Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

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

ENKA İnşaat ve Sanayi A.Ş., a company with its headquarters in İstanbul, Turkey, provides services in the following areas through its affiliated companies, foreign enterprise branches and jointly controlled entities:

- Engineering and Construction
- Power Generation
- Real Estate
- Trade

Founded in 1957, ENKA İnşaat ve Sanayi A.Ş. (ENKA) provides comprehensive services including design and engineering at the purchasing, construction, commissioning, operation, maintenance and project management stages of all kinds of construction projects. It operated mainly in Turkey in the early years and later in other countries. ENKA has carried out more than 500 projects in 46 countries. Working with human resources comprising more than 20,000 and a machinery park of more than 3.700 pieces, ENKA has succeeded in making its services available everywhere in the world.

2019 is the third CDP reporting year for ENKA. The report chapters entitled Energy Efficiency and Climate Change and Water Management cover the activities of ENKA Headquarters, three of ENKA İnşaat Projects, Çimtaş (Steel and Pipe), ENKA Power (all three plants), ENKA Pazarlama, ENKA Schools Kocaeli, ENKA Sports Club and ENKA Real Estate (CCI, ENKA TC, MKH). Scope of the CDP reporting is planned to be expanded to cover all ENKA activities and subsidiaries in future reporting years.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	January 1, 2019	December 31, 2019	No

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Iraq
Russian Federation
Turkey

C0.4

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

USD

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

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(s)	Please explain
Chief Executive Officer (CEO)	The overall accountability for climate change within ENKA lies with the President and Chairman of the Executive Committee (CEO), who is reporting to company's Board of Directors. The ENKA Board of Directors has oversight of all areas of risk, including climate change. The CEO leads the Sustainability Committee and also gets direct reports from the Corporate HSE and Corporate Sustainability Departments. ENKA's 2027 Sustainability Goals, including GHG emission targets are approved by the CEO. Special climate-related projects such as the solar energy project in ENKA Kocaeli School was also started with the initiative of the CEO, leading the way for the Sustainable Campus Project.

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 – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	For climate change risk, the Board and the CEO are supported by the ENKA Sustainability Committee that is composed of members of Corporate Groups and ENKA's subsidiaries' representatives. The Committee's role is to review and advise the Board and CEO on policies and performance against the ENKA's Code of Business Conduct, and mandatory HSE standards as well as ENKA 2027 Sustainability Goals. HSE targets include many objectives such as "0" environmental incidents or developing at least one project related to the environment and the community in each project locations (at least one of each per Project). Beginning in 2018, ENKA has set its sustainability targets including for GHG emissions and water consumption which were approved by the Board and the CEO. All group companies either employ HSE and/or Sustainability experts or have established sustainability departments. HSE and Sustainability performance, depending on each subsidiary's procedure, is reported monthly to the Sustainability Committee. ENKA Sustainability Committee is responsible for managing all projects related to the sustainability programs of ENKA Group and all its Subsidiaries. The Committee works towards identifying and assessing social and environmental risks and opportunities, including climate-related ones, monitors sustainability and climate-related developments and determines the sustainability strategy and targets. The committee meets quarterly and the outcomes from the Sustainability Committee meetings are reported to the Chairman of the Executive Committee and CEO by the Director of Quality, HSE and Integrity (DQHSEI).

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other, please specify Director of Quality, HSE and Integrity	Assessing climate-related risks and opportunities	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Outside the Sustainability Committee and the CEO, the most senior individual with direct responsibility for climate change, and nominated risk owner, is the Director of Quality, HSE and Integrity (DQHSEI) who reports directly to the CEO. Under the supervision of DQHSEI, a Corporate HSE Team is responsible for evaluating climate change related risks to the ENKA group, supports the business in developing CO2 management strategies and has oversight of the company´s CO2 management implementation programme. The team is led by the Corporate HSE Manager who is the climate change risk focal point, and reports to the DQHSEI.

All ENKA group companies employ HSE and/or Sustainability Managers that report to the DQHSEI through the Sustainability Committee. Climate performance and other climate related issues are reported to the Group Sustainability Team monthly, which feeds the data to the Sustainability Committee that meets quarterly.

For all construction projects, HSE indicators including climate related information is reported by the Project HSE Departments to the Corporate HSE Team, which reports to the DQHSEI monthly, who consolidates and assesses the information and reports to the CEO.

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	

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	Type of incentive	Activity inventivized	Comment
Management group	Monetary reward	Emissions reduction target Energy reduction target Other (please specify) Sustainability and Climate Change Achievements	Incentives for successful management of sustainability and climate change related topics are provided in ENKA through the evaluation of the Executive Committee. Project/Business managers are rewarded for achievements and good practices. Executive Committee also monitors the financial management and environmental performance of corporate and project executives and rewarded with yearly premiums according to their seniority and experience.
All employees	Non-monetary reward	Efficiency project	Recognition incentives are in place for employees on HSE related topics. HSE Incentive Procedure, which includes sustainability and environment topics as well, states whoever reports or notifies any non-conformities, contributes to HSE and Quality applications or increases the perception of these concepts within projects and has extraordinary operating performance gets rewarded individually with individual KPI's through premiums and behavior recognition.

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	1	Business lines such as construction and power generation are very sensitive to extreme weather events. Therefore, risks and opportunities are considered in planning and investment decisions.
Medium-term	1	5	Policy implications, regulation changes and climate change scenarios are creating risks and opportunities for ENKA activities such as power generation, water withdrawal for cooling or wind turbine tower production.
Long-term	5	20	Investment decisions such as improvement of efficiency in NG power plants, new investment for increasing capacity of wind turbine tower production or using green building standards for new buildings.

C2.1b

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

Any impact resulting in more than 1% increase in CAPEX or causing more than 1% decrease in revenues is classified as substantive financial impact. Any impact, which may result in 1 day or longer disruption, or those that may constitute safety risk are further considered as substantive strategic impacts. Probability, frequency and impact are taken into account when classifying an impact whether it may be substantive or not.

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

Description of process

It is very well known by ENKA that the global climate is changing, and will continue to change, in ways that affect the planning and day to day operations of businesses, government agencies and other organizations.

The Early Risk Identification Committee together with its working group in ENKA has been performing routine analysis to identify climate change risks in an early manner that could endanger the existence, development and continuity of the company. Based on the results of these analysis, the Committee developed procedures so that they be can adapted and therefore associated risks are mitigated:

Company Level:
The Risk Management Working Group, which reports to the Early Risk Identification Committee (Board Level) includes upper management representatives from both ENKA and its subsidiaries. This Working Group is specifically organized for company level risks. As part of company level risk management program ENKA Group has implemented the following:
· All business-lines to have a comprehensive Business Continuity Management Plan (both company-level and asset level ramifications)
· Inclusive Risk Management – Corporate risk register (Company-wide) now includes potential impacts caused by adverse weather conditions
· Corporate Sustainability Strategy – Business decisions in all major processes (i.e. Engineering, Procurement and Construction) are made in compliance with the sustainability policy of the company to reduce emissions
· ENKA Academy Curriculum – Number of training hours on climate change increased for employees, supply chain stakeholders and clients

Asset Level:
Asset is defined as individual construction projects, business lines and facilities. Project specific risks are managed by Project Risk

Management teams that are either lead by Project Manager or Contract Manager depending on the nature of the Project. This ensures increased collaboration between all stakeholders whilst performing business: Planners, Designers, Sub-contractors, Clients, Manufacturers and Regulatory Bodies

· Each Project and Facility established Emergency Preparedness and Response Planning – based on HSE Standards as well ISO 14001 requirements that include responses to climate related risks.

· ENKA has established the Corporate Engineering Center to increase research and development on impacts of climate change on material selection processes and alternative engineering solutions better suited to climate for construction projects including Power Plant tenders. Thus, Climate Adaptation needs to be considered early in the planning / design stages of all projects (i.e. comprehensive Environmental Impact Assessments to be performed based on Project specific climate and other environmental risks).

