. Under this agreement, our company's ESG performance, encompassing environmental, social, and governance aspects, is evaluated and scored annually by an independent ESG rating company. Since the inception of the agreement, our ratings have consistently improved, demonstrating our ongoing commitment to sustainable practices and responsible business operations.

Cost to realize opportunity

20,000,000

Strategy to realize opportunity and explanation of cost calculation

The budgets allocated to the Health, Safety, and Environment (HSE) department, Communications Department, and the Smart Life 2030 initiative are considered as opportunity costs.

Comment

C3. Business Strategy

C3.1

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

Row 1

Climate transition plan

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

Publicly available climate transition plan

Yes

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

Our climate transition plan is voted on at Annual General Meetings (AGMs)

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

Zorlu Enerji is commited to publicly declare its near term and net zero target, decarbonization milestones and actions planned to be taken accordingly is under crystallization. Near term and net zero commitment information is available at SBTi website as attached.

SBTi_Website_Companies-taking-action.xlsx

C3.2

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

	Use of climate-related scenario analysis to inform strategy
Row 1	Yes, qualitative and quantitative

C3.2a

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios RCP 6.0	Company-wide		The present situation of moderate global and national NDCs falls short of achieving the goal of limiting global warming to 1.5 °C by the end of the century. This inadequacy poses significant short-term and medium-term physical risks, with greater impacts specifically affecting geographies where Zorlu Enerji (ZE) is operating. It is important to note that Turkey, along with many neighboring countries, has climate commitments that are critically insufficient for meeting the goals of Paris Agreement. Current commitments make it more likely, within realistic considerations, for the temperature to rise by 4+ °C by 2100. This level of warming is even less ambitious compared to outcome of global policies and actions which already poses the risk of reaching a temperature increase of 2.7 °C (betwen 2.2°C and 3.4°C) by the year 2100. As pointed out in the IPCC 6th Assessment Report (AR6), fire weather conditions, aridity, hydrological

			drought risks with high confidence, as well as pluvial floods with medium confidence, are integrated into ZE's risk assessment processes for the geographies of operations, where likelihood of higher impact of these risks are continously monitored. Furthermore, in 2022, ZE conducted an analysis of climate change-induced risks that could affect electricity generation capacity, focusing on power plants. The study also examined changes in meteorological conditions, which have shown consistent patterns in recent years. ZE continuously monitors the risks associated with meteorological events over the past years and intends to incorporate this information into its climate change adaptation strategy and electricity generation forecasting accordingly. All in all , these risks and potential impacts were reassessed and finally reconsidered under RCP 6.0, a more severe scenario compared to the RCP 4.5 scenario adopted in 2021 - in reference to the regionally announced scenarios. Through ongoing evaluations of climate risks and public policies, in short-term Zorlu Enerji considers adopting RCP 7.0 and higher concentration pathways to develop suitable adaptation measures. ZE considers all these risks and adaptation measures in accordance with the RCP 6.0 scenario, which will be re-visited in the upcoming years to determine the need for an update to a higher concentration pathway. This consideration is driven by the sensitivity of the Mediterranean geography, with an increasing frequency and impact of aridity, wildfires, and fluvial floods.
Transition scenarios Bespoke transition scenario	Company-wide	4.1ºC and above	Beyond climate driven physical risks, Zorlu Enerji also considers regulatory and market risks regarding establishment of local emission trading system (ETS). Considering the fact that free allocations and carbon prices are not settled yet in Turkey, we develop our financial models based on EU ETS system regarding carbon pricing both in internal carbon pricing and future ETS in Turkey. In our model two parameters, namely carbon price and demand level, are analysed with low and high impact levels (i.e. high carbon price and low demand on our products represents the high impact)

			leads to 4 main scenarios under developing circumstances. Zorlu Enerji is actively refining this model by considering carbon price-related factors such as inflation and exchange rates specific to Turkey. By doing so, they aim to conduct a more realistic analysis of the potential financial implications resulting from carbon tariffs. Additionally, Zorlu Enerji expects the allowances designated for the energy industry in Turkey's future carbon market, as this aspect can significantly impact the outcomes. The exemption of Zorlu Enerji's emission scopes in the energy sector may have a considerable financial impact, and as a result, it will be closely monitored and comprehensively analyzed in the coming years. Outcomes of this model is analysed by Sustainability Committee and reported to the Management Committee which is comprised of the board members of company. Potential financial (market, regulatory and physical risks combined) burdens are integrated in what-if analysis of carbon intense status quo and decarbonization investments. Decarbonisation investments are assessed with potential financial burdens that are avoided through investment. In this regard, particularly for the future scenario where demand to our products increase and carbon prices stay high, investments in renewable energy, energy efficiency projects, CCUS technologies become financially more feasible with closer payback periods.
Transition scenarios IEA NZE 2050	Company-wide		Zorlu Enerji (ZE)has made a public pledge to achieve Net Zero emissions by 2030. At the outset, ZE embraced the transition scenario offered by the International Energy Agency's Beyond 2 Degrees Scenario (B2Ds). With an enduring dedication to the Science Based Targets initiative (SBTi) and the formulation of near-term objectives, Zorlu Enerji intends to integrate the expeditious decarbonization trajectory outlined in the IEA's Net Zero Emissions by 2050 (NZE 2050) scenario, with a particular focus on dynamics that will be influential on ZE's decarbonization pathway which are particularly economic and energy demand growth, annual decarbonization forecasts, carbon price and technological trends.

			Zorlu Enerji recognizes that groundbreaking levers like full scale commercialized CCUS technologies for decarbonization of energy sector has crucial importance - particularly in the field of geothermal energy. The company acknowledges that deep emission reduction technologies are not yet commercially available and also takes into account the ongoing trends in energy sector's transformation and technological advancements outlined in the IEA's NZE 2050 scenario when shaping its decarbonization strategy. In summary, Zorlu Enerji has developed specific targets and established decarbonization milestones and transition actions in alignment with its short-term, mid-term, and long-term investment plans. These plans consider the availability of technologies demonstrated in the IEA's NZE 2050 scenario. Moving forward to 2023, Zorlu Enerji will continue to make further commitments through SBTi processes, accounting for sector-specific drivers and considering the technological, economic, and behavioral trends highlighted in the IEA's NZE 2050 scenario.

C3.2b

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

Row 1

Focal questions

1- What are the suitable technologies levering decarbonization of Zorlu Enerji's power generation profile ? Are the fully commercialization phase of decarbonization levering technologies suitable with investment planning and Net Zero commitment schedule of Zorlu Enerji - in terms of time plan- ?
By scenario analysis Zorlu Enerji wants to clarify its decarbonization agenda for short and medium run and carries out analyses on exploitation of leverage technologies and potential outcomes of delays in fully commercialization of these technologies.

2- What are the efects of climate change and meteorological events on power plants' energy generation capacity and physical risks on assets?
Considering the outcomes of potential future scenarios analyzed, Zorlu Enerji looks for developing sufficient adaptation measures as well as assessing physical risks with

respective financial impacts (revenue loss and hazards) . The most relevant physical risks are questioned with its likelihood and impact on Zorlu Enerji's facilites, electricity generetion capacity, supply chain continuity and by drawn conclusions Zorlu Enerji aims to develop resilience accordingly.

3- Zorlu Enerji questions the potential future financial burdens of national carbon pricing instruments. Economic trends, energy demand forecasts as well as carbon price projections in scenario analyses play a key role in outlining potential financial burdens and change in market dynamics are particularly analyzed under bespoke transition scenario.

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

1- Considering currently available and maturating technologies, Zorlu Enerji targets to achieve largest decarbonization achievements through maintained investment in renewable enegy power plants, developing hybrid plant projects and proactively integrating CCUS technologies meanwhile leading R&D activities for CCUS implementation in Turkey .

2- Zorlu Enerji is expecting the largest climate change driven impacts from hydrological drought which may lead to underperformance of hydropower plants and jeopardize water reservoirs utilized in geothermal power plants. Also, 2021 summer showed that wildfires and fluvial floods can pose serious risks to our physical assets and business continuity in all supply chain activities. In response, Zorlu Enerji plans to develop hybrid power plant projects to balance generation losses and uses close-loop water in its activities in order to save the water reservoirs relied on from depletion. Localization in supply chain is also prioritized in order to overcome potential supply chain problems.

3- Zorlu Enerji is heavily investing on expanding its renewable energy portfolio meanwhile actively looking for opportunities for becoming a decarbonization solution partner for other industries - particularly by using the well and bunkers for carbon sequestration. In this regard, having the pessimist and optimist scenarios regarding availability of fully commercialization schedule of CCUS technologies, ZE takes into account the highest (in case of a delay in CCUS technology commercialization and higher carbon taxes paid) and lowest financial burdens (in case of CCUS technology commercialization in parallel to ZE's decarbonization schedule and lower carbon taxes paid) due to carbon pricing instruments that might be faced. In opportunity fronth, Zorlu Enerji also evaluates that market price of carbon will be benchmark for its revenue from carbon sequestration services.

C3.3

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

	Have climate-related risks and	Description of influence

	opportunities influenced your strategy in this area?	
Products and services	Yes	Zorlu Enerji (ZE) is currently at the forefront with an impressive 99.99% of its electricity sourced from renewable energy. ZE provides a comprehensive array of services and technology solutions that encompass all aspects of Turkey's existing energy system, ranging from energy generation to electricity distribution for end-users. With the ongoing trends of digitalization, automatization, and electrification, ZE positions itself in opportunity fronth and strategically tailors its product and service offerings to align with the demands of the current regulatory and market related dynamics. In line with strategy of growing in decentralized energy solutions, in 2022 ZE heavily invested in expansion of operations volume in solar panel production & trade, and e-mobility services. Within the scope of ZES projects, the aim is to maintain a leading position in the e-mobility sector in Turkey and accelerate the installation of charging stations in countries such as Italy, Greece, Bulgaria, Montenegro, Croatia, Israel with Electrip brand. Investment in ZES and Electrip operations resulted in a significant increase in volume of activity and revenues in 2022 - almost 30-fold of the revenue in 2021. Solar panel production & trade is another growing business realm where significant growth in market was realized in 2022. As of the end of 2022, Zorlu Solar continues to consolidate its leading position in the sector, reaching volume of solar panel sales over 485 MW and inverters and accessories over 180 MW sales in Turkey and the region, ZES delivered the production amounts agreed in contracts with Tier 1 companies for domestic solar panel production, and has reached its 100 MW production target for 2022. ZE also looks for developing financial products and renewable energy source certificates as another branch of product group. In 2022, issued 3rd SUKUK Bond with Industrial Development Bank of Turkey (TSKB) which is the first bond in Turkey having sustainability theme. Zorlu Enerji also issued I-REC certificates of 1066 MWh which was highly demanded by industries looking for decarbonization of

		theirindirect emissions. Zorlu Enerji also issued Verified Carbon Certificates of 514,397 metric tones of CO2 equivalent in 2022 and issuance of VCC of 344,803 tones of CO2 equivalent from 2021 and 2022 energy generation is expected to be completed in 2023.
Supply chain and/or value chain	Yes	Having net zero emissions target in its supply chain at 2040, ZE adopted "Zorlu Conglomerate Supply Chain Principles" and expects from all of its suppliers to be conformed with these principles. While expanding its supply chain network, Zorlu Enerji (ZE) applies sustainability criteria at assessment of vendors and procurement activities in line with the "Sustainable Supply Chain Policy" of ZE. ZE actively fosters a sustainable supply chain network and collaborates with stakeholders to enhance their capacity. In 2022, ZE dedicated 259 man-hours to training vendors on sustainability-focused subjects that are vital to ZE's operations and economic scale. In 2022, ZE assessed the conformity of 49 critical vendors with ISO 26000 Social Responsibility Standards and ESG criteria where 16 and 13 vendors satisfied the criteria respectively . With the unsatisfactory vendors ZE follows "retain and engage" policy and collaborates in developing performance enhancement plan which resulted in increase in number of satisfactory vendors in comparison to 2021. ZE approaches to its supply chain in terms of emission scopes and deliverable actions. In addition to the focal target of decarbonization of Scope 1 emissions, ZE also ensures emission free electricity use in its operations - such as in ZES and Electrip activites- with I-REC certified electricity procurement in order to ensure reaching net zero in Scope 2 emissions. Another critical point in Zorlu Enerji's supply chain is to localize the vendors in order to decrease the transportation emissions meanwhile overcoming climate change driven acute and chronical physical risks that may interrupt logistics services from different geographies. Zorlu Enerji supports the development of local communities and social investments through its environmentally friendly and sustainable energy plants, a first of its kind in Turkey with its integrated use of geothermal energy, not only generates electricity but also meets the heating needs of 2,500 residences in Sarayköy district where there is no natural gas distribution network. Additionally, it provides

		carbon dioxide gas to nearby industrial gas facilities serving the beverage sector, geothermal water to thermal hotels, and heating support to a total of 500 acres of greenhouses.
Investment in R&D	Yes	Recognizing the value of international collaboration among industry players, universities, and stakeholders, ZE continues to actively engage in international and national R&D projects, particularly as part of the Horizon 2020 and TUBITAK programs. Zorlu Enerji places significant importance on research and development (R&D) as a crucial driver in attaining its 2030 Net Zero targets and decarbonization in its value chain. Within the Horizon 2020 projects, such as GECO, GeoSmart, GEOPRO, within TUBITAK projects in SUCCEED, ZE primarily focuses on advancing carbon capture, utilization and storage (CCUS) technologies. On opportunity fronth, through research efforts on CCUS, ZE aims to develop new business realms and services such as CO2 and greenhouse gas (GHG) injection - in behalf of companies looking for carbon sequestration-, consultancy services for energy companies in enhanced geothermal site characterization, and also exploring cooperative opportunities between geothermal energy and other renewable energy technologies. 2023 was a milestone for GECO project where annual CO2 injection of 1000 tons into the reservoir has been accomplished. With other ongoing carbon sequestration projects, ZE aims to accumulate know-how and experience as a leading company in geothermal energy industry in Turkey. Electricity distribution is another significant element of ZE's end to end services, where decarbonization is closely tied to the increased deployment of renewable energy sources and smart grid applications. By actively participating in projects like EchargeforDrivers, FlexiGrid and Plames under the Horizon 2020 program, as well as various TUBITAK initiatives, ZE plays a proactive role in developing future electricity grid networks. These projects involve the implementation of smart grid applications, modeling consumption and generation points, and facilitating the flexible and efficient utilization of grids by integrating technologies such as the Internet of Things (IoT), batteries, electric vehicles, and demand-side management. In realm of wind energy with TUBITAK projects , such as

		SamartWind, SmartPDM, ZE aims optimizing the efficiency of wind power plants through reduced maintenance times and the implementation of practices that enhance overall performance and lower the Levelized Cost of Energy (LCOE).
Operations	Yes	A significant portion, 87%, of Zorlu Enerji's installed capacity relies on renewable energy resources. This high dependence on renewable sources makes the power plants vulnerable to the availability of these resources as well as to extreme weather conditions. The impacts of climate change, such as acute and chronic physical risks pose threats to the operational performance and electricity generation capacity of solar and wind power plants. Additionally, there is a growing concern about increasing water stress on rivers and water reservoirs during summers, which is particularly critical for hydropower plants - as they experience lower performance in the summer period-and availability of reservoir water for geothermal power plants. In the risk fronth, Zorlu Enerji is detailing its risk exposure assessment of meterological events and resource availability in terms of business continuity and financial impact year by year. By accumulating data and repeating yearly patterns, ZE is forecasting the potential impacts more precisely which shows necessity of hybrid power plants for balancing underperformance, meet internal energy demand also provide addtional benefits like shading effect on surfaceand decrease evaporation. In the opportunity fronth, Zorlu Enerji as one of the sector leaders which was one of the first project developers for hybrid power plants in Turkey, completed installation of 3,58 MWp solar power plant next to Alaşehir Geothermal Plant in 2022. The project will be followed by 0,1663 MWp rooftop installation in 2023. The beuracratic processes and economic feasibility analyses are carried out for installation of 47,7 MWp solar power plants. Also in licensed geothermal and windpower plant areas, ZE looks for capacity development and fully exploit the generation potential and technological advancements. ZE aims to achieve 400 MW geothermal installed power and developed extra capacity of 31 MW in Gökçedağ WPP and 6MWm in İkizdere HPP.

		ZE also exploits the energy saving potential attached to equipment replacements which lead to better operational performance and also energy saving resulting in Scope 2 emissions reductions. In this regard, deployment of 16 emergency sump pumps were carried out in 2022 resulting 20.5 MWe generation increase which will be followed by 14 replacements in other power plants.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Access to capital Assets	Zorlu Energy's strategy revolves around three main pillars, one of which is achieving growth while creating a positive impact. By generating at least 20% of its revenue through innovative business models and ZE also targets propagating innovative and green business models in its value chain and secure access to green project finance. In this regard, Zorlu Enerji focuses on constructing a revenue stream based on renewable energy investments and providing end-to-end services that promote the use of renewable energy , demand-side management, smart grid and IoT technologies. Within current revenue stream, Zorlu Enerji already benefits from favorable feed-in tariffs for geothermal and wind energy investments - offering a higher rate, 10.5 USD cent / kWh- compared to the average market prices for electricity. Furthermore, as the majority of ZE's generation portfolio relies on renewable energy sources, ZE enjoys increased profits due to the relatively low marginal costs associated with renewable energy sources. Regarding capital allocation, Zorlu Enerji invests in the development of an electric vehicle (EV) charging network and innovative technologies, contributing to the growth and maturation of the EV market while preparing infrastructure for future pioneering roles in geographies of operation. In terms of capital expenditure, Zorlu Enerji plans to invest in a hybrid energy power plants that integrates solar power plants into the readily existing wind, geothermal and hydro power plants. Zorlu Enerji expects to boost its income and intends to divest from existing natural gas-powered plants, gradually transitioning towards a 100% renewable energy portfolio in alignment with the 2030 Net Zero targets. By increasing their renewable energy generation portfolio and

		divesting from fossil fuel power plants, Zorlu Enerji can diversify channels of low-interest, long-payback period loans from national and international banks, enhancing their capital access capabilities.

C3.5

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

	Identification of spending/revenue that is aligned with your organization's climate transition
Row 1	Yes, we identify alignment with our climate transition plan

C3.5a

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

Financial Metric

CAPEX

Type of alignment being reported for this financial metric

Alignment with our climate transition plan

Taxonomy under which information is being reported

Objective under which alignment is being reported

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

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

100

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

100

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

100

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

The capital expenditure items for renewable energy investments are mainly:
- Emergency sump pump renewals in geothermal power plants.

- Hybrid power plants
- Rotor expenses
-ZES Dijital charging points

Financial Metric

OPEX

Type of alignment being reported for this financial metric

Alignment with our climate transition plan

Taxonomy under which information is being reported

Objective under which alignment is being reported

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

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

18

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

19

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

28

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

Total operational expenses for renewable energy power plants (maintenance, electricity, fuel , labor, administrative costs) are divided to the total OPEX expenditures of Zorlu Enerji.

C4. Targets and performance

C4.1

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

Absolute target
Intensity target

C4.1a

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

Target reference number

Abs 1

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

Year target was set

2020

Target coverage

Business division

Scope(s)

Scope 1

Scope 2 accounting method

Scope 3 category(ies)

Base year

2015

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

105,101

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

105,101

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

9

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

9

Target year

2030

Targeted reduction from base year (%)

100

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

0

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

124,821

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

124,821

Does this target cover any land-related emissions?

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

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

-18.762904254

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

The share of hydroelectric power plants decreased in the electricity grid from due to the drought and declining water levels at dams since late 2020. This supply gap in electricity generation was mainly bridged by natural gas power plants.

There was an increase in energy demand and in order to meet the current demand due to electricity supply security, electricity was produced from thermal power plants in line with the instructions of the Ministry. This unplanned situation has led to an increase in greenhouse gas emissions from natural gas power plants. We generated steam from coal at our natural gas power plant.

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

We have initiated the divestment process for our existing natural gas-fired power plants and formulated a gradual shift towards 100% renewable energy in accordance with our 2030 Net Zero targets.

We have made a commitment to achieve net-zero emissions in all our operations and have signed up for Science-Based Targets (SBT). As a result, our business plan centers around renewable energy, shifting away from power plants that rely on coal and natural gas.

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

Target reference number

Abs 2

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Base year

2018

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

1,742,009

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

7,841

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1,749,850

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

100

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

100

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

100

Target year

2025

Targeted reduction from base year (%)

50

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

874,925

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

1,049,251

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

32,472

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1,081,723

Does this target cover any land-related emissions?

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

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

76.3639169072

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

This target covers all of our Scope 1 and Scope 2 emissions. It is aimed to reduce Scope 1 and 2 emissions by 50% by 2025. The baseline emissions are 1,749,850 tCO2 which is decreased to 874,925 tCO2 by 2025.

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

In the reporting year Scope, 1 and Scope 2 emissions decreased to 1,081,723 tCO2, and the target is to achieve 76.4% by 2021.

By 2030, we aim to generate all of our electricity production in Turkey from renewable energy sources and to invest in the protection and improvement of biodiversity. In the fight against the climate crisis, we aim to reduce the carbon emissions from our operations to net-zero by 2030 and to create long-term positive value by working towards a net-zero emission target in our entire value chain by 2040.

As a part this transformation, we are aware of the importance of establishing strong bonds with high-technologies in our journey to become the energy company of the future. Therefore, we keep pace with technological developments and increase our investments in R&D, IT and innovation.

Our focus on R&D activities aligns with our prioritization of carbon capture and storage technologies. Additionally, our transition plan, Smart Life 2030, guides our efforts towards achieving carbon neutrality. We are dedicated to building the necessary infrastructure and network for electric vehicles in the Turkish market. Therefore, our primary investments are directed towards expanding renewable energy to balance greenhouse gas emissions, implementing Smart Grid systems, establishing hybrid plants and expanding our electric vehicle (EV) and EV charging stations network.

ZES provided charging services at 934 locations in all 81 provinces of Turkey, utilizing clean electricity from renewable energy sources certified with I-REC.

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

Target reference number

Abs 3

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Base year

2018

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

1,742,009

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

7,841

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1,749,850

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

100

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

100

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

100

Target year

2030

Targeted reduction from base year (%)

100

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

0

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

1,049,251

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

32,472

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1,081,723

Does this target cover any land-related emissions?

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

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

38.1819584536

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

ZE set long term sustainability targets in 2020 which includes Net Zero Target by 2030. It is aimed to be Net Zero in Scope 1 and Scope 2 emissions by 2030 and across the entire value chain (Scope 1, 2, and 3) by 2040.

This target covers all of our Scope 1 and Scope 2 emissions. It is aimed to be Net Zero in Scope 1 and 2 emissions by 2030. The baseline emissions are 1,749,850 tCO2.

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

In the reporting year Scope, 1 and Scope 2 emissions decreased to 1,081,723 tCO2, and the target is to achieve 38.2% by 2021.

By 2030, we aim to generate all of our electricity production in Turkey from renewable energy sources and to invest in the protection and improvement of biodiversity. In the fight against the climate crisis, we aim to reduce the carbon emissions from our operations to net-zero by 2030 and to create long-term positive value by working towards a net-zero emission target in our entire value chain by 2040.

As a part this transformation, we are aware of the importance of establishing strong bonds with high-technologies in our journey to become the energy company of the future. Therefore, we keep pace with technological developments and increase our investments in R&D, IT and innovation.

Our focus on R&D activities aligns with our prioritization of carbon capture and storage technologies. Additionally, our transition plan, Smart Life 2030, guides our efforts towards achieving carbon neutrality. We are dedicated to building the necessary infrastructure and network for electric vehicles in the Turkish market. Therefore, our primary investments are directed towards expanding renewable energy to balance greenhouse gas emissions, implementing Smart Grid systems, establishing hybrid plants and expanding our electric vehicle (EV) and EV charging stations network.

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

Target reference number

Abs 4

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1
Scope 2
Scope 3

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 5: Waste generated in operations
Category 6: Business travel
Category 7: Employee commuting

Base year

2020

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

1,197,601

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

5,455

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

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

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

1,378

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

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

2,766

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

85

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

889

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

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

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

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

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

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

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

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

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

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

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

5,118

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

1,208,174

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

100

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

100

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

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

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

100

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

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

100

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

100

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

100

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

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

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

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

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

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

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

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

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

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

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

100

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

100

Target year

2040

Targeted reduction from base year (%)

100

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

0

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

1,049,251

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

32,472

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

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

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

11,084

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

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

27,521

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

379

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

137,039

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

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

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

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

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

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

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

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

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

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

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

0

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

1,257,746

Does this target cover any land-related emissions?

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

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

-4.1030513817

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

ZE set long term sustainability targets in 2020 which includes Net Zero Target by 2030. It is aimed to be Net Zero in Scope 1 and Scope 2 emissions by 2030 and across the entire value chain (Scope 1, 2, and 3) by 2040.