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	ENKA has activities in numerous countries and regions. Assessment of relevant regulations are critical for risk assessment and planning. For example; regulations for water withdrawal and discharge are important for our natural gas combined cycle power plants in İzmir, Gebze and Adapazarı that use large amounts of water for cooling or numerous construction projects in which we use water for dust prevention, especially in the Middle East/Gulf region. Impacts on climate change related to water availability is considered for each facility. GHG emission regulations are also applicable in some locations and considered in regulatory risk assessments and planning. For example, natural gas plants are in scope of Turkey's GHG MRV regulation and their adherence to the regulation is an important process in their risk management processes. In addition, the regulation in Russia covering buildings needs to be closely followed and increases costs both during design, construction and operational phases. "Early Risk Identification Committee" and "Risk Management Working Group" has identified the following climate-related risks which might have substantive potential impacts; • International Agreements e.g. Paris, etc. • National Regulations (GHG MRV Regulation and Water related regulations – Regulation on Water Pollution Control, Regulation on Wastewater Collection and Dissemination Systems, etc.) • Financial limitations for fossil fuel burning power plants

		• Lack of fresh water • Undesired Water Events such as floods etc. • Regulations on host countries • Increasing of environmental awareness • Requirements which are enforced by clients such as LEED, Bream etc. • Compliance of Life-Cycle requirements on ISO 14001:2015
Emerging regulation	Relevant, always included	Emerging regulations at national and international level are considered in investment planning, procurement and business development strategies. For example, if there will be an additional carbon tax on energy consumption, implications and options are considered in investment/procurement phase. Building regulations especially are monitored with scrutiny. Many emerging building regulations or international standards and best practices that are needed to be followed include energy efficiency and climate change related clauses and requirements. Similarly, in light of the emerging ETS regulation (considered to be the next step of the current GHG MRV Regulation) in Turkey, investment plans are developed and implemented for meeting applicable emission criteria for ENKA's natural gas combined cycle power plants in İzmir, Gebze and Adapazarı.
Technology	Relevant, always included	Staying current on the emerging technological trends is very important in the construction sector. Climate change impacts the EPC sector, specifically when it comes to tenders of power plants. Therefore, ENKA has established a Corporate Engineering Center – to perform increased research and development on impacts of climate change on material selection processes and alternative engineering solutions better suited to the changing climate. Thus, Climate Adaptation is considered early in the planning / design stages of all construction projects (e.g. comprehensive Environmental Impact Assessments to be performed for each project). Apart from EPC, Power Generation also is becoming more and more competitive due to climate change. For example, advances in technology of natural gas power plants may create risks for ENKA Power in terms of competition with greenfield natural gas plants with higher efficiency and lower emissions. Therefore, ENKA Power invests in new technologies to lower the fuel consumption and emissions from its Natural Gas Combined Cycle Power Plants in İzmir, Gebze and Adapazarı. For example, a specific investment (Advanced Gas Path & Dry Low NOx) in the power plants to reduce the emission intensity by 2.6% was made with the assistance of the power train manufacturers.

Legal	Relevant, always included	Implications of policy interventions on business activities in host countries are always monitored. ENKA İnşaat is considering new technologies while building new NG power plants. Similarly, ÇİMTAŞ is monitoring the implications of increasing interest in renewable (wind) power plants to their activities. ENKA real estate and Engineering group has increased capacity for designing new buildings using LEED or BREAM standards considering the demand from the market. ENKA Power and Cimtas specifically monitor emissions closely. The emerging ETS regulation in Turkey is bringing a cap & trade system with limits on emissions allowances that can both result in fines and potential litigation. The GHG MRV regulation is very specific on reporting, verification licensing procedures, making sure monitoring these climate-related potential legal issues are always taken into account during risk assessment.
Market	Relevant, always included	Market developments due to climate change is being closely monitored by ENKA Group to maintain and strengthen ENKA's position and reputation in its business lines. ENKA's different subsidiaries have increased the share of revenues from "green" products such as renewable energy generation parts, construction projects based on energy efficiency schemes etc. For example, ENKA Group subsidiary ÇİMTAŞ Steel is monitoring the implications of increasing interest in renewable (wind) power plants to their activities very closely. Not investing in renewable energy might result in loss of market share in a rapidly growing sector. In this regard, ÇİMTAŞ has invested in production of wind towers, rotors & stators and produced a record amount of 26,500 tonnes of wind power equipment in 2019. ENKA Real Estate and Engineering group has their increased capacity for designing new buildings using LEED or BREEAM standards after evaluating the demand from the market. ENKA Real Estate's Russian operations have invested to obtain Russian Green Building Certificates. Some ENKA projects were divested from fossil fuel power plant tenders and contracts for two new Hydroelectric Power Plant in Georgia have been awarded.
Reputation	Relevant, always included	Reputation risks related to climate change are very relevant to ENKA as a group that is involved in many business lines that have high climate related impacts. ENKA's Sustainability Policy includes supporting measures against climate change and the 2027 Sustainability Goals include GHG targets that are monitored closely and reported to all stakeholders transparently. Any deviation from the Sustainability Policy and the GHG targets might result in reputation losses especially from IFIs, Institutional Investors, business and international project owners and partners and potential future customers. For example, ENKA Real Estate has invested in obtaining Russian Green Building certificates for their buildings. New buildings by the Real Estate and Engineering group are designed and managed in accordance with LEED or BREEAM schemes. All activities performed by ENKA's employees, representatives and subsidiaries must be transparent and accountable, and consistent with the honesty, impartiality and reputation of the company. ENKA Code of Conduct for employees defines the

		rules and requirements in compliance with ENKA's corporate policy. Similarly, ENKA has established EGVN (ENKA Global Vendor Network) and developed ENKA Supplier Code of Conduct which describes all requirements which should be followed by ENKA's suppliers. ENKA collects sustainability and climate related information from its main suppliers and conducts HSE audits to make sure there are no unforeseen supply chain risks that may impact the company's reputation regarding climate change. In 2019, 1,438 suppliers were assessed in terms of Ethics, Human Rights, Anti-Bribery and Corruption, OHS, Environmental and Social issues.
Acute physical	Relevant, always included	Acute physical risk management is extremely important to the continuance of construction and power generation activities. Flash rains and floods, in addition to high winds (especially in dusty regions such as the Middle East, where is involved in many projects) can be very problematic to the construction process. ENKA İnşaat closely monitors and uses weather and climate data for project planning including planning of daily activities about construction and installation works. Acute physical risks are minimized through a variety of methods such as risk-sharing with the owner and insurance policies for loss of life, equipment and time due to acute physical evens such as floods. ENKA Power monitors weather events and parameters and uses the data in process planning. Furthermore, ENKA Power's power generation operations are insured against acute physical events with all risk insurance policies. For construction projects, climate-related risks are always taken into account. For example, in the highway project undertaken in Serbia, flooding risks were taken into account from a climate-change perspective and necessary precautions were taken into account. Extensive erosion protection due to the large floodplain of the river, flood prevention measures, long river diversions, dykes and the construction of a new riverbed took place.
Chronic physical	Relevant, always included	Chronic physical risk management is extremely important for construction planning (such as dams and other power plants that require constant stream of water or highway construction projects where drainage system design must be made according to flood plans that are constantly changing due to climate change) and power generation (cooling water scarcity). In all relevant operations, weather and climate data is considered in planning and decision-making processes. In 2011, considering the risks in water scarcity and quality withdrawn from the dam, ENKA Power has made an investment to generate fresh water for cooling from sea water in İzmir plant. Other two plants are investigating investment options to reuse/recycle wastewater in process. In construction projects where the design responsibility is on ENKA İnşaat, infrastructure, architecture and energy project engineering groups consider scenario analyses for chronic physical risks in the design process. Examples include wind tests, material selection, roof load capacity calculations (for accumulated snow etc.).