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

By 2030, we aim to generate all of our electricity production in Turkey from renewable energy sources and to invest in the protection and improvement of biodiversity. In the fight against the climate crisis, we aim to reduce the carbon emissions from our operations to net-zero by 2030 and to create long-term positive value by working towards a net-zero emission target in our entire value chain by 2040. As a company that generates electricity and provides it to consumers, Zorlu Enerji is committed to supplying its entire power generation from renewables by 2030, striving to facilitate not only its own operations but also the carbon-free growth of its clients.
ZE plays an important role in reducing the impacts of climate change and environmental impacts throughout its value chain by supplying sustainable energy to all its customers via the electricity it generates from renewable energy sources. ZE offers sustainable solutions in different segments of the value chain through Electrip, the electric vehicle sharing platform, ZES, which provides charging services for electric vehicle users all around Turkey, and through the provision of all kinds of consultancy services for the sale, export and installation of photovoltaic (PV) panels under ZES brand for solar power generation in Turkey and abroad. Sustainability criteria are also taken into account in supplier evaluation and selection processes, and the company acts in line with the "Sustainable Supply Chain Policy". In this context, the company pays attention to working with suppliers that manage environmental and social impacts and have existing sustainability practices that regard the rights of their employees and society.

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

C4.1b

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

Target reference number

Int 1

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

Year target was set

2020

Target coverage

Business division

Scope(s)

Scope 1

Scope 2 accounting method

Scope 3 category(ies)

Intensity metric

Metric tons CO2e per megawatt hour (MWh)

Base year

2016

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

0.733

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

0.733

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

100

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

100

Target year

2025

Targeted reduction from base year (%)

83.3

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

0.122411

% change anticipated in absolute Scope 1+2 emissions

82.8

% change anticipated in absolute Scope 3 emissions

0

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

0.113

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

0.113

Does this target cover any land-related emissions?

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

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

101.5412986477

Target status in reporting year

Achieved

Please explain target coverage and identify any exclusions

In Turkey operations, %88 of the emissions come from geothermal power plants. By source, it is a renewable source with a high emission however based on the European Geothermal Congress 2019 Report the emission intensity of a geothermal in Turkey might be higher than a coal power plant which is between 750 and 1.050 g/kWh (World Bank -2015). Total scope 1 emissions of geothermal power plants under Zorlu Energy is calculated and verified as 1,080,927 tCO2 and intensity per kWh is 438 g CO2/kWh in 2020. Turkey's European Geothermal Congress 2019 Report the emission intensity for geothermal power plants is 122 g CO2/kWh. It is aimed to reduce the intensity figure from 0.733 in 2016 to 0.122 by 2025. It is achieved to decrease the intensity to 0.101 CO2/kWh in 2022.

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

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

Our emissions primarily originate from our geothermal facilities. We are striving to reduce our geothermal-related emissions through our R&D projects.
Electricity generation from geothermal resources in our country generates significant emissions due to the unique structure of the reservoir. In this context, we are conducting studies on the capture and underground storage of emissions from geothermal sources within the framework of the project initiated in cooperation with international institutions and organizations under the EU Horizon 2020 program. The pilot carbon capture and storage plant was established at the Kızıldere III Geothermal Power Plant with studies on capture and storage were initiated. We expect the final report of the project to be published in 2023 and we will be part of an important step to combat the climate crisis by reducing emissions from geothermal power plants in our country.

C4.2

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

Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2021

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Production

Target type: energy source

Renewable energy source(s) only

Base year

2019

Consumption or production of selected energy carrier in base year (MWh)

3,061,025

% share of low-carbon or renewable energy in base year

87

Target year

2030

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

88

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

7.6923076923

Target status in reporting year

Underway

Is this target part of an emissions target?

It is related to our absolute targets. By 2030, we aim to generate all of our electricity production in Turkey from renewable energy sources and to invest in the protection and improvement of biodiversity. In the fight against the climate crisis, we aim to reduce the carbon emissions from our operations to net-zero by 2030 and to create long-term positive value by working towards a net-zero emission target in our entire value chain by 2040.

Is this target part of an overarching initiative?

No, it’s not part of an overarching initiative

Please explain target coverage and identify any exclusions

This target is company-wide and covers all our operations.

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

The I-REC (International Renewable Energy Certificate) helps consumers make an informed choice by using energy generated from renewable energy resources. Zorlu Enerji has documented with the I-REC that the electricity generated by Alaşehir 1 GPP and Kızıldere 3 GPP. The electricity needs of our facilities were provided by renewable electricity generation from the International Renewable Energy Certificate (I-REC) and the electricity provided for the relevant facilities is derived from clean and renewable energy.

List the actions which contributed most to achieving this target

Target reference number

Low 2

Year target was set

2021

Target coverage

Business division

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2019

Consumption or production of selected energy carrier in base year (MWh)

8,847

% share of low-carbon or renewable energy in base year

14

Target year

2030

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

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

Target status in reporting year

Underway

Is this target part of an emissions target?

No, it comes from general performance of company

Is this target part of an overarching initiative?

No, it’s not part of an overarching initiative

Please explain target coverage and identify any exclusions

R&D Projects are going to be paced and low carbon based investments as ZES and Electrip are going to increase rapidly. R&D Projects, ZES, Electrip investments and additional capacity extension projects for WPP and hybrid extension SPP projects for GPP. Also ISO 50001 Energy Management System configuration works are going to be implemented due to legal requirements for Kızıldere GPP.
Existing wind, geothermal, and hydroelectric power plants will be able to install solar panels and generate electricity from solar energy according to the "Procedures and Principles Regarding the Regulation of Power Plant Sites of Generation Plants Subject to Pre-Licenses or Licenses in the Electricity Market" published by EMRA and entered into force in June 2020. We aim to meet the internal consumption of our existing power plants and benefit more from renewable sources with the establishment of hybrid plants

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

List the actions which contributed most to achieving this target

C4.2c

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

Target reference number

NZ1

Target coverage

Company-wide

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

Abs4

Target year for achieving net zero

2040

Is this a science-based target?

No, but we anticipate setting one in the next two years

Please explain target coverage and identify any exclusions

ZE set long term sustainability targets in 2020 which includes Net Zero Target by 2030. It is aimed to be Net Zero in Scope 1 and Scope 2 emissions by 2030 and across the entire value chain (Scope 1, 2, and 3) by 2040.

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

Yes

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

By 2030, we aim to generate all of our electricity production in Turkey from renewable energy sources and to invest in the protection and improvement of biodiversity. In the fight against the climate crisis, we aim to reduce the carbon emissions from our operations to net-zero by 2030 and to create long-term positive value by working towards a net-zero emission target in our entire value chain by 2040. As a company that generates electricity and provides it to consumers, Zorlu Enerji is committed to supplying its entire power generation from renewables by 2030, striving to facilitate not only its own operations but also the carbon-free growth of its clients.
Zorlu Enerji aims to further increase the share of renewables in its generation portfolio, especially geothermal and solar energy, and to develop its resource diversity. Zorlu Enerji continues to engage in activities in line with the principle of developing generation capacity by supporting Turkey's clean energy supply.
Our application for a license amendment for the 3.58 MWp solar power plant which we will establish in integration with our Alaşehir Geothermal Power Plant was approved in 2021. Thanks to this project developed as a result of comprehensive R&D activities carried out for long years, we became a role model once again for the industry by introducing to Turkey the integrated plant model, which is becoming widespread across the world and where geothermal and solar power plants are used in a hybrid form. In the upcoming period, we plan to apply the integrated plant model, in which geothermal and solar power is used in a hybrid form, to our Kızıldere Geothermal Power Plants and Gökçedağ Wind Power Plant.

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

ZE plays an important role in reducing the impacts of climate change and environmental impacts throughout its value chain by supplying sustainable energy to all its customers via the electricity it generates from renewable energy sources. ZE offers sustainable solutions in different segments of the value chain through Electrip, the electric vehicle sharing platform, ZES, which provides charging services for electric vehicle users all around Turkey, and through the provision of all kinds of consultancy services for the sale, export and installation of photovoltaic (PV) panels under ZES brand for solar power generation in Turkey and abroad. Sustainability criteria are also taken into account in supplier evaluation and selection processes, and the company acts in line with the "Sustainable Supply Chain Policy". In this context, the company pays attention to working with suppliers that manage environmental and social impacts and have existing sustainability practices that regard the rights of their employees and society.

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	8	71,335
To be implemented*	2	532,000
Implementation commenced*	1	30
Implemented*	1	156,103
Not to be implemented	0	

C4.3b

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

Initiative category & Initiative type

Estimated annual CO2e savings (metric tonnes CO2e)
156,103

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

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

Investment required (unit currency – as specified in C0.4)
57,925,000

Payback period
4-10 years

Estimated lifetime of the initiative
1-2 years

Comment
We are conducting studies on the capture and underground storage of emissions from geothermal sources within the framework of the project initiated in cooperation with

international institutions and organizations under the EU Horizon 2020 program. The pilot carbon capture and storage plant was established at the Kızıldere III Geothermal Power Plant with studies on capture and storage were initiated. We expect the final report of the project to be published in 2023 and we will be part of an important step to combat the climate crisis by reducing emissions from geothermal power plants in our country

C4.3c

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

Method	Comment
Dedicated budget for low-carbon product R&D	We invest in national, renewable, and clean energy to reduce Turkey's dependency on energy imports. We ensure sustainability and security in energy supply through our balanced portfolio. On the back of our innovation and R&D activities that shape the sector, we invest in the development and operation of smart systems. Charging Stations: This project aims to analyze the impact of the increasing number of electric vehicles and charging stations on the electricity transmission network and minimize the impact of charging devices on the electrical grid as well as develop innovative and value-added applications that will help increase customer satisfaction. Electricity Storage: The project aims to integrate storage systems for different purposes and with different configurations and capacities to the distribution grid, ensure that these systems are operated in accordance with their objectives, and to compare the applications. Within the scope of this project, a proposal document will also be prepared to help draft new legislation. GECO Project: GECO (Geothermal Gas Emission Control) Project,aims to conduct international field applications, test new equipment and technologies, and enable the transfer of know-how and experience in order to reduce carbon dioxide (CO2) emissions from geothermal energy in line with the goals set forth in "Reducing the Costs of Electricity Generation from Renewable Energy Sources" in the Horizon 2020 program. The Horizon 2020 Program is the largest Research and Innovation Program in the European Union with €80 billion of funding available over seven years. The Program aims to make major discoveries, creative ideas and inventions from the laboratory to the world markets to create a more sustainable world. The GECO Project includes various institutions and organizations

	from countries including France, the United Kingdom, Italy, Iceland, and Germany. Zorlu Energy and Middle East Technical University are the only participants from Turkey. Under the project, initiated with the “Grant Agreement,” a grant of approximately €15 million will be provided to Zorlu Energy in long term for use in R&D work in the area of sustainable generation of geothermal energy. Zorlu Energy will contribute to the GECO Project with its vast experience and R&D resources in the field of geothermal energy.
Compliance with regulatory requirements/standards	The importance we give to the environment goes beyond legal requirements. As we continue our operations, we act on the basis of our Sustainability Strategy and Environmental Policy when it comes to efficient use of energy, management of greenhouse gas emissions, prevention of waste generation, protection of biodiversity and natural heritage. We had all the required legal inspections conducted at existing power plants and projects regarding their environmental impacts, and these audits identified no serious and material violation regarding the environment. All activities are carried out in accordance with the national regulations on the environment, obligations arising from international conventions, and environmental awareness. Geothermal Village Project The project aims to utilize the excess heat produced by the geothermal power plant to power the greenhouse, heating, electricity generation, thermal tourism, food drying, and aquaculture activities to be undertaken by the village which will be built next to the GPP, and the project development is underway. Horizon 2020 Program - GECO Project The Horizon 2020 Program is the largest Research and Innovation Program in the European Union with €80 billion of funding available over seven years. The Program aims to take major discoveries, creative ideas, and inventions from the laboratory to the world markets to create a more sustainable world. Horizon 2020 Program - GeoSmart Project The project aims to implement crosscountry field applications for the “Application of High-Performance Renewable Energy Technologies to Combined Heat and Power Plants” under the “Safe, Clean and Efficient Energy” heading of the Horizon 2020 Program, test new equipment and technologies, and transfer know-how and experience. The activities planned within the scope of the project include the storage of geothermal fluids in liquid and vapor phases at the Kızıldere Geothermal Power Plants of Zorlu Enerji and in the Balmatt field in Belgium and to study the impacts of CSP (Concentrated Solar

	Power) and biomass technologies that can be integrated into the geothermal power plants on plant performance. The project is planned to be included in the main project list and implemented in the event that the Commission allocates funds for the project.
Dedicated budget for other emissions reduction activities	Zorlu Energy has a budget to develop emission reduction units as an asset. It is the approval for the project that shows the magnitude of the emission reduction provided. We have received the “Gold Standard” certificate for our Gökçedağ Wind Energy Power Plant. Within the scope of Gokcedag WPP 6th Verification, 590,224 tone CO2 certification approval was received on 31.12.2021. The sale of the remaining 75,827 toneCO2 credits is in progress. Within the scope of 7th Verification, 344,803 tone CO2 approval process is targeted to be completed in April 2023, based on 2021-2022 production.
Internal price on carbon	Internal carbon price is also determined by Sustainability Committee considering the emerging regulationary framework and actual carbon price in international emission trading systems. Under MRV reporting conducted by Zorlu since 2015, stationary combustion and process emissions of our facilities are reported to the ministerial authorities. With respect to the production capacity and emission levels, carbon intensity of each facility is determined and internal pricing is applied on lower performing facilities. Performance of the plants are followed by Environment and Sustainability Executive and reported to the Sustainability Committee.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Product or service

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

Other, please specify

UNFCCC CDM Methodology ACM0002

Type of product(s) or service(s)

Power

Onshore wind

Description of product(s) or service(s)

Zorlu Energy has wind power plants in its portfolio and emission reduction units have been developed as per UNFCCC CDM Methodologies. Producing electricity from renewable sources causes avoided emissions as per the baseline scenario which is conventional production in the Turkish national grid. Renewable energy sources basically low carbon products and avoided emissions have been verified by an accredited third party.

Within the scope of Gokcedag WPP 6th Verification, 590,224 tone CO2 certification approval was received on 31.12.2021. The sale of the remaining 75,827 tCO2 credits is in progress. Within the scope of 7th Verification, 344,803 tCO2 approval process is targeted to be completed in April 2023, based on 2021-2022 production

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

Yes

Methodology used to calculate avoided emissions

Other, please specify

UNFCCC CDM Methodology ACM0002

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

Gate-to-gate

Functional unit used

Electricity generation from renewable resources

Reference product/service or baseline scenario used

In the absence of the project activity, the electricity would have been delivered to the grid through a mix of existing power generation resources mainly based on fossil fuel.

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

Gate-to-gate

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

344,803

Explain your calculation of avoided emissions, including any assumptions

The emission reduction has been calculated according to the ACM0002 Methodology which is approved by the UNFCCC. The baseline emissions (tCO2e) are the product of the baseline emission factor (tCO2e) times the net electricity supplied by the project activity to the grid (MWh). The baseline emission factor for the project activity is determined ex-ante as a combined margin (CM) consisting of the combination of operating margin (OM) and build margin (BM) according the methodological “Tool to calculate the emission factor for an electricity system”.

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

0.03

Level of aggregation

Group of products or services

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

Low-Carbon Investment (LCI) Registry Taxonomy

Type of product(s) or service(s)

Power

Hydropower

Description of product(s) or service(s)

Zorlu Energy is a leading Turkish energy company that is committed to providing clean and affordable energy. The company's 100% of electricity generation comes from renewable sources, including hydroelectric and wind power. Hydroelectric power is a low-carbon source of energy that produces no emissions, making it a sustainable choice for the future. In 2022, Zorlu Energy's 7 hydroelectric power plants generated 304,888 MWh of electricity, which helped to reduce the company's carbon footprint by a significant amount.

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

Yes

Methodology used to calculate avoided emissions

The Avoided Emissions Framework (AEF)

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

Gate-to-gate

Functional unit used

1 MWh electricity generation from hydro power plants.

Reference product/service or baseline scenario used

1 MWh electricity generation from mixed national grid

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

Gate-to-gate

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

134,151

Explain your calculation of avoided emissions, including any assumptions

Turkey's national grid is based on electricity generation from different sources. The combined margin emission factor of the grid is 0.44 tCO2/MWh. The generated electricity from the hydropower plant is multiplied by the emission factor.

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

17

Level of aggregation

Group of products or services

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

Low-Carbon Investment (LCI) Registry Taxonomy

Type of product(s) or service(s)

Power
Onshore wind

Description of product(s) or service(s)

Zorlu Energy is a leading Turkish energy company that is committed to providing clean and affordable energy. The company's 100% of electricity generation comes from renewable sources, including hydroelectric and wind power. Wind power is a low-carbon source of energy that produces no emissions, making it a sustainable choice for the future. In 2022, Zorlu Energy's 4 wind power plants generated 446,921 MWh of electricity, which helped to reduce the company's carbon footprint by a significant amount.

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

Yes

Methodology used to calculate avoided emissions

The Avoided Emissions Framework (AEF)

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

Gate-to-gate

Functional unit used

1 MWh electricity generation from windpower plants.

Reference product/service or baseline scenario used

1 MWh electricity generation from mixed national grid

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

Gate-to-gate

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

196,645

Explain your calculation of avoided emissions, including any assumptions

Turkey's national grid is based on electricity generation from different sources. The combined margin emission factor of the grid is 0.44 tCO2/MWh. The generated electricity from the wind plant is multiplied by the emission factor.

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

27

C-EU4.6

(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.

CO2, CH4, and N2O emissions are all produced during fuel combustion. Nearly all of the fuel carbon (99.9 %) in natural gas is converted to CO2 during the combustion process. This conversion is relatively independent of combustion type. Fuel carbon not converted to CO2 results in CH4 emissions and is due to incomplete combustion. Even in boilers operating with poor combustion efficiency, the amount of CH4 produced is insignificant compared to CO2 levels.

Methane emissions are highest during low-temperature combustion or incomplete combustion, such as the start-up or shut-down. The optimum temperature and pressure are continuously monitored and under control via automation system at our natural gas power plants to decrease methane emissions.

Our wind power plants do not have CH4 emission affect.

C5. Emissions methodology

C5.1

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

No

C5.1a

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

Row 1

Has there been a structural change?

No

C5.1b

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

	Change(s) in methodology, boundary, and/or reporting year definition?
Row 1	No

C5.2

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

Scope 1

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

1,145,498

Comment

Zorlu Enerji is an energy company that aims to operate in different fields of the energy sector providing a global scale integrated service. Zorlu Enerji Group has lots of subsidiary companies that operate in various fields of the sector with an integrated corporate combination including electricity and steam generation and their retail, electricity sales, solar panel sales and installation, natural gas sales and distribution, construction, management, and maintenance of power plants and EV charging stations network.
Therefore, the base year emissions including all related emissions in line with the GHG Protocol Corporate Standard.

Scope 2 (location-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

15,602

Comment

Zorlu Enerji is an energy company that aims to operate in different fields of the energy sector providing a global scale integrated service. Zorlu Enerji Group has lots of subsidiary companies that operate in various fields of the sector with an integrated

corporate combination including electricity and steam generation and their retail, electricity sales, solar panel sales and installation, natural gas sales and distribution, construction, management, and maintenance of power plants and EV charging stations network.
Therefore, the base year emissions including all related emissions in line with the GHG Protocol Corporate Standard.

Scope 2 (market-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

0

Comment

Zorlu Enerji consumes electricity from the interconnected grid.

Scope 3 category 1: Purchased goods and services

Base year start

January 1, 2021

Base year end

December 31, 2021

Base year emissions (metric tons CO2e)

117,600.67

Comment

The emission related to the purchased good and services was calculated and verified by a third party first in 2021. Therefore, the baseline year for this category is 2021.

Scope 3 category 2: Capital goods

Base year start

January 1, 2021

Base year end

December 31, 2021

Base year emissions (metric tons CO2e)

0.9

Comment

The emission related to the capital good was calculated and verified by a third party first in 2021. Therefore, the baseline year for this category is 2021.

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

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

1,378

Comment

Fuel-and-energy-related activities include Well to tank (WTT) process emissions of consumed fuels and electricity. The emission related to this category was calculated and verified by a third party first in 2020. Therefore, the baseline year for this category is 2020.

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1, 2021

Base year end

December 31, 2021

Base year emissions (metric tons CO2e)

54,172.37

Comment

The emission related to this category was calculated and verified by a third party first in 2021. Therefore, the baseline year for this category is 2021.

Scope 3 category 5: Waste generated in operations

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

2,766

Comment

Emissions from waste depend on the type of waste being disposed of, and the waste diversion method. The emission related to this category was calculated and verified by a third party first in 2020. Therefore, the baseline year for this category is 2020.

Scope 3 category 6: Business travel

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

85

Comment

Emissions arising from air travel and short term car rentals conducted by Zorlu Enerji employees have been accounted for under business travel-related Scope 3 emissions. The emission related to this category was calculated and verified by a third party first in 2020. Therefore, the baseline year for this category is 2020.

Scope 3 category 7: Employee commuting

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

889

Comment

Employee commuting is realized by scheduled buses and minibuses. The emission related to this category was calculated and verified by a third party first in 2020. Therefore, the baseline year for this category is 2020.

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

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

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

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

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
IEA CO2 Emissions from Fuel Combustion
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

1,145,498

Comment

The given gross global Scope 1 emissions represent our electricity and steam generation and their retail, electricity sales, solar panel sales and installation, construction, management, and maintenance of power plants and EV charging stations network. Our greenhouse gas inventory report has been prepared in line with the ISO 14064-1 standard which has been verified by an accredited third party. We have

calculated our emissions based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories methodology according to the Tier 1 approach.

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

We consume electricity from the grid which is reported as Scope 2, location-based figure. We consume International Renewable Energy Certificate (I-REC)-certified electricity which is reported as Scope 2, location-based figure.

C6.3

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

Reporting year

Scope 2, location-based

15,602

Scope 2, market-based (if applicable)

0

Comment

We consume electricity from the grid which is reported as Scope 2, location-based figure. We consume International Renewable Energy Certificate (I-REC)-certified electricity which is reported as Scope 2, location-based figure.
The given gross global Scope 2 emissions represent our electricity and steam generation and their retail, electricity sales, solar panel sales and installation, construction, management, and maintenance of power plants and EV charging stations network. Our greenhouse gas inventory report has been prepared in line with the ISO 14064-1 standard which has been verified by an accredited third party. We have calculated our emissions based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories methodology according to the Tier 1 approach.
ZES provides charging services with renewable electricity and certified with the International Renewable Energy Certificate (I-REC). Therefore, the market-based emissions is zero.

C6.4

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

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

6,386

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The purchased goods and services category is calculated for Lüleburgaz, Bursa, Kızıldere, and Alaşehir plants, which are in scope of ISO 14064-1 Certification.
The average-data method, which involves estimating emissions using secondary (e.g., industry average) emission factors for upstream emissions per consumption unit (e.g., kg CO2e/tonne material) is applied.
The average-data method is applied according to the "GHG Protocol Technical Guidance for Calculating Scope 3 Emissions". Emissions are calculated by the data on the mass (kilograms) or other relevant units of goods purchased and multiplied by the emission factor. The activity data which is amount of raw materials purchased is based on purchase records. Cradle-to-gate emission factors of the purchased goods per unit of mass (e.g., kg CO2e/kg) are applied which are based on the "DEFRA Greenhouse Gas Reporting, Conversion Factors 2022".

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2.97

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The capital goods category is calculated for Lüleburgaz, Bursa, Kızıldere, and Alaşehir plants, which are in scope of ISO 14064-1 Certification. The average-data method, which involves estimating emissions using secondary (e.g., industry average) emission factors for upstream emissions per consumption unit (e.g., kg CO2e/tonne material) is applied.

The average-data method is applied according to the "GHG Protocol Technical Guidance for Calculating Scope 3 Emissions". Emissions are calculated by the data on the mass (kilograms) or other relevant units of goods purchased and multiplied by the emission factor. The activity data which is amount of raw materials purchased is based on purchase records. Cradle-to-gate emission factors of the purchased goods per unit of mass (e.g., kg CO2e/kg) are applied which are based on the "DEFRA Greenhouse Gas Reporting, Conversion Factors 2022".

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

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

11,084

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Fuel-and-energy-related activities include Well to tank (WTT) process emissions of consumed fuels and electricity. The data is based on energy consumption that is monitored and cross-checked with the supplier invoice.

The average-data method, which involves estimating emissions by using secondary (e.g., industry average) emission factors for upstream emissions per unit of consumption (e.g., kg CO2e/kWh) is applied. The "DEFRA Greenhouse Gas Reporting: Conversion Factors" is used.

The fuel consumptions are monitored through the based on invoices and measuring equipment. The data is based on energy consumption that is monitored and cross-checked with the supplier invoice. Emission factors are based on the "DEFRA Greenhouse Gas Reporting, Conversion Factors 2022.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

16

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The upstream transportation and distribution category is calculated for Lüleburgaz, Bursa, Kızıldere, and Alaşehir plants, which are in scope of ISO 14064-1 Certification. It includes the emissions from outsourced logistics services used which are not already reported in scopes 1 and 2 emissions.
The emissions are calculated based on the distance-based method, which involves determining the mass and distance, then applying the appropriate mass-distance emission factor for the vehicle used according to the Greenhouse Gas Protocol - Corporate Value Chain (Scope 3) Accounting and Reporting Standard. To calculate emissions, the number of goods purchased in mass by the distance traveled in the transport leg and then multiply that by an emission factor specific to the transport mode. Because each transport mode or vehicle type has a different emission factor, the transport legs are calculated separately and total emissions aggregated.
To calculate emissions, the number of goods purchased in mass by the distance traveled in the transport leg and then multiply that by an emission factor specific to the transport mode. Because each transport mode or vehicle type has a different emission factor, the transport legs are calculated separately and total emissions aggregated. The activity data which is the amount of raw materials transported is based on purchase records. Emission factors are based on the "DEFRA Greenhouse Gas Reporting, Conversion Factors 2022".