		For construction projects, climate-related risks are always taken into account. For example, in the highway project undertaken in Serbia, flooding risks were taken into account from a climate-change perspective and necessary precautions were taken into account. Extensive erosion protection due to the large floodplain of the river, flood prevention measures, long river diversions, dykes and the construction of a new riverbed took place.

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

Emerging regulation

Enhanced emissions-reporting obligations

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Turkey is implementing and investigating policy opportunities for reducing GHG emissions which may affect ENKA Power primarily. Within this framework, Turkey has issued MRV system for monitoring GHG emissions and published INDC to reduce GHG emissions 21% from Business as usual scenario. Ministry of Environment and Urbanization is collaborating with international institutions to investigate measures applicable. As energy generation constitutes the majority of Turkey's GHG emissions, energy sector is one of the most likely candidates that will be impacted with an ETS. ENKA Power operates Natural Gas Combined Cycle Power Plants in İzmir, Gebze and Adapazarı regions of Turkey which will be impacted by said regulation.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

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)

3,250,000

Potential financial impact figure – maximum (currency)

19,500,000

Explanation of financial impact figure

Figures above gives average potential impact as percentage of ENKA Power revenues. Potential impact on ENKA Power is estimated as 1%-6% depending on the regulations applicable. Depending on the nature of the regulation, financial impacts may be costs to purchase additional

emissions allowances to stay below ETS limits and/or investments in new technologies to improve energy efficiency, so plants can stay below ETS limits.

Cost of response to risk

319,000

Description of response and explanation of cost calculation

Investment opportunities are investigated and listed for improving fuel efficiency and reducing emissions and investment costs. Also, emission intensity targets have been defined for all power plants in terms of CO2/kWh. To achieve this target, new solutions are developed and implemented continuously. For example, to increase the fuel efficiency and reduce carbon footprint, AGP & DLN (Advanced Gas Path & Dry Low NOx) 2.6+ technology investment was made in our Natural Gas Combined Cycle Power Plants. Natural gas consumption was lowered approximately 2.6% for each turbine (This investment was completed before 2019).

Cost of management given as the cost of goods sold for the energy segment, which includes the cost of maintenance and upgrades related to energy efficiency.

Comment

Cost of management given as the cost of goods sold for the energy segment, which includes the cost of maintenance and upgrades related to energy efficiency.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

ENKA's Natural Gas Combined Cycle Power plants located in İzmir, Gebze and Adapazarı need cooling medium for safe and efficient operation. Wet cooling systems are more efficient compared to dry (air) cooling systems. Increase in ambient temperature or water temperature and water scarcity may cause reduced plant efficiency/production capacity and increased operational costs and emissions. In extreme cases, power plants may need to shut down due to water scarcity.

Time horizon

Short-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)

16,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Impact of water scarcity or increased air/water temperature is estimated as 5% impact on ENKA Power revenues considering loss in efficiency and frequency of the expected extremes. Reduced efficiency will result in combustion of more fossil fuel or generating less electricity and creating less revenue. This may also result in new capital expenditures.

Cost of response to risk

3,500,000

Description of response and explanation of cost calculation

ENKA power plants have been designed to reduce dependency on freshwater resources. In İzmir, seawater desalination investment has been made to prevent risks on water supply from nearby freshwater resources. Adapazarı plant has been designed to use dry cooling system. All power plants have implemented new measures/investment for water reuse and recycling.

Cost of management is given as the CAPEX cost of investment for seawater desalination.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

ENKA İnşaat conducts many construction projects in areas with high event risks due to the impacts of climate change (e.g. Middle East). In such projects, extreme weather events such as dust storms and heat waves may impact our construction operations and even result in shutdowns.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,500,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact figure represents the contract values of construction projects that have physical climate risks.

Cost of response to risk

0

Description of response and explanation of cost calculation

ENKA İnşaat closely monitors and uses weather and climate data for project planning including planning of daily activities about construction and installation works. In addition, comprehensive Business Continuity Management Plans are implemented for every project. ENKA collaborates with supply chain members to increase awareness and ability to integrate risks / challenges into procurement processes and offer potential solutions. Costs related to data monitoring and implementation of Business Continuity Management Plans are already reflected in operational expenses of ENKA İnşaat. Therefore cost of response to risk is considered zero (no additional cost of response).

Comment

Costs related to data monitoring and implementation of Business Continuity Management Plans are already reflected in operational expenses of ENKA İnşaat.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Reputation

Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact

Decreased access to capital

Company-specific description

ENKA İnşaat needs access to capital from International Financial Institutions in many of its construction projects. IFIs are much more stringent when it comes to managing climate risks and reporting compared to existing climate risk regulations. Therefore, ENKA needs to monitor its climate risks and opportunities and report on them regularly. Reporting climate impacts and data brings an additional burden to the company as there are many different projects and business lines ENKA operates in.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,500,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Total contract value of current projects financed by IFIs.

Cost of response to risk

1,800,000

Description of response and explanation of cost calculation

ENKA started assessing and reporting its climate related risks and data in 2018. The Sustainability Committee, Corporate HSE and Corporate Sustainability Departments and external consultants and auditors work towards transparently informing stakeholders of ENKA's climate performance and constantly improving it. Costs of ESIA Studies for ENKA İnşaat projects with high impact plus costs for external consultants that help ENKA report its climate impacts to the public were taken into account for cost calculation.

Comment

Typical cost for extensive ESIA Studies for two projects with high impact plus costs for external consultants that help ENKA report its climate impacts to the public.

Identifier

Risk 5

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

Turkey is implementing and investigating policy opportunities for reducing GHG emissions which may affect ENKA Power primarily. Within this framework, the recent Partnership for Market Readiness Project (PMR) in Turkey assessed the potential impacts of a carbon tax on GHG intensive sectors in the country. The identified sectors are the ones covered in the ETS regulation, and ENKA Power operates three Natural Gas Combined Cycle Power Plants in İzmir, Gebze and Adapazarı regions of Turkey which are covered.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

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)

6,750,000

Potential financial impact figure – maximum (currency)

36,000,000

Explanation of financial impact figure

Figures above are potential carbon taxes that may be imposed on ENKA Power based on the 2019 emissions. The figures are calculated based on the Low and High scenario piloted in the PMR project. The Low scenario (minimum potential financial impact figure) includes a 10% reduction and $5/tCO2e carbon tax, applied on the potential reduced emissions. The High scenario (maximum potential impact figure) includes a 21% reduction and $30/tCO2e carbon tax, applied on the potential reduced emissions.

Cost of response to risk

1,800,000

Description of response and explanation of cost calculation

Investment opportunities are investigated and listed for improving fuel efficiency and reducing emissions and investment costs. Also, emission intensity targets have been defined for all power plants in terms of CO2/kWh. To achieve this target, new solutions are developed and implemented continuously. For example, to increase the fuel efficiency and reduce carbon footprint, AGP & DLN (Advanced Gas Path & Dry Low NOx) 2.6+ technology investment was made in our Natural Gas Combined Cycle Power Plants. Natural gas consumption was lowered approximately 2.6% for each turbine. This investment was completed before 2019. Cost of management given as the cost of goods sold for the energy segment, which includes the cost of maintenance and upgrades related to energy efficiency. More details regarding the investment amounts cannot be shared due to confidentiality.

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?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

ENKA's business strategy is to take part in “green” and environment friendly projects. Power plant construction is one of ENKA İnşaat's core businesses. While thermal power plants constructed by ENKA consume fossil fuels to generate electricity, these plants can be made more environment friendly by minimizing emissions. For instance, ENKA undertakes conversion projects from open-cycle (simple cycle) power plant

(Phase I) to combined cycle power plant (CCPP) (Phase II) operation. These projects increase a plant's power generation output, improve plant efficiency and decrease environmental impacts remarkably. As per its sustainability strategy, ENKA is giving priority to perform power plant projects, with combined cycle configuration, in order to reduce carbon emissions. However, due to client requirements and other issues raised out of ENKA's control, the company may also perform the construction of simple cycle power plants for its business continuity.