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

27,521

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes the emissions from third-party disposal and treatment of waste generated in our operations in the reporting year. Emissions from waste depend on the type of waste being disposed of, and the waste diversion method. Therefore, waste data based on its type (e.g., cardboard, food waste, wastewater) and the waste treatment method (e.g., incinerated, landfilled, recycled) are necessary for calculation. All kinds of waste generated in our activities are monitored by us and the licensed waste transporter company and upload the amount of waste according to their waste code to the online system in line with the local regulation. By this declaration, we calculate emissions inventory according to DEFRA GHG Conversion Factors. Emission factors are based on the "DEFRA Greenhouse Gas Reporting, Conversion Factors 2022".

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

379

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Emissions arising from air travel conducted by Zorlu Enerji employees have been accounted for under business travel-related Scope 3 emissions. We gathered travel information from our travel management company which includes both domestic and international flights. The emissions arising from air travel have been calculated.
The distance-based method, which involves determining the distance and mode of business trips, then applying the appropriate emission factor for the mode used is applied as per the Greenhouse Gas Protocol -Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The distance-based method involves multiplying activity data (i.e., vehicle-kilometers or person-kilometers traveled by vehicle type) by emission factors (typically default national emission factors by vehicle type). Vehicle types include all categories of aircraft, rail, subway, bus, automobile, etc.
The "DEFRA Greenhouse Gas Reporting: Conversion Factors 2022" is used.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

137,039

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Employee commuting is realized by scheduled buses and minibuses. Since the employee number carried on each trip is assumed to equal the full capacity of vehicles, this calculation may include a little overestimation. The distance data is obtained from the supplier service agreement. Emission factors are based on the "DEFRA Greenhouse Gas Reporting, Conversion Factors 2022".
The distance-based method, which involves collecting data from employees on commuting patterns (e.g., distance traveled and mode used for commuting) and applying appropriate emission factors for the modes used is applied as per the Greenhouse Gas Protocol -Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Total distance traveled by employees over the reporting period (e.g., passenger-kilometers traveled) and mode of transport used for commuting (e.g., train, subway, bus, car, bicycle) data are necessary for calculation.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Our leased assets are calculated under Scope 1 and 2 since they are under our operation control. Therefore, we don't have any emissions from upstream leased assets in the reporting year.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Our product, electricity, is directly consumed without any processing. Therefore, we do not have scope 3 emissions to account for under this category

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Our product, electricity, is directly consumed without any processing. Therefore, we do not have scope 3 emissions to account for under this category.

Use of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Emissions related to extraction and production of the product have already been accounted for as Scope 1 and 2 emissions. Only transmission and distribution-related emissions can be considered for use of sold product emissions. However, we do not have access to reliable data to include this category yet.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Our product, electricity, is directly consumed without any processing. Therefore, we do not have scope 3 emissions to account for under this category.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

We have not used downstream leased assets in the reporting year.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

We do not have any franchises.

Investments

Evaluation status

Relevant, not yet calculated

Please explain

Zorlu Enerji has given priority to establishing a data collection system for scope 3 emissions starting with the most relevant categories. This category is planned to be included in the data collection boundary soon when reliable data can be collected from suppliers. We consider that emissions associated with investments are not material (less than 5% of total GHG emissions).

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are no additional upstream emission sources.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are no additional downstream emission sources.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.000036

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1,081,723

Metric denominator

unit total revenue

Metric denominator: Unit total

30,067,398

Scope 2 figure used

Location-based

% change from previous year

61.85

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption
Other emissions reduction activities
Change in revenue

Please explain

The revenue has increased by 158% and our absolute gross emissions have decreased by 1.41% compared to the previous year. As a result of revenue increases and energy efficiency activities, intensity decreased by 61.85% compared to the last year.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	1,003,960	IPCC Sixth Assessment Report (AR6 - 100 year)
CH4	36,667	IPCC Sixth Assessment Report (AR6 - 100 year)
N2O	506	IPCC Sixth Assessment Report (AR6 - 100 year)
HFCs	8,118	IPCC Sixth Assessment Report (AR6 - 100 year)

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions	Gross Scope 1 methane emissions	Gross Scope 1 SF6 emissions	Total gross Scope 1 emissions	Comment

	(metric tons CO2)	(metric tons CH4)	(metric tons SF6)	(metric tons CO2e)	
Fugitives	883,613	36,630	0	928,357	The figure includes geothermal fugitive emissions. Total gross scope 1 emissions include also N2O and HFC fugitive emissions.
Combustion (Electric utilities)	119,229	33	0	119,746	This figure includes our natural gas power plants. Total gross scope 1 emissions include N2O and HFC fugitive emissions.
Combustion (Gas utilities)	0	0	0	0	We don't have gas utilities reported under this report.
Combustion (Other)	459	1.4	0	471	This figure includes the emission of diesel generator and off-road mobile sources such as forklifts, excavators etc. Total gross scope 1 emissions include N2O and HFC fugitive emissions.
Emissions not elsewhere classified	0	0	0	0	There is no other emissions.

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Turkey	1,049,156
Pakistan	95
State of Palestine	0

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division
By facility
By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Natural Gas Operations	124.821
Wind Energy Operations	172
Geothermal Energy Operations	923,232
Hydro Energy Operations	349
Administrative Operation	677
Solar Energy Operations	0

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Bursa Natural Gas Power Plant	42	40.245104	28.955018
Lüleburgaz Natural Gas Power Plant	124,779	41.4	27.35
Gökçedağ Wind Power Plant	77	37.074627	36.246399
Pakistan Wind Power Plant	95	25.043613	67.999048
Alaşehir Geothermal Power Plant	65,464	38.233	28.261
Kızıldere I-II-III Geothermal Power Plant	857,768	37.956213	28.842528
Ataköy Hydro Power Plant	1	40.424004	36.884118
Beyköy Hydro Power Plant	7	40.073156	30.755448
Çıldır Hydro Power Plant	115	40.900774	43.328855
İkizdere Hydro Power Plant	16	40.795463	40.551031
Kuzgun Hydro Power Plant	163	40.183631	41.063687
Mercan Hydro Power Plant	19	39.413794	39.30221
Tercan Hydro Power Plant	29	39.755985	40.40183
İstanbul Headquarters	210	40.993661	28.699289
Zorlu Enerji Solutions (ZES)	240	40.993661	28.699289
OEPSAŞ	227	39.784944	30.501583
Filistin Solar Power Plant	0		

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Stationary Combustion	119,635
Mobile Combustion	1,254
Fugitive Emissions	923,286
Process Activities	5,075
Office Activities	0

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Electric utility activities	1,048,574	Geothermal project activities have emissions of CO2 and CH4 due to the release of non-condensable gases from produced steam. In geothermal power projects, non-condensable gases flow with the steam into the power plant. A small proportion of the CO2 is converted to carbonate/bicarbonate in the cooling water circuit. In addition, parts of the non-condensable gases are re-injected into the geothermal reservoir. However, as a conservative approach, the applied calculation methodology, ACM0002, assumes that all non-condensable gases entering the power plant are discharged into the atmosphere via the cooling tower. Hydropower plant has no emission since the electricity is generated from renewable sources. Natural gas power plants have combustion emissions. The wind and solar power plant has no emissions since the electricity is generated from renewable sources. This figure includes all activities, processes, and equipment that are ancillary to the production processes. Offices, non-production-related activities such as offices, and vehicles are deducted from total gross emissions.

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

No

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	21,558	Decreased	2	Our renewable energy consumption has increased to 88,492 MWh from 38,438 MWh compared to the previous year. ZES provided charging services at 934 locations in all 81 provinces of Turkey, utilizing clean electricity from renewable energy sources certified with I-REC. As a result of increasing renewable energy consumption, our emissions decreased by 2%. The emission factor of the electricity grid is accepted as 0.4313 tCO2/MWh according to the IEA Emission factor. Our total emissions (Scope 1 and Scope 2) in the previous year were 1,097,148 tons of CO2e. activities. (88,492 - 34.438) * 0.4313 / 1,097,148 = 2%
Other emissions reduction activities	3,870	Decreased	0.4	Our total emissions have decreased by 1.4% compared to the previous year. We focused on energy efficiency benefits in the operation of our plants. Through these activities, we reduced our emissions by 15,425 tons of CO2e which leads 0.4% reduction. Our total emissions (Scope 1 and Scope 2) in the previous year were 1,097,148 tons

				of CO2e. activities. (15,425 /1,097,148) * 100 = 0.4%
Divestment				
Acquisitions				
Mergers				
Change in output	2,294	Increased	0.2	Our total emissions have decreased by 1.4% compared to the previous year. Production has increased by about 0.75% compared to last year. Since, emission percentage is higher in geothermal plants, compare to others, as the emission intensity of geothermal plants is considered, the emission increase due to the increase in production was found to be 2,294 that results in 0.2% emission increase in emissions due to electricity generation. (2,294 / 1,097,148) * 100 = 0.2%
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 80% but less than or equal to 85%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	350,128	350,128
Consumption of purchased or acquired electricity		3,800	84,692	88,492
Consumption of self-generated non-fuel renewable energy		392,790		392,790
Total energy consumption		396,590	434,820	831,410

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

We do not use sustainable biomass energy.

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

We do not use other biomass energy.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

We do not use other renewable fuels.

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

344,964

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0.04

MWh fuel consumed for self-generation of steam

344,964

Comment

We consume lignite coal for the generation of steam and heat. The generated steam is not consumed by Zorlu Enerji, it is delivered to the customer. The main customer is Zorlu Textile which is a sister company.

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

5,164

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

5,164

MWh fuel consumed for self-generation of steam

0

Comment

This figure covers diesel oil and gasoline consumption. The diesel is consumed by generators, on-road transportation, and off-road transportation (forklift, grass mower, etc). The gasoline is consumed for on-road transportation, and off-road transportation (forklift, grass mower, etc). Almost all gasoline is used for on-road transportation.

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

We did not consume natural gas in the reporting year.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

We do not use other non-renewable fuels.

Total fuel

Heating value

LHV

Total fuel MWh consumed by the organization

350,128

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

5,164

MWh fuel consumed for self-generation of steam

344,964

Comment

The total fuel consumption covers coal, diesel oil, and gasoline consumption.

C-EU8.2d

(C-EU8.2d) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Coal is used for steam generation.

Lignite

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Lignite is used for steam generation.

Oil

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Gas

Nameplate capacity (MW)

83.8

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

These figures cover our natural gas power plants operating in the reporting year: Bursa and Lüleburgaz
However, we did not generate electricity from natural gas in 2022.

Sustainable biomass

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Other biomass

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Waste (non-biomass)

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Nuclear

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Fossil-fuel plants fitted with CCS

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Geothermal

Nameplate capacity (MW)

305

Gross electricity generation (GWh)

1,925.87

Net electricity generation (GWh)

1,611.5

Absolute scope 1 emissions (metric tons CO2e)

923,232

Scope 1 emissions intensity (metric tons CO2e per GWh)

479.38

Comment

These figures cover all our geothermal power plants operating in the reporting year: Alaşehir, Kızıldere I, Kızıldere II and Kızıldere III
The CO2e intensity is calculated based on gross generation.

Hydropower

Nameplate capacity (MW)

118.9

Gross electricity generation (GWh)

304.89

Net electricity generation (GWh)

302.17

Absolute scope 1 emissions (metric tons CO2e)

349

Scope 1 emissions intensity (metric tons CO2e per GWh)

1.14

Comment

These figures cover all our hydroelectric power plants operating in the reporting year: Ataköy, Beyköy, Çıldır, İkizdere, Kuzgun, Mercan, Tercan
The CO2e intensity is calculated based on gross generation.

Wind

Nameplate capacity (MW)

191.4

Gross electricity generation (GWh)

446.92

Net electricity generation (GWh)

385.81

Absolute scope 1 emissions (metric tons CO2e)

172

Scope 1 emissions intensity (metric tons CO2e per GWh)

0.39

Comment

We have 1 wind power plant in Turkey and 1 wind power plant in Pakistan: Gökçedağ, and Pakistan
The CO2e intensity is calculated based on gross generation.

Solar

Nameplate capacity (MW)

1.5

Gross electricity generation (GWh)

3.19

Net electricity generation (GWh)

3.18

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

We have 1 solar power plant in Palestine. The CO2e intensity is calculated based on gross generation.

Marine

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Other renewable

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Other non-renewable

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Total

Nameplate capacity (MW)
700.7

Gross electricity generation (GWh)
2,680.87

Net electricity generation (GWh)
2,303

Absolute scope 1 emissions (metric tons CO2e)
923,753

Scope 1 emissions intensity (metric tons CO2e per GWh)
344.57

Comment
These figures cover all our natural gas, wind, hydroelectric, and geothermal power plants operating in the reporting year.
The CO2e intensity is calculated based on gross generation. The total intensity which was 356.61 tCO2/GWh decreased to 344.57 tCO2/GWh in the reporting year.

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area
Turkey

Consumption of purchased electricity (MWh)
3,800

Consumption of self-generated electricity (MWh)
84,692

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

88,492

C-EU8.4

(C-EU8.4) Does your electric utility organization have a transmission and distribution business?

No

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-EU9.5a

(C-EU9.5a) Break down, by source, your organization's CAPEX in the reporting year and CAPEX planned over the next 5 years.

Coal – hard

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Lignite

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Oil

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Gas

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Sustainable biomass

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Other biomass

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Waste (non-biomass)

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Nuclear

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Geothermal

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

18,030,000

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

92

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

40

Most recent year in which a new power plant using this source was approved for development

2022

Explain your CAPEX calculations, including any assumptions

CAPEX as capital expenses for investment requirements for long term duration and capability of PP. CAPEX covers expenses as engineering, construction and long term maintenance services, machinery, main and partial equipment costs and other fixed asset costs. Accounting for 18% of the total installed capacity of Turkey in geothermal energy, Zorlu Enerji (ZE) aims to reach an installed capacity of at least 400 MW in this field by undertaking new geothermal energy projects.

-Kızıldere 4 Geothermal Power Plant Project: ZEplans to develop Kızıldere 4 GPP with an installed capacity of 60 MW in the Kızıldere geothermal field as the 4th phase of the Kızıldere GPP project.
-Alasehir 1 Combined Renewable Power Plant Project: The license amendment application filed by ZE for the “Combined Renewable Power Generation Plant” intended for generating electricity from solar energy in integration with Alasehir 1 GPP was approved, and the generation license of the plant was amended as 45.5880 MWm / 45 MWe at the end of 2021.
-Alasehir 2 Geothermal Power Plant Project: For the Alasehir 2 GPP, which is planned

to be established to make use of the additional geothermal potential in the Manisa Alasehir site, a generation license valid was obtained from EMRA for an installed capacity of 18.6 MW.
-Alasehir 3 Geothermal Power Plant Project: In addition to the Alasehir 2 GPP project, a prelicense obtained from EMRA for an installed power of 50 MW in April 2016 for the Alasehir 3 GPP project planned to be developed as the third phase. As a result of the subsequent resource exploration activities, it was decided to amend the pre-license. Therefore, an application was filed to EMRA for reducing the project's installed capacity stated in the pre-license from 50 MW to 10 MW.
-Tekkehamam 2 Geothermal Power Plant Project: The application filed to EMRA to obtain a pre-license for the Tekkehamam 2 Geothermal Power Plant project, which will have an installed capacity of 35 MW and is planned to be established within the site, was approved in January 2020, and the project was granted a pre-license. Project development activities are ongoing.
Geothermal Energy Resource Exploration and Operating Licenses in addition to its ongoing investments and existing pre-licenses in geothermal energy, ZEparticipates in tenders for new geothermal fields with the aim of further growth in this area.

Hydropower

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Wind

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

1.51

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

8

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Most recent year in which a new power plant using this source was approved for development

2022

Explain your CAPEX calculations, including any assumptions

In order to establish a Combined Renewable Electricity Generation Facility (Main Source WPP + Auxiliary Source SPP) to generate electricity from solar energy integrated with Gökçedağ Wind Power Plant with an installed capacity of 135 MWm/135 MWe and a license power of 150.6 MWm/150.6 MWe in Bahçe district of Osmaniye province, the application to the Energy Market Regulatory Authority to amend the existing electricity generation license of the power plant to 160.209 MWm/150.6 MWe was approved in October 2022.

Solar

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

60

Most recent year in which a new power plant using this source was approved for development

2022

Explain your CAPEX calculations, including any assumptions

Hybrid SPP s are taken in solar. Hybrid power plants are joint plants with wind and geothermal power plants.

Marine

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Fossil-fuel plants fitted with CCS

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Other renewable (e.g. renewable hydrogen)

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

Other non-renewable (e.g. non-renewable hydrogen)

CAPEX in the reporting year for power generation from this source (unit currency as selected in C0.4)

0

CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

Explain your CAPEX calculations, including any assumptions

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Smart appliances	Zorlu Enerji continues to engage in various activities on digitalization, R&D, and innovation including electric vehicles in particular under the Smart Systems Department established in 2017 with the goal of becoming the energy company of the future. Thanks to the Smart Systems Department, the needs of customers and the age are better understood, and ideas about next generation solutions are integrated with technology and launched. Pursuing the main objective of generating innovative ideas and focusing on processes that can be digitalized, the Smart Systems Department continues to work on developing platforms and mobile applications necessary for customers to carry out their transactions entirely on digital platforms. Projects carried out in parallel with the heading “Innovation and New Business Models” which are among the priority topics for the Smart Systems Department, are organized for offering innovative solutions in different areas such as electric vehicle sharing, electric vehicle charging stations, smart			2025

	home systems, and smart energy management systems. Zorlu Enerji continues to work in the digitalization of the energy industry, electric vehicle rental/electric vehicle charging stations the examples of which are increasing day by day and various alternatives for energy storage inparallel with the developments across the world. Considering the evolving and developing alternative energy resources and the goals specified in the Paris Climate Agreement, the use of emerging technologies is essential for offering uninterrupted service. In this sense, the introduction of new practices with uninterrupted and accurate information from the field is of high importance for Zorlu Enerji and its subsidiaries. Owing to the energy monitoring project implemented in 2020, electricity generation and consumption can be monitored using IoT (Internet of Things) devices, thus contributing to the combat against the climate crisis and sustainability by digitalizing both energy generation and consumption tracking and reporting processes.			
Charging networks	All of the energy we provide to end users to charge their vehicles comes from I-REC-certified renewable sources. Thanks to electric vehicles, we can both prevent users from consuming fossil fuels that directly cause greenhouse gas emissions and enable them to charge their vehicles with 100% renewable energy via the ZES network during			2025

	the transition to a low-carbon economy. As part of our sustainability approach, we strive to digitize our processes as much as possible. In this context, while our users could only charge their vehicles using ZES cards at the beginning of the project, they can now do it digitally wherever they want via the mobile application. Zorlu Enerji received a total of four awards, two of which are international, with Zorlu Energy Solutions (ZES), the 'Electric Vehicle Charging Station Network', which is spreading throughout Turkey and the number of which is increasing day by day. Having been deemed worthy of the “Sustainability Awards – Sustainability Product of the Year” Award in the international arena, ZES won the first place in the “Best Sustainable Product and Process Category” at the Best Business Awards given by Awards Intelligence. At national level, ZES was awarded with the “Low Carbon Hero” Award for 2021 presented under the VII. Istanbul Carbon Summit organized by the Sustainable Production and Consumption Association with the support of the Ministry of Environment and Urbanisation of the Republic of Turkey and Istanbul Technical University. Besides, ZES was deemed worthy of the award in the Sustainability category at the “Our Energy, Our Future” awards organized for the second time in the field of sustainability under the 4th Turkish			

	Energy and Natural Resources Summit organized in Istanbul under the auspices of the Ministry of Energy and Natural Resources of the Republic of Turkey.			
Other, please specify Carbon Sequestration	Horizon 2020 Program - GECO Project: Zorlu Enerji, which continues to be Turkey's gateway to the international energy arena through not only its investments but also the global partnership projects with which it shares its experiences, has become a partner of the GECO project that targets the sustainable management of natural mineral resources. Zorlu Enerji will contribute to the GECO project with its experience and R&D resources in the area of geothermal energy. Various institutions and organizations from countries such as France, England, Italy, Iceland, and Germany will take part in the GECO project. Under the Horizon 2020 program's main heading "Reducing Electricity Generation Costs for Renewable Resources," the project aims to enable the implementation of international field applications, the testing of new equipment and technology, and the transfer of knowledge and experiences in order to "Reduce Carbon Dioxide (CO2) Emissions Resulting from Geothermal Causes."			2025

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	As part of Zorlu Holding's Smart Life 2030 Targets and Sustainability Policy, we combine our nation's abundant and untapped renewable energy resources with advanced technology and innovation. This enables us to contribute to our country's exploration of opportunities for transitioning to a low-carbon and self-sufficient economy. In our pursuit of innovation, we invest in the establishment and operation of intelligent systems that drive industry transformation. We remain current with the times by offering innovative and intelligent solutions, and we continue to build our reputation in the sector through our skilled workforce and diverse resources. We develop pioneering, efficient, and eco-friendly products and services with the goal of leading the industry on a global scale. Aligned with our Sustainability Strategy, we ensure that this objective is embraced and closely monitored through our innovation-focused key performance indicators, primarily in terms of research and development investments. Our Smart Systems Department, established in 2017, actively operates in the fields of Digitalization, R&D, and Innovation. With a particular emphasis on the growing electric vehicle industry, Zorlu Enerji is expanding its presence by significantly increasing the e-charging network in neighboring countries. Leveraging our accumulated knowledge and data, we strive to contribute to the development of accessible charging networks that meet user needs and enhance the overall user experience. Zorlu Enerji is expanding its operations in the production and sales of solar panels, experiencing exponential growth in manufacturing capacity. We consistently seek opportunities to improve product quality and enhance operational excellence in our manufacturing processes. As a regional leader in geothermal power generation, Zorlu Enerji actively participates in national and international projects related to the utilization of geothermal wells and bunkers for carbon capture, utilization, and storage (CCUS) activities. Currently, we are successfully carrying out carbon sequestration projects and aim to scale up ongoing R&D projects to a commercial level.

C-CO9.6a/C-EU9.6a/C-OG9.6a

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)	Average % of total R&D investment planned over the next 5 years	Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
Carbon capture, utilization, and storage (CCUS)	Pilot demonstration	48.7	8,223,612.88	6.3	GECO Project: Electricity generation from geothermal resources in our country creates significant emissions due to the unique structure of the reservoir. In this context, studies are carried out for the capture and underground storage of geothermal resource emissions within the scope of the project initiated in cooperation with international institutions and organizations within the scope of the EU Horizon 2020 program. Pilot carbon capture and storage facility was established at our Kızıldere III Geothermal Power Plant and capture and storage activities were initiated. With the project, it is aimed

					to reduce carbon emissions to zero in areas where geothermal activities are carried out. It is believed that the final report of the project will be published in 2023, and it will be a part of an important step to combat the climate crisis by reducing the emissions from geothermal power plants in our country. With the project implemented under the roof of Zorlu Enerji Elektrik Üretim AŞ, it is aimed to reduce the carbon footprint and increase the share of green energy to 100%. The project, which has partners from 9 different countries, is expected to be completed in 2023. With the pilot project, 1000 tons of CO2 was pumped into the reservoir annually.
Other, please specify Thermal energy storage	Applied research and development	13.8	1,832,041.68	43.71	GeoSmart Project: With the GeoSmart Project, it is aimed to apply high-performance renewable technologies to combined heat-

					power plants, to test new equipment and technologies and to transfer knowledge by carrying out field applications between countries. Within the scope of the project, it is planned to carry out trials with the Kızıldere Geothermal Power Plants in the Insheim field of Germany. Storage of geothermal fluid in liquid and vapor phase, examining the effects of Concentrated Solar Power (CSP) and biomass technologies that can be integrated into geothermal power plants on plant performance and reducing reinjection temperatures are among the objectives of the project.
Other, please specify Electrical vehicles	Pilot demonstration	14.9	1,895,683.45	23.56	eCharge4Drivers : With the brands of ZES, a network of electric vehicle charging stations, and electrip, an hourly electric vehicle rental platform, which are among the investments made

					by Zorlu Energy Electricity Generation AŞ to implement new generation technologies as an R&D project; It is among the partners of the eCharge4Drivers Project, which was launched for the same purpose in Europe. Drivers of electric vehicles, whose sales are increasing rapidly throughout Europe, still have difficulties in finding suitable charging options, which limits the ease of use of electric vehicles. With the eCharge4Drivers Project, which aims to significantly improve the electric vehicle charging experience in cities and intercity journeys, users can; In line with its expectations on charging options, mobility and parking habits, it is aimed to develop pilot projects in 10 areas in Europe, including cities and the Trans-European Transport Network. The project has 32 partners from 12

					different countries. The project, which started in 2020, is expected to be completed in 2024. The project aims to reduce the carbon emission intensity in the electricity grid.
Other, please specify Recycling of components	Basic academic/theoretical research	4.2	428,713.04	8.91	JıDEP: Continuing to develop its growth strategy in the axis of innovation and R&D, Zorlu Energy applied within the scope of the JIDEP (Joint Industrial) program, which is the continuation of the Horizon 2020 grant program established by the European Union to support research, development and innovation projects. Data Exchange Pipeline - Joint Industrial Data Exchange Platform) project was entitled to receive 100% grant support. With the project, which aims to recycle composite materials used in many different sectors, especially in the automotive and maritime sectors, it is aimed to directly contribute to the circular economy

					and waste management.
Carbon capture, utilization, and storage (CCUS)	Applied research and development	2.1	3,638	0	Succeed Project: As the R&D project of Zorlu Enerji Elektrik Üretim AŞ, ERA-NET ACT is supported within the scope of the "Reliable, Clean and Efficient Energy" subheading included in the Horizon 2020 Program and in which TÜBİTAK is also a partner. Within the scope of the project, coordination of national programs in the field of dissemination and acceleration of carbon storage and sequestration technologies, unity in research priorities and data sharing are planned. With the ERA-NET ACT Project, R&D and innovation activities will be supported in order to accelerate the development of carbon dioxide capture and storage (CCS) technologies. The Synergetic Utilization of CO2 Storage Coupled with Geothermal Energy Deployment (SUCCEED)