Time horizon

Short-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)

750,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Share of revenues from new 'green' product lines (estimated at 26% of ENKA Group). ENKA is also bidding for new conversion projects for upgrading existing plants to improve efficiency.

Cost to realize opportunity

2,300,000

Strategy to realize opportunity and explanation of cost calculation

We regularly reassess existing and future energy markets as well as policy scenarios under which we operate or expect to operate. As per these assessments conducted by all levels of our organization, we take necessary actions and factor the risks and opportunities into our financial planning process. With the growth of demand to sustainable and green energy, ENKA has established the Corporate Engineering Center to increase research and development on impacts of climate change on material selection processes and alternative engineering solutions better suited to climate for construction projects including Power Plant tenders. The cost of response was calculated as the expenses of the Corporate Engineering center.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Çimtaş Steel produces wind turbine towers and parts. Increasing demand for wind power and incentives available for locally produced parts have created demand for local suppliers. In 2019, Çimtaş Steel has produced a record 26,500 tonnes of wind turbine tower and numerous wind power parts for the turbines such as rotors and stators, corresponding to more than 475 MW installed capacity.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

36,800,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Çimtaş Steel has continued to increase the revenues from wind turbine parts. Financial impact figure given corresponds to the percentage of sales from wind turbine parts in Çimtaş Steel's total revenues (%20).

Cost to realize opportunity

450,000

Strategy to realize opportunity and explanation of cost calculation

Çimtaş follows the renewable energy (Wind) market development in Turkey and neighborhood countries. Forecasts for new strategies of countries, new grid capacity allocation, turbine models and tenders are monitored and considered in product development and investment decisions. Specific R&D and engineering teams were established for designing and producing wind towers, turbines, rotors & stators. Cost calculation reflects the annual R&D costs of designing and producing wind towers, turbines, rotors & stators.

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 revenues through access to new and emerging markets

Company-specific description

ENKA Pazarlama leases heavy machinery (e.g. Diggers, excavators, etc.) to clients. Due to recent developments regarding climate change, ENKA Pazarlama customers prefer lower emissions alternatives of heavy machinery in their operations. Main reasons are carbon taxes, ability to leverage energy efficiency schemes and lower emissions requirements in some regions and fuel prices in others.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

77,250,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

% of revenues from 'green' products in ENKA Pazarlama total revenues. We estimate 80-70% of ENKA Pazarlama revenues come from the sale of green products. ENKA Pazarlama has increased the supply of its lower emission alternative vehicles. Revenues from lower emissions alternative products and vehicles made by recycled materials has increased rapidly.

Cost to realize opportunity

600,000

Strategy to realize opportunity and explanation of cost calculation

Maintaining lower emissions alternatives in ENKA Pazarlama supply. ENKA Pazarlama also conducts route analysis to reduce the costs and emissions resulting from transportation of sold/leased goods.

Additional cost of maintaining ‘green’ products in ENKA Pazarlama machinery park, calculated on per annum basis. While more efficient products are on average 10% more expensive than their regular counterparts, we are only able to transfer approximately 7% of this to the end customer due to the competitive nature of the marketplace.

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient modes of transport

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

ENKA Pazarlama aims to minimize environmental negative impacts at every point throughout the supply chain and life-cycle of the machinery it supplies and is fulfilling its emissions obligations. At ENKA Pazarlama, a rapid reduction trend in motor-sourced emissions has been achieved through the use of advanced technology, training for final users, experience with equipment and proper directions.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

215,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Analyses carried out by the ENKA Pazarlama logistics team for improvements in distribution and storage have shown that heavy transport vehicles used in distribution within Turkey generate multiple times the emissions generated by passenger cars and that through route and storage optimisation the waste of resources can be prevented and reduced. By implementing this policy, ENKA Pazarlama was able to considerably lower costs and delivery times. The financial impact figure is total amount of annual savings realized in 2019.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

It has been calculated that by using multiple storage modelling and by shifting the centre of distribution mass eastwards with increased use of the storehouse in Mersin, the ENKA Pazarlama work machinery domestic distribution route, which is 500,000 kilometres per annum, can be reduced by 31%.

There were no additional cost to realize this opportunity (additional to regular operational expenses of the business) as ENKA's current warehouses were utilized efficiently after the modelling process.

Comment

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

ENKA İnşaat conducts many construction projects where clients are looking for lower emissions options whether it be shifting from thermal power generation to renewables such as hydroelectric power stations, to new buildings that conform to energy efficiency schemes (LEAD, BREEAM) and regulations. ENKA has established a Corporate Engineering Center to perform increased research and development on impacts of climate change on material selection processes and alternative engineering solutions better suited to climate risks. Thus, Climate Adaptation needs are considered early in the planning / design stages of all projects (i.e. comprehensive Environmental Impact Assessments).

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

750,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

ENKA has increased its revenues from 'green' products in recent years including several new Hydroelectric Power Plant tenders (2 recent Hydroelectric Power Plant tenders with purchase agreements in Georgia). As we are currently not able to disclose the potential impact on our revenues, the financial impact figure provides the total investment amount of the two specific projects.

Cost to realize opportunity

2,300,000

Strategy to realize opportunity and explanation of cost calculation

Establishing the Corporate Engineering Center, Turkey's first licensed construction R&D center to establish ENKA as a leader in green power tenders and efficient building design. The cost to realize opportunity is the approximate cost of the ENKA Corporate Engineering Center.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative

C3.1b

(C3.1b) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
IEA Sustainable development scenario	Scenario analysis were made for Turkey and other countries ENKA is active for short, medium- and long-term strategies. Scenario outcomes have been integrated in risk detection committee procedures, submitted to executive committee and integrated to individual risk assessments for projects. Diversification of business lines, new opportunities and potential investment areas have been identified as below; Together with other inputs and practical experience, scenario analysis has enabled company strategy to focus on low carbon business opportunities. ENKA has seen the trend and need for reducing energy related emissions and have started to update strategy considering the demand from market and clients. Conversion of single cycle NG power plants, investing in wind turbine parts and construction new buildings using green building standards are concrete results of this strategy. Results are made public through the sustainability report, company newsletters, website and sectoral publications. Main reflections to ENKA's business strategy are as below; -Focusing on conversion of single cycle plants to combined cycle and encouraging clients and partners -Producing parts for wind Turbines in Çimtaş Çelik -Focusing on non-fossil fuel and renewable energy investments -Monitoring and bidding to wind turbine tenders -Monitoring hydropower tenders (such as Namakhvani HPP) -Participating solar power plant tenders -Designing new construction as per the green building standards and considering extreme weather events. -Integrating risk assessment to new investment decisions (such as switching to sea water for cooling) or using weather/climate data in construction projects For adaptation risk assessment, ENKA prepares and applies the procedures for extreme water conditions in all projects. (Winterization plans are developed. In this plan, it is indicated what kind of precautions should be taken in extremely hot and cold

	weather conditions. Risk analyses are performed for extreme weather conditions in every project, and working hours are set by considering the consequences of these analyses. Furthermore, flood plans are developed when necessary, and they are attached to the site emergency plan.)