					Project, which was applied for within the scope of this program, was entitled to receive grant support and entered into force as of September 2019. Within the scope of the project, it is aimed to contribute to sustainability by pumping carbon dioxide back into the geothermal reservoir under supercritical conditions in order to reduce carbon dioxide emissions originating from geothermal power plants.
Wind energy generation	Pilot demonstration	10.6	1,790,373.91	0	Smart Wind Project: SmartWind is an industry-driven demonstration project focused on the energy digitalisation that will contribute to achieve a reduction of the total costs of renewable wind power generation and the Levelized Cost of Electricity (LCoE), providing advanced and automated functions from data analysis for early fault detection and diagnosis, and Operations and

					Maintenance (O&M) planning at wind assets. As a result, SmartWind will face the main challenges of the wind industry (LCoE reduction) through the optimisation of O&M processes while maximising production from the available resource. The main KPIs to measure the project success are the reduction of O&M costs by 10% and the increase of availability and production indicators by 5%. To achieve the objectives of the project the partners will bring on board their extensive expertise in data management, algorithms development, machine learning, artificial intelligence, operational and management failures as well as control and optimisation. This action will contribute to start the project from a leading position in this field and to reinforce the action plan to be

					covered within the project. Furthermore, the standardisation of the prototype solution, the validation phase in the laboratory and the field test in wind farms with real operation are considered as a vital aspect of the working plan. The plan covers the following technical actions: i) Analyze technologies and applications, ii) Modelling and data characterisation, iii) Algorithms development for problem detection (faults and performance diagnosis) and optimised wind farm control and operation, and iv) O&M Decision Support Systems (DSS). The primary objective of SmartWind is to provide an integrated platform for cost reduction and revenue optimisation based on advanced and automated functions for data analysis, fault detection,

					diagnosis and O&M recommendations, this way achieving operational excellence, maximising availability and OPerating EXpenditure (OPEX) reduction both at the wind farm, wind turbine and component level. In summary: i) Maximise high-quality reliable information available in SCADAs and systems as a basis for analysis, ii) Identify faults and performance problems, quantifying losses and proposing actions and iii) Support the O&M decisions.
Wind energy generation	Pilot demonstration	4.3	252,170.9	0	As an R&D project of Zorlu Energy Elektrik Üretim AŞ, EUREKA, of which Turkey is among the founders, aims to encourage the development of advanced technologies, products and services that will increase the competitiveness of industrial and research institutions

					in European countries in world markets, and the creation and execution of joint projects between countries. It is an established international cooperation platform. The necessary grant support for Turkish partners is provided by TUBITAK. With the SMART-PDM project, predictive maintenance technology is used, thus it is planned to increase the benefit from these power plants by reducing operating costs and production losses in wind power plants. The project will be implemented with predictive maintenance technology at Gökçedağ Wind Power Plant. Eurogia2020 Program
Other, please specify Renewable Energy	Basic academic/theoretical research	1.4	25,541.06	4.77	ERA-NET GEOTHERMICA is a TÜBİTAK partnership support framework, supported by the European Union, aiming to use geothermal energy, which is a

					renewable and green energy type, more efficiently and more sustainably.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Zorlu Enerji_ISO 14064-2018 Assessment Report_EN.pdf

Zorlu Jeotermal_ISO 14064-2018 Assessment Report_EN.pdf

Zorlu Dogal_ISO 14064-2018 Assessment Report_EN.pdf

Page/ section reference

Page 7 & 8

There 3 different companies licensed with different names. Therefore, total emission includes all 3 verification statements.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

99

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Zorlu Enerji_ISO 14064-2018 Assessment Report_EN.pdf

Zorlu Jeotermal_ISO 14064-2018 Assessment Report_EN.pdf

Zorlu Dogal_ISO 14064-2018 Assessment Report_EN.pdf

Page/ section reference

Page 7 & 8

There 3 different companies licensed with different names. Therefore, total emission includes all 3 verification statements.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

41

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Purchased goods and services

Scope 3: Capital goods

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Zorlu Enerji_ISO 14064-2018 Assessment Report_EN.pdf
Zorlu Jeotermal_ISO 14064-2018 Assessment Report_EN.pdf
Zorlu Dogal_ISO 14064-2018 Assessment Report_EN.pdf

Page/section reference

Page 7 & 8
There 3 different companies licensed with different names. Therefore, total emission includes all 3 verification statements.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

92

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

In progress

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, but we anticipate being regulated in the next three years

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

In accordance with our sustainability strategy and the changing regulatory framework that specifically affects energy utilities, Zorlu Energy has been reporting its stationary combustion emissions since 2015. As previously communicated to the public, the Climate Law Framework and Emissions Trading System (ETS) regulation, which are part of the Market Readiness Project funded by the World Bank, have been formulated. These regulatory changes are expected to be implemented within the next two years at an accelerated pace, considering the ratification of the Paris Agreement by the Turkish parliament and the tighter schedule set by the Green Deal.

As part of our decarbonization strategy, Zorlu Enerji implemented carbon pricing internally and allocates costs based on the Scope 1 and 2 emissions primarily and also upstream Scope 3 emissions of each power plant. This approach helps us anticipate the potential financial impacts on our business. The financial resources generated from carbon pricing are also considered as income that can be utilized for the development of energy efficiency projects, research and development, and investments in renewable energy. We anticipate that this financial impact will incentivize carbon-intensive power plants to implement energy efficiency projects within a tighter timeframe and raise awareness of achieving the 2030 Net Zero target.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price

Shadow price

How the price is determined

Alignment with the price of allowances under an Emissions Trading Scheme
Alignment with the price of a carbon tax
Price with material impact on business decisions

Objective(s) for implementing this internal carbon price

Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Identify and seize low-carbon opportunities
Navigate GHG regulations
Stakeholder expectations
Reduce supply chain emissions

Scope(s) covered

Scope 1
Scope 2
Scope 3 (upstream)

Pricing approach used – spatial variance

Differentiated

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

Zorlu Enerji anticipates a continuous rise in carbon prices, potentially reaching 150 euros per metric ton of carbon by 2030. This projection is based on ongoing discussions among industry stakeholders and carbon market experts. Zorlu Enerji incorporates this upward trend in carbon pricing into its financial planning, recognizing the increasing impact of carbon pricing mechanisms.

Additionally, Zorlu Enerji closely monitors the EU Emissions Trading System (ETS) market, which serves as a reference for determining the minimum and maximum carbon prices per metric ton. The maximum price of 98.01 EUR, obtained from EMBER as the EU ETS maximum price in 2022, and the actual minimum price of 86.53 USD, sourced from the World Bank database (https://carbonpricingdashboard.worldbank.org/map_data), representing the average carbon price in the EU ETS market, are both taken into consideration.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

1,433.8

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

1,703.59

Business decision-making processes this internal carbon price is applied to

Capital expenditure
Operations
Procurement
Product and R&D

Remuneration
Risk management
Opportunity management
Value chain engagement

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for all decision-making processes

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

Zorlu Enerji considers the potential impact of carbon prices aligned with the local Emissions Trading System (ETS) and also the changing market preference towards low carbon energy in its valu chain where decarbonization will be a near term target as well . By internalizing carbon costs, Zorlu Enerji prioritizes investments in decarbonization projects that offer favorable payback periods and also low carbon alternatives for energy, resource and logistics related emissions. Zorlu Enerji also takes into account intangible costs such as reputation and market potential associated with delayeddecarbonization efforts.

Concrete outcomes of carbon pricing instruments guide Zorlu Enerji's financial planning, allowing the company to outline the costs of its decarbonization milestones in parallel with its commitment to Science-Based Targets (SBTs) and incorporating carbon pricing considerations into operational, capital expenditure, and R&D decisions.

Zorlu Enerji extends its decarbonization approach to its shareholders, suppliers, and contractors, going beyond raising awareness within the corporate culture. The company has solidified policies on sustainable procurement and stakeholder relationships since 2021 and targets emission free value chain at 2040 .

The Risk and Finance department analyzes the financial risks and opportunities arising from the climate change-driven market and regulatory context. These analyses are reported to the Sustainability Committee, led by Zorlu Enerji's CEO, and significantly impact the company's financial planning for new decarbonization investments. Zorlu Enerji's ongoing decarbonization investments and divestments exemplify the company's dedication to sustainability targets, while also providing advantages in terms of accessing capital at low interest rates for future investments.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers
Yes, our customers/clients
Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect GHG emissions data at least annually from suppliers
Collect climate-related risk and opportunity information at least annually from suppliers

% of suppliers by number

2.63

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5

96

Rationale for the coverage of your engagement

One of the main pillars of Zorlu Enerji's Sustainability Strategy is to sustain economic growth by creating a positive impact. Our suppliers and stakeholders in our value chain play a key role in achieving these targets. In line with UN Global Compact - that Zorlu Enerji is a signatory of - as well as the requirements of financial institutes, Zorlu Enerji ensures alignment of its suppliers with these requirements at the project development and vendor selection phase.

As a milestone, Zorlu started to report its Scope 3 emissions inventory in 2019 and set a Net Zero Emission target for Scope 3 by 2040. Scope 3 emissions reporting is conducted more extensively year by year, lately covering upstream procurement activities in more detail. The rationale of the coverage is to portray Scope 3 emission with all elements and identify potential emission reduction realms. Particularly inclusion of detailed procurement activity emissions plays a key role in localization efforts and environmentally friendly procurement practices. In the next years, the reduction in emissions due to supplier activities are going to be monitored, and will collaborate in capacity building for decarbonisation.

Impact of engagement, including measures of success

Achievements towards meeting 2040 Net Zero Emissions in the value chain are going to be followed via Scope 3 emissions calculated through ISO 14064 -1 inventory reporting. Through a comparative evaluation of annual Scope 3 emissions since 2019, the actions regarding emission reduction initiatives will be defined concerning the most significant sectors and procurement items. Sustainable procurement criteria will be developed accordingly, about that Zorlu Enerji is looking for promoting procurement of products

with environmentally friendly design - suitable for upcycling and recycling, environmentally friendly disposal.

Comment

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Provide training, support, and best practices on how to make credible renewable energy usage claims
Climate change performance is featured in supplier awards scheme

% of suppliers by number

2.63

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5

96

Rationale for the coverage of your engagement

Zorlu Enerji aims to raise awareness of ESG matters in its stakeholder network to contribute capacity building processes of subcontractors and suppliers in sustainability oriented development. Zorlu Enerji prioritizes having the same approach and understanding in sustainability related matters with its stakeholder. Hence, we offer training to our suppliers, particularly in critical standards, and inform them about sustainability topics. During this training, general concepts, the history of sustainability, climate change driven risks, SDGs, ESG governance, sustainability reporting, and indices are addressed. In addition, OHS training is offered to contractor companies that act as service providers regarding the risks in the fields they operate. In 2022, a total of 256 person*hours of sustainability training were offered to suppliers that were considered critical in terms of interaction and economic volume.

ZE conducted assessments to evaluate the compliance of 49 critical vendors with ISO 26000 Social Responsibility Standards and ESG (Environmental, Social, and Governance) criteria. Among these vendors, 16 met the ISO 26000 criteria, while 13 satisfied the ESG criteria. For the vendors who did not meet the criteria, ZE implements a "retain and engage" policy and collaborates with them to develop performance enhancement plans. As a result of these efforts, the number of satisfactory vendors increased compared to the previous year (2021).

Impact of engagement, including measures of success

Training hours provided and increasing number of stakeholders satisfying requirements of the standards.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

As an energy company providing end-end services, we act in all parts of the value chain of the energy ecosystem and we prioritize creating awareness of electrification, renewable energy use and promote energy efficiency. In this regard, Zorlu Enerji invests in raising public awareness of renewable energy, climate change, and social aspects of climate change driven phenomena based in relation to SDGs – particularly accessible and clean energy.