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Due to the increased demand from the market and incentives for locally produced renewable energy project parts in Turkey, Çimtas Steel has started to produce wind towers, rotors & stators. The share of revenues from wind towers, rotors & stators made up 20% of Çimtas Steel revenues in 2019 (%11 of Çimtaş' consolidated revenues). Other ENKA Group companies also invested in greener products and services. ENKA İnşaat conducts many construction projects where clients are looking for lower emissions options whether it be shifting from thermal power generation to renewables such as hydroelectric power stations, to new buildings that conform to energy efficiency schemes (LEED, BREEAM) and regulations. ENKA has established a Corporate Engineering Center to perform increased research and development on impacts of climate change on material selection processes and alternative engineering solutions better suited to climate risks. Thus, Climate Adaptation needs are considered early in the planning / design stages of all projects (i.e. comprehensive Environmental Impact Assessments). Our new factory investment for Cimtas Ningbo is also LEED Gold certified. By making sure our production facilities implement energy efficient and climate-friendly solutions, we are able to reduce the embedded energy consumption and carbon footprint of our products, reducing climate risks.
Supply chain and/or value chain	Yes	Increased collaboration between all stakeholders developed whilst performing business: Planners, Designers, Sub-contractors, Clients, Manufacturers and Regulatory Bodies. ENKA Pazarlama (Marketing) has started marketing fuel efficient and low carbon vehicles upon demand from downstream

		suppliers. 70% of ENKA Pazarlama revenue were derived from low carbon products. ÇİMTAŞ Steel has invested in wind turbine tower manufacturing considering increased demand and incentives for locally produced parts. Çimtaş Steel's revenues from "green" product lines such as wind turbine parts made up 11% of Çimtaş's consolidated revenues in 2019. In addition, we held a sustainability workshop with ENKA Pazarlama franchises in 2019, where the following topics were discussed: compliance, human rights, decent work conditions, anti-bribery and corruption, OHS, environmental management. The workshop included demonstrations on calculation carbon emissions and water accounting as eel.We were able to reach a wide variety of stakeholder groups with this initiative.
Investment in R&D	Yes	Corporate Engineering Center has been established to perform increased research and development on impacts of climate change on material selection processes and alternative engineering solutions better suited to climate. Thus, Climate Adaptation needs to be considered early in the planning / design stages of all projects (i.e. comprehensive Environmental Impact Assessments to be performed).
Operations	Yes	All business-lines have been required to have a comprehensive Business Continuity Management Plan. Business decisions in all major processes (i.e. Engineering, Procurement and Construction) are made in compliance with the sustainability policy of the company to reduce emissions. Specific emissions targets for ENKA Power (CO2/KWh) and Çimtaş Steel (CO2/person-hours/tonnes production) has been set to improve monitoring and assessing potential operational improvements in terms of efficiency and new investments. Emerging ETS regulation in Turkey has led ENKA Power to invest in lower emission technologies. Investment opportunities are investigated and listed for improving fuel efficiency and reducing emissions and investment costs. Also, emission intensity targets have been defined for all power plants in terms of CO2/kWh. To achieve this target, new solutions are developed and implemented continuously.

C3.1e

(C3.1e) 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 Acquisitions and divestments Access to capital Assets Liabilities	Revenues Çimtaş Steel has increased revenues from “green” products by selling more wind turbine parts (towers, rotors & stators). The share “green” products in Çimtaş Steel revenues has increased to 20% (11% of Çimtaş’ consolidated revenues). ENKA Pazarlama (Marketing) has managed to generate 70% of its revenues from the sales of its vehicles and equipment that is considered “green” (vehicles built with green parts/low emission vehicle). Two new hydroelectric power plant (HPP) project tenders with 15-year power-purchase agreements were won recently and is planned to go into operation in 2023, and is going to increase green, low risk revenues further. Increasing the share of “green” products in ENKA’s revenues is an important step of ENKA’s risk and opportunity management process. Costs Operating costs have decreased in Power Plants due to energy efficiency investments. To increase the fuel efficiency and reduce carbon footprint, AGP & DLN (Advanced Gas Path & Dry Low NOx) 2.6+ technology investment was made in our Natural Gas Combined Cycle Power Plants. Natural gas consumption was lowered approximately 2.6% for each turbine. For ENKA İnşaat, operating costs have increased due to more stringent ESIA requirements, especially in projects that are financed by IFIs and are located in places highly impacted by climate change such as near a vulnerable river in Serbia and Iraq. Two recent projects in Southern Iraq required major revisions to their ESIA reports as well as project plans and procedures that resulted in additional costs due to work stops, deviation from schedule and hiring extra personnel. Due to investments made for efficiency, new product lines and adaptation, CAPEX have increased, and a specific budget has been allocated for realization of such opportunities. For example, to increase the fuel efficiency and reduce carbon footprint, AGP & DLN (Advanced Gas Path & Dry Low NOx) 2.6+ technology investment was made in our Natural Gas Combined Cycle Power Plants. This investment required high amounts of CAPEX (USD 260 mio). ENKA sees renewable energy and low carbon investments as a potential expansion area and participates bids for such investments (hydro power

		projects, thermal power rehabilitation projects etc.). Acquisitions and Divestments ENKA İnşaat has been working on divesting from thermal power plant EPC projects to renewable energy projects such as hydropower. For example, a project with two new hydroelectric power plant (HPP) tenders with 15-year purchase agreements were won recently and is planned to go into operation in 2023. Access to Capital Access to finance for fossil fuel investments have reduced whereas availability of finance for low carbon investments have increased. International Finance Institutions, Funds etc. have been more sensitive about climate impacts of the projects financed. Two recent projects in Southern Iraq required major revisions to their ESIA reports as well as project plans and procedures that resulted in additional costs due to work stops, deviation from schedule and hiring extra personnel. Any sub-par ESIA study or project without an environmental and social management plan is a liability that makes access to capital, especially from international financial institutions very tricky. Assets & Liabilities Assets owned by ENKA Real Estate have been reconstructed as per green building requirements to reduce operational costs and meet demand from the market. ENKA POWER plants have been rehabilitated to improve technical/financial performance of the assets. To date, no assets have been impacted negatively, however operating costs and capital expenditures have been impacted due to the need to strengthen and future-proof assets regarding climate related risks. Requirement and liabilities have been considered by risk committee and reflected in investment/procurement decisions.

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

ENKA has updated its methodology to focus on low-carbon businesses and investments. Main objectives are defined below. Through constructing new buildings according to green building standards, focusing on power plant rehabilitation projects and new investments in turbine parts, strategy has been partially achieved for short term period. Main actions for transition to low-carbon company defined are as below;

-Focusing on conversion of single cycle plants to combined cycle and encouraging clients and partners
-Producing parts for wind Turbines in Çimtaş Çelik
-Focusing on non-fossil fuel and renewable energy investments
-Monitoring and bidding to wind turbine tenders
-Monitoring hydropower tenders (such as Namakhvani HPP)
-Participating solar power plant tenders
-Designing new construction as per the green building standards.
ENKA Power's three facilities are all Combined-Cycle Natural Gas Power Plants. Through Turkey's low carbon transition, secure supply of cleaner burning natural gas is going to play a large role. ENKA Power has been continually optimising and increasing the efficiency of its plants to prepare for this transition.
We also consider climate change as a criteria in all our new investments. In all our new investments, environmental and social issues are considered material. For example, we have obtained a LEED gold certificate for the factory investment for Cimtas Ningbo. By designing our production facilities by taking climate change and other environmental and social issues into account, we are lowering embedded energy consumption, carbon emissions and water consumptions for our products'.
In 2019, ENKA has reviewed its material issues and conducted in person interviews and sent online questionnaires to its key stakeholders including the Sustainability Committee, customers, suppliers and NGOs. According to the results of this review, ENKA and its key stakeholders consider climate change a highly material issue for the sustainability of the company. Therefore ENKA considers lack-of-action on climate-related issues a big risk in terms of reputation and stakeholder engagement, which in turn directs the sustainability strategy of the company to always take into account climate-related issues when making business decisions .

C4. Targets and performance

C4.1

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

Intensity 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

Year target was set

2018

Target coverage

Business division

Scope(s) (or Scope 3 category)

Scope 1

Intensity metric

Metric tons CO2e per megawatt hour (MWh)

Base year

2017

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

400

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

99

Target year

2019

Targeted reduction from base year (%)

15

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

340

% change anticipated in absolute Scope 1+2 emissions

15

% change anticipated in absolute Scope 3 emissions

15

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

339.62

% of target achieved [auto-calculated]

100.6333333333

Target status in reporting year

Replaced

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Please explain (including target coverage)

ENKA Power has set a target to keep emissions intensity to under 400g CO2per Kwh of electricity production. This is a rolling target for each year until 2027.

Target reference number

Int 1

Year target was set

2018

Target coverage

Business division

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Intensity metric

Other, please specify

grams CO2e per Person-hours/tonnes production

Base year

2017

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

24

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

25

Target year

2019

Targeted reduction from base year (%)

1.5

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

23.64

% change anticipated in absolute Scope 1+2 emissions

1.5

% change anticipated in absolute Scope 3 emissions

0

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

23.65

% of target achieved [auto-calculated]

97.2222222222

Target status in reporting year

Underway

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Please explain (including target coverage)

This is a rolling target used by Çimtaş to assess energy consumption annually.

C4.2

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

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2018

Target coverage

Business division

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy productivity

Other, please specify

grams CO2e per Person-hours/tonnes production

Target denominator (intensity targets only)

Base year

2017

Figure or percentage in base year

24

Target year

2019

Figure or percentage in target year

25

Figure or percentage in reporting year

23.65

% of target achieved [auto-calculated]

-35

Target status in reporting year

Replaced

Is this target part of an emissions target?

No

Is this target part of an overarching initiative?

Please explain (including target coverage)

This is a rolling target used by Çimtaş to assess energy consumption annually.

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	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	4	8,858.36

Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

7,506.3

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

1,100,000

Investment required (unit currency – as specified in C0.4)

319,000

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Process optimization studies are conducted regularly in ENKA Power plants. Energy efficiency is considered in all operations. Including lighting, operational areas, efficient machinery and temperatures.

Initiative category & Initiative type

Energy efficiency in buildings
Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)

972.83

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

190,275

Investment required (unit currency – as specified in C0.4)

142,807

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Total savings from AHU Energy savings, heat tracing, lighting and LED transformation projects for ENKA Real Estate TC.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

253.95

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

37,305

Investment required (unit currency – as specified in C0.4)

1,930

Payback period

<1 year

Estimated lifetime of the initiative

1-2 years

Comment

Numerous process, lighting and heat optimization projects were implemented in Cimtas Pipe to reduce energy consumption and increase energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings

Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)

125.28

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

24,503

Investment required (unit currency – as specified in C0.4)

33,906

Payback period

1-3 years

Estimated lifetime of the initiative

1-2 years

Comment

Timing optimization studies were made in heating and cooling systems in CCI. In addition, capacitors were replaced in the energy filtering equipment, increasing energy efficiency and reducing total energy consumption.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Regulatory requirements are closely followed by HSE and legal team. Activities are implemented as per the local regulations, international standards and company HSE standards.
Dedicated budget for energy efficiency	Continuous improvement approach is employed by ENKA group companies. Recommendations from employees or engineering team are evaluated, prioritized and implemented considering the budget allocation investment return and other benefits/requirements.
Internal incentives/recognition programs	Internal incentives and award programs are applied in all ENKA group companies. ENKA İnşaat HSE Incentive Procedure, includes sustainability and environment topics as well, states whoever reports or notifies extraordinary operating performance gets rewarded individually with individual KPIs through premiums and behavior recognition. Executive Committee also monitors the financial management and environmental performance of corporate and project executives and rewarded with yearly premiums according to their seniority and experience. ÇİMTAŞ Steel and Pipe companies and ENKA Power also has detailed written procedures for employee incentives including recognition and monetary rewards.
Dedicated budget for low-carbon product R&D	ENKA has a dedicated R&D budget for the Corporate Engineering Center, where renewable energy products are designed.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Çimtaş Steel produces wind turbine tower and parts. In 2019 Çimtaş produced a record 26,500 tonnes of wind turbine equipment. Wind towers and their parts has been delivered for wind turbines corresponding to more than 475 MW installed capacity.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Low-Carbon Investment (LCI) Registry Taxonomy

% revenue from low carbon product(s) in the reporting year

20

Comment

% revenue from low carbon product(s) given as share of Çimtaş steel revenues.

Level of aggregation

Product

Description of product/Group of products

ENKA Real Estate is owner of many buildings and rents to clients. ENKA Real Estate has started converting or reconstructing its assets as per green building standards. Thus, clients can benefit from lower energy consumption, lower emission services.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Low-Carbon Investment (LCI) Registry Taxonomy

% revenue from low carbon product(s) in the reporting year

11

Comment

.

C-EU4.6

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

All power plants are equipped with Hazardous Gas Monitoring system. Detectors are installed in Generator Housing, Gas Fuel Compartment and Turbine Compartment. Any methane leakage from detectors generates alarm and the system secures the units. Leakages are identified and prevented as defined in management plan. All power plants are equipped with Hazardous Gas Monitoring system. Detectors are installed in Generator Housing, Gas Fuel Compartment and Turbine Compartment. Any methane leakage from detectors generates alarm and the system secures the units. Leakages are identified and prevented as defined in management plan.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2017

Base year end

December 31, 2017

Base year emissions (metric tons CO2e)

9,380,851.17

Comment

Scope 2 (location-based)

Base year start

January 1, 2017

Base year end

December 31, 2017

Base year emissions (metric tons CO2e)

192,502.88

Comment

Location-based result has been used as a proxy since a market-based figure cannot be calculated.

Scope 2 (market-based)

Base year start

January 1, 2017

Base year end

December 31, 2017

Base year emissions (metric tons CO2e)

0

Comment

Location-based result has been used as a proxy since a market-based figure cannot be calculated.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

ISO 14064-1

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

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)

1,556,200.04

Comment

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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

.

C6.3

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

Reporting year

Scope 2, location-based

172,109.73

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 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

Metric tonnes CO2e

464,834.52

Emissions calculation methodology

Purchasing data for iron, steel & aluminum, concrete and asphalt was multiplied with DEFRA 2019 Material use emission factors.

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

0

Please explain

Scope of this indicator is only relevant for construction operations.

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

Scope 3 emissions of capital goods were not calculated due to lack of detailed information.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

221,220.68

Emissions calculation methodology

Activity data was multiplied by emission factor of the fuels. DEFRA 2019 factors for well-to-tank and transmission and distribution losses were used

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

0

Please explain

Scope of this indicator is upstream emissions of purchased fuels and transmission & distribution losses from electricity consumption.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

455,297.78

Emissions calculation methodology

Activity data (in tonne.km) was multiplied by emission factor of the fuel (diesel).

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

0

Please explain

Raw materials transported by maritime transport were taken into consideration. The scope of this indicator is limited to Çimtaş operations.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

3,264.8

Emissions calculation methodology

Activity data (recycled, reused, or landfilled waste and treated wastewater) was multiplied by emission factor (DEFRA 2019) of the wastes.

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

0

Please explain

Includes disposal and treatment of generated waste.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

4,235.1

Emissions calculation methodology

Flight route data was entered to the ICAO carbon emissions calculator (https://www.icao.int/environmental-protection/Carbonoffset/Pages/default.aspx)

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

100

Please explain

The indicator only includes flights. Activity data has been obtained from ENKA's travel agency to calculate emissions from airway travels.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

54,187.37

Emissions calculation methodology

Activity data (in KM) was multiplied by emission factor of the fuel (diesel) (DEFRA 2019)

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

0

Please explain

Employee buses for Çimtaş and ENKA Power operations are included. KM distance traveled by employee ring buses were multiplied by the emission factor of diesel.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

There are no upstream leased assets.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

140,626.85

Emissions calculation methodology

Activity data (tonne.km) was multiplied by emission factor of the average fuel (diesel). DEFRA 2019 emission factors were used for maritime transport emissions factors.

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

0

Please explain

Includes transportation of sold products by Çimtaş.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Scope 3 emissions of processing of sold products are not relevant to our operations.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

106,437

Emissions calculation methodology

Activity data that is based on operating hours assumptions in lt/hr was multiplied by emission factor of diesel (IPCC emission factor).

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

0

Please explain

Includes emissions from fuel consumption of vehicles sold by ENKA Pazarlama.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

217.27

Emissions calculation methodology

Activity data obtained from Cimtas Pipe has been used. Defra factors have been used for EFs of metals (recycled 100 %).

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

0

Please explain

Activity data obtained from Cimtas Pipe has been used. Defra factors have been used for EFs of metals (recycled 100 %).

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Emissions included in Scope 1 and 2

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Emissions from franchises are not relevant to our operations.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

Emissions from investments are not relevant to our operations.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

No other relevant emission sources.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

No other relevant 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

0.000913205

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

1,728,309.77

Metric denominator

unit total revenue

Metric denominator: Unit total

1,892,575,614

Scope 2 figure used

Location-based

% change from previous year

77

Direction of change

Decreased

Reason for change

Emissions intensity has decreased in 2019 mostly due to the activities of ENKA Power plants being suspended, which make up 88% of total Scope 1 and Scope 2 emissions .

Intensity figure

107.1487768

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

1,728,309.77

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

16,130

Scope 2 figure used

Location-based

% change from previous year

82

Direction of change

Decreased

Reason for change

Emissions intensity has decreased in 2019 mostly due to the the activities of ENKA Power plants being suspended, lower output of ENKA Power plants which make up 88% of total Scope 1 and Scope 2 emissions.

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	1,543,072.73	IPCC Fourth Assessment Report (AR4 - 100 year)

CH4	3,408.56	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	1,476.4	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	8,242.34	IPCC Fourth Assessment Report (AR4 - 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 (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Total gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	355.13	0	0	355.13	Emissions from cooling equipment
Combustion (Electric utilities)	1,511,510.29	134,644.19	0	1,514,876.39	Emissions from natural gas combined cycle process
Combustion (Gas utilities)	0	0	0	0	No gas utility operations
Combustion (Other)	221.92	0	0	221.92	Auxiliary generators, company cars
Emissions not elsewhere classified	0	0	0	0	

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Turkey	1,521,582.12
Russian Federation	27,301.96
Iraq	7,315.97

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Power	1,515,453.45
Engineering & Construction	12,428.99
Real Estate	26,203.79
Trade, Foundation & Schools	2,113.81

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
Cement production activities		
Electric utility activities	1,515,453.45	

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Turkey	24,944.47	0	43,533.11	0
Russian Federation	140,872.33	0	344,559.14	0
Iraq	6,292.92	0	9,200.18	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Power	10,264.91	0
Engineering & Construction	19,686.31	0
Real Estate	140,301	0
Trade, Foundation & Schools	1,857.51	0

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	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption				
Other emissions reduction activities	8,858.36	Decreased	0.11	ENKA has achieved a reduction of 0.11% through emission reduction activities. 8,858.36 tCO2e was reduced. (-8,858.36/8,193,165)x100 = -0.11%
Divestment				
Acquisitions				
Mergers				
Change in output	6,455,996.87	Decreased	78.8	Most of the reduction in emissions come from the reduction in power generation activities. Total reduction from PY S1+S2 emissions were 6,464,855.23. We removed the impact of emission reduction projects from this figure: 6,464,855.23- 8,858.36 =

				6,455,996.87 tCO2e reduction from change in output. (-6,455,996.87/8,193,165)x100 = -78.80%
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 0% but less than or equal to 5%

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	Yes
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	7,566,526.46	7,566,526.46
Consumption of purchased or acquired electricity		0	266,539.67	266,539.67
Consumption of purchased or acquired heat		0	130,755.93	130,755.93
Consumption of self-generated non-fuel renewable energy		0		0
Total energy consumption		0	7,963,822.06	7,963,822.06

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	No
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.

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

7,532,928.12

MWh fuel consumed for self-generation of electricity

7,480,232.83

MWh fuel consumed for self-generation of heat

52,695.28

Emission factor

1.88

Unit

kg CO2 per m3

Emissions factor source

IPCC

Comment

Emission factors are sourced from IPCC in kgGHG/unit energy and then converted into per consumption unit format.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

32,235.52

MWh fuel consumed for self-generation of electricity

7,415.76

MWh fuel consumed for self-generation of heat

24,819.76

Emission factor

2.72

Unit

kg CO2e per liter

Emissions factor source

IPCC

Comment

Emission factors are sourced from IPCC in kgGHG/unit energy and then converted into per consumption unit format.

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

843.28

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

843.28

Emission factor

2.33

Unit

kg CO2e per liter

Emissions factor source

IPCC

Comment

Emission factors are sourced from IPCC in kgGHG/unit energy and then converted into per consumption unit format.

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	7,487,648.59	7,415.76	0	0
Heat	78,358.32	78,358.32	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

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)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Lignite

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Oil

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Gas

Nameplate capacity (MW)

3,830

Gross electricity generation (GWh)

7,480,232.83

Net electricity generation (GWh)

7,480,232.83

Absolute scope 1 emissions (metric tons CO2e)

1,515,453.45

Scope 1 emissions intensity (metric tons CO2e per GWh)

339

Comment

Biomass

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Waste (non-biomass)

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Nuclear

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Fossil-fuel plants fitted with CCS

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Geothermal

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Hydropower

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Wind

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Solar

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Marine

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Other renewable

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Other non-renewable

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Total

Nameplate capacity (MW)

3,830

Gross electricity generation (GWh)

7,480,232.83

Net electricity generation (GWh)

7,480,232.83

Absolute scope 1 emissions (metric tons CO2e)

1,515,453.45

Scope 1 emissions intensity (metric tons CO2e per GWh)

339

Comment

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.

Description

Other, please specify

Water Use

Metric value

0.02

Metric numerator

m3 of demineralized water

Metric denominator (intensity metric only)

MWh

% change from previous year

0

Direction of change

No change

Please explain

Water use and withdrawal is monitored continuously. The metric defined above is for İzmir natural gas power plant.

Description

Other, please specify

Water Use

Metric value

0.02

Metric numerator

m3 of water

Metric denominator (intensity metric only)

MWh

% change from previous year

46

Direction of change

Decreased

Please explain

Water use and withdrawal is monitored continuously. The metric defined (actual figure 0.016) above is for Adapazarı and Gebze natural gas power plants.

C-EU9.5a

(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Gas	10	10	2020	

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

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	Cimtas produces wind power plant parts.

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 (optional)	Comment
Renewable energy	Large scale commercial deployment	41-60%	3,500,000	Only staff cost for R&D and Design center has been included.

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)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

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

Izmir_verification.pdf

Adapazarı_verification.pdf

Gebze_verification.pdf

Page/ section reference

Page 2

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

97

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?

No, but we are actively considering verifying within the next two years

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?

ENKA owns and operates 3 natural gas fired combined cycle power plants. These are currently in scope of the pilot GHG regulation in Turkey. Currently, the only obligation is monitoring, reporting and verification (MRV) however, we expect that a cap & trade system similar to the EU ETS will be implemented in the future. In order to prepare for such a system, ENKA calculates the potential liabilities that could be brought on by different scenarios of limits (%10 and 21% reduction in absolute CO2 emissions and $5/tCO2e and $10tCO2e respectively for low and middle scenarios according to the Ministry of Environment and Urbanization). ENKA is going to determine the involvement or the level of involvement of the projects and facilities which do not meet carbon emission targets or exceed the carbon emission limits. Country and sector-based scenarios will be considered and emissions targets will be determined for each facility/activity.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

Climate change performance is featured in supplier awards scheme

% of suppliers by number

60

% total procurement spend (direct and indirect)

70

% of supplier-related Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

ENKA has well established supplier eligibility criteria. Those criteria also involve questions about climate change and environmental compliance. Tier 1 suppliers with highest business volume are prioritized wherever possible. In addition to the selection criteria, suppliers are audited in terms of their sustainability performance once they are contracted. Number of training hours on climate change increased for supply chain stakeholders and clients in ENKA Academy. Collaboration between all stakeholders whilst performing business: Planners, Designers, Sub-contractors, Clients, Manufacturers and Regulatory Bodies has been increased to integrate risks/challenges into procurement processes and offer joint solutions.

Impact of engagement, including measures of success

Qualified suppliers are invited to regular meetings and training to inform about ENKA's environment, quality, HSE and sustainability management systems. Considering the size and risk of the supplier, supplier audits are performed to ensure the compliance with commitments and requirements. Outcomes of the audits are shared with suppliers and development of an action plan is requested if necessary and monitored. Working with catering company in ENKA headquarter, wastes has been reduced via separating packaging material and sending to licensed recycling companies and food waste has been sent to barns. In SCPX project implemented in Georgia, upon audits made and recommendations by ENKA, design of the waste abatement company's new facilities has been significantly improved and many revision (i.e.e seepage water collection pit) has been made.

Comment

Some of the questions for suppliers are as below;
Do you have an established Environmental Management System in place? (ISO 14001 etc.)
Do you have a waste management plan? □ How do you manage and abate hazardous wastes?
Do you have environmentally friendly products? □ Do you use environment friendly products in your services/products?
Do you have LCA for your services/products? (life cycle assessment)?
Do you use CFC in your products and services?
Do you have a management plan for your products/services emitting GHGs?

Type of engagement

Compliance & onboarding

Details of engagement

Included climate change in supplier selection / management mechanism
Climate change is integrated into supplier evaluation processes

% of suppliers by number

70

% total procurement spend (direct and indirect)

80

% of supplier-related Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

ENKA has well established supplier eligibility criteria. Those criteria also involve questions about climate change and environmental compliance. Tier 1 suppliers with highest business volume are prioritized where ever possible. Number of training hours on climate change increased for supply chain stakeholders and clients in ENKA Academy. Collaboration between all stakeholders whilst performing business: Planners, Designers, Sub-contractors, Clients, Manufacturers and Regulatory Bodies has been increased to integrate risks/challenges into procurement processes and offer joint solutions.

Impact of engagement, including measures of success

Qualified suppliers are invited to regular meetings and trainings to inform them about ENKA's environment, quality, HSE and sustainability management systems. Considering the size and risk of the supplier, supplier audits are performed to ensure the compliance with commitments and requirements. Outcomes of the audits are shared with suppliers and development of an action plan is requested if necessary and monitored. Working with catering company in ENKA headquarter, wastes has been reduced via separating packaging material and sending to licensed recycling companies and food waste has been sent to barns. In SCPX project implemented in Georgia, upon audits made and recommendations by ENKA, design of the waste abatement company's new facilities has been significantly improved and many revision (i.e.e seepage water collection pit) has been made.

Comment

Some of the questions for suppliers are as below;
Do you have an established Environmental Management System in place? (ISO 14001 etc.)
Do you have a waste management plan?

How do you manage and abate hazardous wastes?
Do you have environmentally friendly products?
Do you use environment friendly products in your services/products?
Do you have LCA for your services/products? (life cycle assessment)?
Do you use CFC in your products and services?
Do you have a management plan for your products/services emitting GHGs?

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

60

% of customer - related Scope 3 emissions as reported in C6.5

20

Please explain the rationale for selecting this group of customers and scope of engagement

Green buildings are built in the Embassy projects as per project requirements. (The Client in the Embassy projects are public institutions which carry out the project on behalf of the government.) There are also green buildings in Russia which are our own investment. Our strategy, especially in our investments, is to make natural resource-friendly buildings with as little energy consumption as possible. Many of our lessees are important global brands. To meet the expectations about climate change and environment, during planning phase and project operation period, we are in constant contact with these major firms and we work on these issues.

Impact of engagement, including measures of success

Green buildings constructed and leased by ENKA is preferred by clients which are international entities. Operational cost of those buildings and comfort levels are also superior than conventional buildings. Therefore, besides reducing carbon/water footprint of the lessees, this service also reduces the operational costs of lessees.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support	ENKA's CEO is on the board of TUSIAD (Turkish Industry and Business Association) which is the main business NGO in Turkey. TUSIAD supports climate change policies and has inhouse working groups on environment and climate change.	TUSIAD has supported issuance and implementation of the Turkish GHG MRV regulation. TUSIAD is also ollecting comments on the upcoming Turkish Climate Change and ETS regulation.
Climate finance	Support	TUSIAD publishes its responses to climate related issues in its website. For Climate finance, TUSIAD has assessed this in a session under climate conference.	TUSIAD supports low carbon development technology investments, energy efficiency investments for a sustainable industry. TUSIAD recommends to develop and implement a national policy for climate mitigation and low carbon development.

Cap and trade	Support with minor exceptions	ENKA joined the TUSIAD Environment and Climate Change Working Group which is in support for the upcoming ETS regulation in Turkey.	Turkish Climate Change and ETS regulation.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

TUSIAD -Turkish Industry and Business Association

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

TUSIAD has published many reports, newsletters and organized events about climate change. TUSIAD has published position paper in September 2017 (https://tusiad.org/tr/cevre-iklim-degisikligi-cg/item/download/8919_06c373fb91e8727cb4d8ae1361874416) and supports Turkey to steadfastly develop national policies on climate change mitigation and effectively pursues their implementation. In the position paper, TUSIAD has stated that initiatives regarding Turkey's status under the Paris Agreement be resolutely continued with the contribution of all stakeholders.

ENKA also joined the TUSIAD Environment and Climate Change Working group as of 2019 in order to undertake a more active role in the extensive national and international work conducted on environment and climate change. The TÜSİAD Environment and Climate Change Working group contributes to forming environmental policies in Turkey and the development of regulations required within the framework of

these policies, assesses the implementation of these regulations, carries out studies and presents its opinions to relevant institutions and organizations.

How have you influenced, or are you attempting to influence their position?

ENKA has supported and approved the position paper as board member. By joining the Environment and Climate Change Working Group, ENKA hopes to play a much more active role in supporting TUSIAD's position of supporting Turkey's low carbon development.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

ENKA funds TEMA (The Turkish Foundation for Combating Soil Erosion for Reforestation and Protection of Natural Habitats). Paper collected from ENKA offices are donated to TEMA for planting forestation activities. ENKA also collaborates with ÇEKUL (The Foundation for the Protection and Promotion of the Environment and Cultural Heritage) for assessment of ENKA Schools Campus' environmental impacts and initiated sustainable campus studies in 2017.

ENKA has also become a signatory to The Global Compact in 2017 and publishes its performance against UNGC principles annually in its sustainability report .

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

ENKA has a Sustainability Committee that is composed of members of Corporate Groups and ENKA's subsidiaries' representatives. The Committee's role is to review and advise the Board and CEO on policies and performance against the ENKA's strategy and standards. President and Chairman of the Executive Committee (CEO) is responsible for climate change related issues and reports to company's Board of Directors.

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 voluntary sustainability report

Status

Complete

Attach the document

ENKA_Sustainability_Report_2019.pdf

Page/Section reference

Page 174 – Energy Efficiency and Climate Change

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. 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.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	President and Chairman of the Executive Committee	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 am submitting to	Public or Non-Public Submission
I am submitting my response	Investors	Public

Please confirm below