In line with Zorlu Holding's Smart Life 2030 Goals, we support the "İmece Platform," a social innovation initiative to promote a large solution ecosystem in collaboration with society. We want to accelerate social innovation and development by working together on creating innovative solutions to social, cultural, economic, and environmental problems. After supporting İmece's support programme for "Quality Education", "Gender Equality" and "Reducing Inequalities" we continue to support the social innovation ecosystem with İmece.

With the events organized in line with its vision of responsibility towards society and the environment in 2022, ZE aimed to raise awareness on many issues that are vital for the future of the world and put important issues on its agenda to combat the climate crisis. In this context, a panel named "Is There a Way Out of the Climate Crisis? Emerging Problems and Emerging Solutions" was held. In the panel, R&D and innovation studies carried out both in Turkey and the world, in a wide area ranging from climate crisis to energy transformation, electric vehicles that will provide solutions to fuel dependency, and electric vehicle charging stations were discussed.

Impact of engagement, including measures of success

Increasing the inclusiveness, diversifying the client groups reached out

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Based on the Corporate Governance Principles of Zorlu Energy, we take necessary measures to comply with the principles concerning stakeholders and to strengthen our communication within the stakeholder network. We consider the tendencies and priorities of our stakeholders in determining our sustainability strategy. While setting its sustainability priorities in 2022, Zorlu Enerji sought the opinions and priorities of its stakeholders from different clusters of society such as local society and local government bodies, customers, shareholders and investors, employees, public and regulatory institutions, academics, non-governmental organizations, suppliers, financial institutions, media members and students/potential employees. By shaping our business model on the expectations of our business partners and stakeholders, we aim to contribute to Turkey's sustainable economic development. Zorlu Enerji works in synergy with all its stakeholders - primarily with its business partners and suppliers- and aims to ensure that all environmental and social risks are managed in a holistic manner with the objectives of contributing to social development and compliance with the legislation and relevant standards.

Zorlu Enerji attaches importance to stakeholder engagement with an inclusiveness approach which helps with building long-term and lasting relationships while mitigating risks by taking into account the expectations of stakeholders. Zorlu Enerji transparently informs the society and all relevant stakeholders, especially the local community within its sphere of influence, regarding the investments it makes, and ensures that they become part of social and economic development. Zorlu Enerji spent 14.5 million TL in 2022 in social development projects particularly focusing on local development and propagation of sustainability values.

Zorlu Enerji also contributes to the advancement of local communities and social investments by operating environmentally friendly and sustainable energy facilities. Pioneering in Turkey, its geothermal energy plants are integrated to serve a dual purpose: generating electricity and fulfilling the heating requirements of 2,500 households in the Sarayköy district, where a natural gas distribution network is unavailable. Moreover, it supplies carbon dioxide gas to nearby industrial gas facilities catering to the beverage sector, provides geothermal water to thermal hotels, and offers heating support to a total of 500 acres of greenhouses.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization’s purchasing process?

Yes, suppliers have to meet climate-related requirements, but they are not included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization’s purchasing process and the compliance mechanisms in place.

Climate-related requirement

Complying with regulatory requirements

Description of this climate related requirement

The suppliers which are in the scope of local MRV regulation has to present their emission reports at the time of contract.

% suppliers by procurement spend that have to comply with this climate-related requirement

2.63

% suppliers by procurement spend in compliance with this climate-related requirement

96

Mechanisms for monitoring compliance with this climate-related requirement

Certification
Supplier self-assessment
On-site third-party verification
Grievance mechanism/Whistleblowing hotline
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement

Retain and engage

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers
Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

SBTi_Website_Companies-taking-action.xlsx

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

Zorlu Enerji's business strategy is based on fully relying on renewable energy and being the energy company of the future with its end-end services from electricity generation to distribution to end-users. Raising awareness in terms of climate change and sustainability directly affects the business engagement with target customer profile and potential business partners meanwhile solidifying Zorlu Enerji's position as a pioneering energy company with sustainability orientation. Zorlu Enerji's long lasting investments in EV charging network, solar panel sales and manufacturing, demand side management preparations, and renewable energy power plant investments contributed to the market readiness in Turkey in line with its strategy on transition to the low carbon economy.

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

INDC Preperation

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Climate-related targets
Climate transition plans
Emissions – CO2
Emissions – methane
Emissions – other GHGs
International agreement related to climate change mitigation

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

Turkey

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

Turkey as a developing economy is adapting to low carbon transition, as signaled by ratification of the Paris Agreement in the Turkish parliament and policy development in parallel to the developments in neighbouring geographies which are the largest

business partners. Under the circumstances, the Turkish energy industry plays an important role as an enabler in tackling climate change with important projects carried out in renewable energy, energy efficiency, and the proliferation of low-carbon technologies. Turkey, as an Annex I country at the Convention with special circumstances recognized by the Conference of the Parties, can fully utilize the opportunities. The energy industry can implement its internal strategies, actions, and plans following the National Climate Change Mitigation and Adaptation Plans by supporting different instruments:

1- Broad dissemination of knowledge on mitigation opportunities (enabling finance solutions, technology solutions adapted to local circumstances, innovative alternatives to the conventional patterns)
2- Coherent and comprehensive implementation of high-level targets in close cooperation with the government and other related sectors
3- Strengthening national institutions for technology, finance, and capacity building.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is not aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

Zorlu Energy is committed to contributing to the development of appropriate measures to address energy transition and climate-related challenges. We are actively involved in policy development through our participation in stakeholder consultations organized by public institutions. The views and proposals for the draft INDC-Turkey which is then submitted to UNFCCC were discussed and shared with the MoEU –Turkey.

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify

TUSİAD (Turkish Industry and Business Association)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Zorlu Energy Group is a member of the Climate Platform, an initiative jointly established by Regional Environment Centre Turkey (REC Turkey) and TÜSİAD (Turkish Industry and Business Association) to support the efforts of the Turkish business community in tackling climate change and to assist the transition to the low carbon economy. The Climate Platform brings together the business world to discuss major topics of transition to low carbon economy such as technology transfer, financing, and carbon management in the supply chain. The major working areas of the platform are supporting the private sector in the strengthening of corporate governance and risk management regarding climate change and providing insight, analysis, and information to the private sector. The platform members support the development of national climate change policies, the establishment of public-private sector cooperation for combating climate change, and active participation of business circles in international negotiations.

Zorlu Enerji is a member of the Energy Workshop and Environmental Working Group. In this regard, we are in favor of legal framework implementation that will entail MRV processes for other industries including SMEs with the expectation of a satisfactory and inclusive national transition to low carbon economy. We aim to contribute to bridge information gaps among actors from different, consultants, verifiers, and the relevant governmental units.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

50,000

Describe the aim of your organization's funding

TUSIAD is a prominent association within the Turkish business world that serves as a shelter organization for fostering public discourse on sustainability, decarbonization, and the potential consequences of domestic and international carbon pricing mechanisms. Zorlu Enerji actively participates in shaping the energy sector's priorities and also gains valuable insights and information through knowledge sharing within the association's platform, particularly about climate change and the risks and opportunities associated with carbon pricing instruments. By funding, Zorlu Enerji actively supports the continuity of this vibrant platform and also benefits from the common learning regarding climate change related dynamics for the energy industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

Turkish Wind Energy Association (TWEA)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

TWEA is established by the Council of Ministers in 1992 as a technical non-profit association that follows scientific and technical research related to wind energy. It aims for extensive use of wind energy, collects and complies with technological information in this area, and performs widespread activities including seminars, conferences, and publications for having a common information sharing environment. Additionally, TWEA puts efforts towards extensive use of Wind Energy Potential in Turkey and adaptation of wind energy in the country's economy with the General Directorate of Renewable Energy (former EIE), Turkish Electricity Transmission Company (TEİAŞ), General Directorate of Energy Affairs (EİGM), Energy Market Regulatory Authority (EMRA) and Ministry of Energy

Zorlu Enerji shares its experience and performs research related to Wind Energy Technologies in seminars and conferences.

The company discloses whether it is involved in policy-making processes on environmental issues (sectoral, regional, national, and international); the collaborations it has made with the environmental associations, related organizations, and nongovernmental organizations of which it is a member; the duties it has undertaken, if any; and the activities it supports.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

0

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

Turkish Business World and Sustainable Development Association (SKD)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly opposed their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

The Council works on a variety of issues related to sustainable development. It works to achieve the Sustainable Development Goals (SDGs) through the transformation of six economic systems. These are circular economy, Cities and Mobility, Climate and Energy, Food, Land and Water, People, and Redefining Value. Each system transformation is set up as a WBCSD Program with several supplementary Projects.

The business model of Zorlu Energy and its products overlaps with sustainability. Mainly, renewable energy production originated IREC certificates, Emission Reduction units from Gold Standard Project, electrical charging stations as an enabler for the automotive industry, and solar panels are our products. Being in SKD supports us as a global sustainability player and creating awareness in Turkey for sustainable products.

The company discloses whether it is involved in policy-making processes on environmental issues (sectoral, regional, national, and international); the collaborations it has made with the environmental associations, related organizations, and nongovernmental organizations of which it is a member; the duties it has undertaken, if any; and the activities it supports.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

15,000

Describe the aim of your organization's funding

Through the collaboration with SKD, Zorlu Enerji closely follows the global and local sustainability agenda, and keeps abreast of best practices in sustainability. This partnership ensures that Zorlu Enerji's achievements, particularly those applicable to the energy industry, receive visibility and recognition, with a focus on showcasing relevant cases.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

integrated-annual-report-2022-4.pdf

Page/Section reference

Governance: pg .76-79
Strategy: pg. 70-76
Risk & Opp: Pg. 46-49
Emission Figures: pg. 138
Emission Targets: pg. 80
Other Metrics,: pg. 50-53

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Business Ambition for 1.5C	As a participant in the UN Global Compact, Zorlu Enerji, a prominent player in the energy sector. We are committed to promoting and

	Task Force on Climate-related Financial Disclosures (TCFD) UN Global Compact	integrating the ten principles and shared values of the Global Compact throughout our value chain and partnerships. In our annual integrated report, Zorlu Enerji adheres to the guidance framework of the Task Force on Climate-related Financial Disclosures (TCFD). We aim to disclose comprehensive information on the financial implications of climate-related risks and opportunities, enabling us to effectively integrate these factors into our business and investment decisions. Our objective is to be an exemplary model for responsible business conduct and to encourage the widespread adoption of these principles within our sector. In addition to its ongoing commitment processes with SBTi (Science-Based Targets initiative), Zorlu Enerji has also joined as a signatory of the Business Ambition for 1.5°C. With an expanding sphere of influence throughout its value chain and a strong network of stakeholders, Zorlu Enerji aims to raise awareness about the importance of limiting global warming to 1.5°C. This ambitious goal requires a halving of greenhouse gas emissions by 2030 and achieving net-zero emissions by 2050. Recognizing the significance of collective action, Zorlu Enerji, as a leading company in decarbonization efforts, strives to influence the industries it operates in and foster collaboration for collective decarbonization.

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity
Row 1	Yes, both board-level oversight and executive management-level responsibility	Board-level oversight particularly ensures the compliance to the Environmental Impact Assessment liabilities and regulatory directives of Energy Markets Regulatory Authority. During the planning phase of power plants relevant details like wind turbine siting, substation connections, transmission line routes which may create environmental footprint are submitted to the local authorities of the Ministry of Environment, Urbanization and Climate Change. The board strictly follows the compliance to the environmental standards and ensures acceptance of projects by official authorities. Furthermore, financial authorities are one of

		the active stakeholders in biodiversity protection projects in terms of requirements of compliance to the environmental standards and ecological research on project development sites. Board-level oversight is also informed about conclusions of the research and follows the progress in compliance processes and ensures full compliance to the requirements. Biodiversity related actions are in the agenda of board-level executives. Also biodiversity related policy and commitment formation is concluded and CEO announced in his 2021 CEO letter that "By 2030, we aim to generate all of our electricity production in Turkey from renewable energy sources and to invest TL 10 million in protection and improvement of biodiversity."

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Commitment to not explore or develop in legally designated protected areas Commitment to respect legally designated protected areas Commitment to avoidance of negative impacts on threatened and protected species	SDG

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Upstream

Tools and methods to assess impacts and/or dependencies on biodiversity

No biodiversity assessment tools/methods used

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Tools and methods to assess impacts and/or dependencies on biodiversity

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity-sensitive areas in the reporting year?

No

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Species management

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Response indicators

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located

In mainstream financial reports	Content of biodiversity-related policies or commitments Governance Details on biodiversity indicators	1

[1]integrated-annual-report-2022-4.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Executive Officer	Chief Executive Officer (CEO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms