Welcome to your CDP Climate Change Questionnaire 2019

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 45 countries. Working with human resources comprising more than 20,000 and a machinery park valued at more than USD350 million, ENKA has succeeded in making its services available everywhere in the world.

2018 is the second CDP reporting year for ENKA. The report chapters entitled Energy Efficiency and Climate Change and Water Management cover the activities of ENKA Headquarters, two 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
Row 1	January 1, 2018	December 31, 2018	No

C0.3

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

Georgia
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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas 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.

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 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. 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 manages ENKA Group and all Subsidiaries' sustainability programs and meets quarterly. 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 has direct access 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?

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).

Who is entitled to benefit from these incentives?

Management group

Types of incentives

Monetary reward

Activity incentivized

Other, please specify

Sustain. and climate change achievements

Comment

Incentives for successful management of sustainability and climate change related issues 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.

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Recognition (non-monetary)

Activity incentivized

Efficiency project

Comment

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 behaviour recognition.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term 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.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	1 to 3 years	Risk Management heads the list of areas to which ENKA attaches priority in all of its processes and activities. The implementation of the risk-based thinking approach is constantly being encouraged by ENKA's top management. Accordingly "Early Risk Identification Committee" (the Committee), made up of the non-executive members of the Board of Directors, has been established under the Executive Committee. Furthermore, a "Risk Management Working Group" has been set up to operate in conjunction with the Committee in order to ensure that an effective risk management programme is implemented throughout the company, to determine the principles and methods on which this programme is to be based, to guarantee the continuous development of a corporate culture of risk management extending to all projects, units and individuals, and to conduct the risk management function effectively.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

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. 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. 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 can be 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).
For construction projects and ENKA Pazarlama, activities increasing awareness of supply and value chains have been conducted. Construction projects work with the members of the supply chain to collect climate related information from them, enabling them the ability to integrate risks / challenges into procurement processes and offer solutions for specific projects.
· Storage / Warehouse Planning – All business lines are managing their inventories as per the requirements of new climate change based procedures of the company
· BIM (Building Information Modelling) is used in specific projects. This process utilizes climate models throughout the engineering scope of works.

C2.2c

(C2.2c) Which of the following 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. "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. 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.
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. In this regard, ÇİMTAŞ has increased the revenues from the construction of wind towers, rotors & stators to 19% of total revenues. 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. 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.
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 Insaat 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.
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 waste water in process. In construction projects where the design responsibility is on ENKA Insaat, 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.).

Upstream	Relevant, always included	Upstream risks brought on by climate change includes nearly all risk types above especially for ENKA Insaat and ENKA Pazarlama. For ENKA Insaat, project tender owners increasingly look for sustainability, climate change and environmental management performance and management systems. Projects that are financed by international banks, financing companies and IFIs require Environmental and Social Impact Assessments to be conducted beforehand. This process and the relevant studies also pose a variety of risks for ENKA as the reports have to be prepared in line with the lenders' ever-increasing, stringent requirements. These risks include but are not limited to; additional costs, stop of work and / or lengthening of the schedule. In the past, two construction 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. ENKA Insaat has to manage its climate and wider sustainability risks in a best practice manner to be able to stay competitive in the EPC market. For ENKA Pazarlama, clients are switching to more energy efficient, lower fuel consumption equipment, therefore ENKA Pazarlama had to increase the supply and inventory of low carbon vehicles and equipment.
Downstream	Relevant, always included	With the growth of demand to sustainable and green energy, ENKA has changed its strategy to take part in more "green" projects rather than business-as-usual projects like thermal power plants. For instance, ENKA has invested a lot into converting existing natural gas power plants from open-cycle (simple cycle) power plants (Phase I) to combined cycle power plant (CCPP) (Phase II) operation. This type of conversion projects increase power generation output, improve plant efficiency and decrease environmental impacts remarkably. During recent years, ENKA has constructed couple of conversion projects in Iraq. These are; • Erbil Conversion Project • Sulaymaniyah Conversion Project We are currently building the Dohuk Conversion Project and the more other conversion projects are now on bidding phase where ENKA is a potential candidate for them as well. Divestment from new thermal power plants are also in process. ENKA has invested in the tender for two new Hydroelectric Power Plants in Georgia. Also, ÇİMTAŞ has invested in wind turbine tower production considering the demand for wind energy at national and global level. ÇİMTAŞ has increased its share of revenues from wind towers, rotors & stator parts to 19% of total steel construction revenues. 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.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

At ENKA, views of existing and future energy markets are regularly assessed in addition to policy scenarios under which we operate or expect to operate. To manage the wide array of potential risks inherent to its business lines, ENKA has in place mature processes for risk management, including risks and opportunities that may be associated with climate-change. As per these assessments conducted by all levels of our organisation, we take necessary actions and factor the risks and opportunities into our financial planning process.

The Early Identification of Risk Committee and the Risk Management Working Group at ENKA Group assesses climate-related risks and opportunities at the company level. These include both assessment and management of company level risks such as current and emerging regulations, market, reputation and upstream risks. For example, the ability to participate in Sustainability and ESG Indices (both at a local – BIST Sustainability Index – and Global – FTSE4Good Index – level) as ENKA Group has emerged a very important factor in terms of reputation and upstream risks that could impact the company's ability to obtain new investments and financing. To manage this risk, ENKA Group has established the ENKA Sustainability Policy and 2027 ENKA Sustainability Goals. The establishment of the Sustainability Committee and the inclusion of climate risks in the Risk Management Working Group and by extension in board meetings are some of the examples on how ENKA is managing these transition risks.

For physical risks, all ENKA Insaat and ENKA Power implement scenario analyses and monitor weather patterns carefully. While it is not possible to give project specific information, physical factors came into play recently in some of ENKA Insaat's infrastructure and energy projects. When climate change factors are added on top of the requirements set forth by the lenders, these risks have more severe consequences. Linear projects such as pipelines and motorways are the most affected type of projects in this regard. Linear projects, when in close proximity of natural habitats or a water body such as rivers, require much more detailed studies to determine the mitigation measures against the potential impacts of the project. In case of water bodies, major risks such as flooding may bring with them additional work activities in the form of river regulation, additional emergency / evacuation procedures and dedicated personnel for continuous monitoring.

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

Transition risk

Primary climate-related risk driver

Policy and legal: Enhanced emissions-reporting obligations

Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

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 – minimum (currency)

15,000,000

Potential financial impact figure – maximum (currency)

90,000,000

Explanation of financial impact figure

Figure above gives average potential impact as percentage of revenue. 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.

Management method

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.

Cost of management

260,000,000

Comment

Cost of management given as the CAPEX of specific investment for AGP & DLN.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

ENKA's Natural Gas Combined Cycle Power plants located in İzmir, Gebze and Adaparzarı 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)

75,000,000

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.

Management method

ENKA power plants have been designed to reduce dependency on fresh water resources. In İzmir, seawater desalination investment has been made to prevent risks on water supply from nearby fresh water 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

3,500,000

Comment

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

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

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)

250,000,000

Explanation of financial impact figure

Figure above gives average potential impact as percentage of revenue from construction projects that have physical climate risks (25%).

Management method

ENKA Insaat 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.

Cost of management

0

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

Transition risk

Primary climate-related risk driver

Reputation: Shifts in consumer preferences

Type of financial impact

Reduction in capital availability

Company- specific description

ENKA İnşaat needs access to capital from International Finance Institution's in many of its construction projects. IFIs are much more stringent when it comes to managing climate risks and reporting. 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

Current

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)

155,000,000

Explanation of financial impact figure

Total revenues from current projects financed by IFIs in ENKA Group revenues (c. 10% of ENKA Group revenues)

Management method

ENKA started assessing and reporting its climate related risks and data in 2018. The Sustainability Committee, Corporate HSE Team and external consultants and auditors work towards transparently informing stakeholders of ENKA's climate performance and constantly improving it.

Cost of management

600,000

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.

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

Type of financial impact

Increased revenue through demand for lower emissions 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

Current

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

750,000,000

Explanation of financial impact figure

Share of revenues from new ‘green’ product lines. ENKA is also bidding for new conversion projects for upgrading existing plants to improve efficiency.

Strategy to realize opportunity

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 organisation, 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.

Cost to realize opportunity

2,300,000

Comment

Expenses of the Corporate Engineering Center.

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

Type of financial impact

Increased revenue through demand for lower emissions 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 2018, Çimtaş Steel has produced 92 wind turbine tower and numerous parts for the turbines corresponding to more than 200 MW installed capacity.

Time horizon

Current

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)

15,000,000

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 of wind turbine parts in Çimtaş Steel's total revenues (19%).

Strategy to realize opportunity

Çimtaş follows the renewable energy (Wind) market development in Turkey and neighbourhood 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 to realize opportunity

450,000

Comment

Cost of management reflects annual R&D and engineering costs of designing and producing wind towers, turbines, rotors & stators

Identifier

Opp3

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Type of financial impact

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company-specific description

ENKA Pazarlama leases heavy machinery (e.g. Diggers, excavators, etc.) to clients. Due to recent developments due to 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

Current

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)

130,000,000

Explanation of financial impact figure

% of revenues from 'green' products in ENKA Pazarlama total revenues. We estimate 80-81% 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.

Strategy to realize opportunity

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.

Cost to realize opportunity

600,000

Comment

Additional cost of maintaining ‘green’ products in ENKA Pazarlama machinery park, calculated on per annum basis. While more efficient products are give-or-take 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.

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

Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company-specific description

ENKA Pazarlama aims to minimize environmental negative impacts at every point throughout the supply chain and lifecycle 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

Current

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

300,000

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 will be able to considerably lower costs and delivery times. Given financial impact is the total amount of annual savings possible.

Strategy to realize opportunity

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%.

Cost to realize opportunity

0

Comment

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.

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

Type of financial impact

Increased revenue through demand for lower emissions products and services

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

Current

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

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.

Strategy to realize opportunity

Establishing the Corporate Engineering Center, Turkey's first licenced construction R&D center to establish ENKA as a leader in green power tenders and efficient building design.

Cost to realize opportunity

2,300,000

Comment

Annual budget of ENKA Corporate Engineering Center.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	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. Çimtas Steel has increased the share of its “green” product revenues to 50% of its total revenues in 2018 (%19 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)
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	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. 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 19% of Çimtaş’s consolidated revenues in 2018.
Adaptation and mitigation activities	Impacted	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.

Investment in R&D	Impacted	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	Impacted	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.
Other, please specify	Not impacted	NA

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	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 50% (19% of Çimtaş’ consolidated revenues). ENKA Pazarlama (Marketing) has increased the sales of its vehicles and equipment that is considered “green” (vehicles built with green parts/low emission vehicle) to 81.4% of revenues. 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.

Operating costs	Impacted for some suppliers, facilities, or product lines	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 Insaat, operating costs have increased due to more stringent ESIA requirements in projects that are financed by IFIs. 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.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	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	Impacted for some suppliers, facilities, or product lines	ENKA Insaat 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	Impacted	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.
Assets	Impacted	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.

Liabilities	Impacted	Requirement and liabilities have been considered by risk committee and reflected in investment/procurement decisions.
Other	Not impacted	NA

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

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

Yes, qualitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

ENKA Board and Early Risk Identification Committee have assessed "IEA Sustainable Development Scenario"' and integrated relevant financial, regulatory, operational and management practices.
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
The most substantial decision made as a result of the integration of climate-related issues has been the establishment of ENKA Sustainability Policy and the 2027 ENKA Sustainability Goals. These goals are categorized under 4 main headings and climate issues, especially potential GHG regulations (emerging ETS in Turkey) have influenced the goals that are categorized under 'Reducing Environmental Impact'. ENKA has set GHG emissions targets (intensity) for its consistent and high impact subsidiaries ENKA Power and Çimtaş. Renewable energy project/use and water footprint and water consumption targets have also been set to reduce dependency on fossil fuels and the potential water scarcity impacts of climate change.
For adaptation & risk assessment, ENKA prepares and applies the procedures for extreme water conditions in all projects. (Emergency response & Winterization plans are developed. In these plans, 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) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	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.)

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization’s low-carbon transition plan.

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.

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

Scope

Scope 1

% emissions in Scope

99

Targeted % reduction from base year

15

Metric

Metric tons CO2e per megawatt hour (MWh)*

Base year

2017

Start year

2018

Normalized base year emissions covered by target (metric tons CO2e)

9,358,119

Target year

2018

Is this a science-based target?

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

% of target achieved

100

Target status

Replaced

Please explain

ENKA Power has set a target to keep emissions intensity to under 400gCO2/Kwh of electricity production. This is a Rolling target for each year until 2027.

% change anticipated in absolute Scope 1+2 emissions

10

% change anticipated in absolute Scope 3 emissions

10

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target

Energy usage

KPI – Metric numerator

g CO2e

KPI – Metric denominator (intensity targets only)

person-hours/tonnes

Base year

2017

Start year

2018

Target year

2018

KPI in baseline year

24

KPI in target year

25

% achieved in reporting year

0

Target Status

Underway

Please explain

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

Part of emissions target

No

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

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		

To be implemented*		
Implementation commenced*		
Implemented*	6	246,636.86
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 type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

243,000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

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

33,500,000

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

260,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

AGP; DLN2,6+ technology investment has been made for all three power plants owned by ENKA Power, reducing natural gas consumption by 2.6% per turbine.

Initiative type

Energy efficiency: Building services

Description of initiative

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

77.75

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

5,500

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

76,923

Payback period

11-15 years

Estimated lifetime of the initiative

11-15 years

Comment

LED conversion in Kuntseva Plaza for technical sections.

Initiative type

Energy efficiency: Building services

Description of initiative

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

206.05

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

10,500

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

19,334

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Food court and underground parking lot LED transformation in Belyaevo.

Initiative type

Energy efficiency: Building services

Description of initiative

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

114.92

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

10,500

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

12,507

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

-2nd floor underground parking lot LED transformation in Leningradskiy.

Initiative type

Energy efficiency: Building services

Description of initiative

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

501.87

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

27,500

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

62,000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Skylight, parking lot and walkways LED transformation in Vernadskogo.

Initiative type

Energy efficiency: Building services

Description of initiative

HVAC

Estimated annual CO2e savings (metric tonnes CO2e)

2,736.27

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

250,000

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

3,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Some of the silencers were removed, improving the air flows while allowing fan engines to work on lower rpm in in the high capacity AHUs with frequency convertors.

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 Insaat HSE Incentive Procedure, includes sustainability and environment topics as well, states whoever reports or notifies extraordinary operating performance gets rewarded individually with individual KPI'S 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.

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 2018, 92 towers and their parts has been delivered for wind turbines corresponding to more than 200 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

19

Comment

% revenue from low carbon product(s) given as share of Çimtaş 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 Scope 1 and Scope 2 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)

8,010,476.21

Start date

January 1, 2018

End date

December 31, 2018

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

182,688.7

Start date

January 1, 2018

End date

December 31, 2018

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 Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

969,198

Emissions calculation methodology

Purchasing data for iron, steel & aluminium, concrete and asphalt was multiplied with DEFRA 2018 Material use emission factors.

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

0

Explanation

Capital goods

Evaluation status

Relevant, not yet calculated

Explanation

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

1,224,351

Emissions calculation methodology

Activity data was multiplied by emission factor of the fuels. DEFRA 2018 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

Explanation

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

1,790

Emissions calculation methodology

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

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

0.04

Explanation

Includes transportation of purchased products by ENKA Pazarlama.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

948

Emissions calculation methodology

Activity data (recycled, reused, or landfilled waste and treated wastewater) was multiplied by emission factor (DEFRA 2018) of the wastes.

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

0

Explanation

Includes disposal and treatment of generated waste and wastewater.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

8,274

Emissions calculation methodology

ICAO tool has been used to calculate the length of flight paths of all flights. DEFRA 2018 emission factors for short-haul, medium-haul and long-haul flights were multiplied by the KM values.

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

100

Explanation

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

693

Emissions calculation methodology

Activity data (in KM) was multiplied by emission factor of the fuel (diesel) (DEFRA 2018)

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

0

Explanation

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

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

There are no upstream leased assets.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,266

Emissions calculation methodology

Activity data (KM) was multiplied by emission factor of the fuel (diesel).

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

0.05

Explanation

Includes transportation of purchased products by ENKA Pazarlama. DEFRA 2018 factors were used for EF (All HGVs – Average Laden)

Processing of sold products

Evaluation status

Not relevant, explanation provided

Explanation

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.

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

0

Explanation

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

230

Emissions calculation methodology

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

0

Explanation

Activity data obtained from ENKA İnşaat ve Sanayi A.Ş. has been used. Defra factors have been used for EFs of metals (recycled 100 %)

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

Emissions included in Scope 1 and 2

Franchises

Evaluation status

Relevant, calculated

Metric tonnes CO2e

Emissions calculation methodology

Activity data (in KM) was multiplied by emission factor from DEFRA 2018 – Passenger Vehicles – Cars (Upper medium).

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

0

Explanation

Investments

Evaluation status

Not relevant, explanation provided

Explanation

Included in Scope 1 and 2 emissions.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Explanation

No other upstream activity.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Explanation

No other downstream activity.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered 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

0.004

Metric numerator (Gross global combined Scope 1 and 2 emissions)

8,193,164.91

Metric denominator

unit total revenue

Metric denominator: Unit total

2,062,118,000

Scope 2 figure used

Location-based

% change from previous year

42.86

Direction of change

Increased

Reason for change

Emissions intensity has increased due to the reduction in revenues in USD. The recent devaluation in Turkey has led to a very steep increase in the USD/TRY rate, resulting in a negative impact to our revenues in USD. Absolute emissions were decreased by 14.42%.

Intensity figure

595

Metric numerator (Gross global combined Scope 1 and 2 emissions)

8,193,164.91

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

13,762

Scope 2 figure used

Location-based

% change from previous year

72.29

Direction of change

Decreased

Reason for change

Reduction of absolute emissions due to investments in energy efficiency and especially the reduction in electricity production from natural gas. The number of employees in scope has also increased.

Intensity figure

0.353

Metric numerator (Gross global combined Scope 1 and 2 emissions)

8,193,164.91

Metric denominator

megawatt hour generated (MWh)

Metric denominator: Unit total

23,200,000

Scope 2 figure used

Location-based

% change from previous year

24

Direction of change

Decreased

Reason for change

Reduced electricity generation from natural gas power plants and resulting absolute emissions has been reduced significantly. However, this caused emissions efficiency of our plants to decrease slightly.

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	8,008,032.78	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	2,443.43	IPCC Fifth Assessment Report (AR5 – 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)	Gross Scope 1 emissions (metric tons CO2e)	Comment

Fugitives	330	0	0	330	Fugitive emissions source are HFCs used in auxiliary cooling units
Combustion (Electric utilities)	7,984,911.88	142.33	0	7,992,669.06	Natural gas combusted for electricity generation. Gross Scope 1 emissions include N2O emissions as well.
Combustion (Gas utilities)	0	0	0	0	No gas utility operations.
Combustion (Other)	18.51	0	0	18.51	Diesel combustion in generators to generate electricity.
Emissions not elsewhere classified	344	0	0	344	Total of emissions due to commercial-residential heating, on-road transportation, fire protection and wastewater treatment activities in electric utilities.

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	8,002,246.83
Russian Federation	7,502.65
Georgia	726.73

C7.3

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

By activity

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Commercial-Residential Heating	11,280.97
On-Road Transportation	1,763.95
Auxillary Cooling Units	2,443.43
Wastewater Treatment	2,156.46
Diesel (electricity production)	162.32
Natural Gas (electricity production)	7,992,669.06

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

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

	Gross Scope 1 emissions, metric tons CO2e	Comment
Electric utility generation activities	7,993,238.13	Electric utility generation activities includes natural gas and diesel combustion, cooling and transportation activities, fire extinguishing, wastewater treatment and residential heating.

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 in market-based approach (MWh)

Turkey	10,988.31	0	22,959.72	0
Russian Federation	170,780.58	0	351,189.47	0
Georgia	919.8	0	7,748.99	0

C7.6

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

By activity

C7.6c

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

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Electricity consumption	156,483.14	0
District heating	26,205.56	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				N/A
Other emissions reduction activities	246,236.86	Decreased	2.58	ENKA has achieved a reduction of 2.58% through emission reduction activities. 246,236.86 tCO2e was reduced. (-246,236.86/9.573.354,05)x100 = -2.58%
Divestment				N/A
Acquisitions				N/A
Mergers				N/A
Change in output	1,133,552.28	Decreased	11.84	Most of the reduction in emissions come from the reduction in power generation activities. Total reduction from PY S1+S2 emissions were 1.380.189.14. We removed the impact of emission reduction projects from this figure: 1.380.189.14 - 246,636.86 = 1.133.552,28 tCO2e reduction from change in output. (-1.133.552,28/9.573.354,05)x100 = -11.84%
Change in methodology				N/A
Change in boundary				N/A
Change in physical operating conditions				N/A
Unidentified				N/A

Other				N/A

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 undertakes this energy-related activity
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 MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	40,680,591.97	40,680,591.97
Consumption of purchased or acquired electricity		0	248,087.1	248,087.1
Consumption of purchased or acquired heat		0	138,290.56	138,290.56
Consumption of self-generated non-fuel renewable energy		0		0
Total energy consumption		0	41,066,969.62	41,066,969.62

C8.2b

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

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

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

40,670,341.79

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

53,035.97

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

40,617,305.82

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,283.11

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

1,283.11

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

8,965.66

MWh fuel consumed for self-generation of electricity

601.94

MWh fuel consumed for self-generation of heat

8,363.72

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1.21

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

1.21

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Diesel

Emission factor

74.1

Unit

kg CO2e per GJ

Emission factor source

IPCC

Comment

Liquefied Petroleum Gas (LPG)

Emission factor

63.1

Unit

kg CO2e per GJ

Emission factor source

IPCC

Comment

Motor Gasoline

Emission factor

69.3

Unit

kg CO2e per GJ

Emission factor source

IPCC

Comment

Natural Gas

Emission factor

56.1

Unit

kg CO2e per GJ

Emission factor source

Comment

C8.2e

(C8.2e) 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	23,200,000	23,200,000	0	0
Heat	37,235	37,235	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-EU8.2e

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

Coal – hard

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Lignite

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Oil

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Gas

Nameplate capacity (MW)

3,830

Gross electricity generation (GWh)

23,200

Net electricity generation (GWh)

22,968,000

Absolute scope 1 emissions (metric tons CO2e)

7,993,238.3

Scope 1 emissions intensity (metric tons CO2e per GWh)

344.53

Comment

Scope 1 emissions intensity was calculated taking into consideration the Gross electricity generation figure. ENKA Power has a target to keep emissions intensity below 400mtCO2e/GWh.

Biomass

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Waste (non-biomass)

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Nuclear

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Geothermal

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Hydroelectric

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Wind

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Solar

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Other renewable

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Other non-renewable

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Total

Nameplate capacity (MW)

3,830

Gross electricity generation (GWh)

23,200

Net electricity generation (GWh)

22,968,000

Absolute scope 1 emissions (metric tons CO2e)

7,993,238.13

Scope 1 emissions intensity (metric tons CO2e per GWh)

344.53

Comment

Scope 1 emissions intensity was calculated taking into consideration the Gross electricity generation figure. ENKA Power has a target to keep emissions intensity below 400mtCO2e/GWh.

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

Low-carbon technology type

Region of consumption of low-carbon electricity, heat, steam or cooling

MWh consumed associated with low-carbon electricity, heat, steam or cooling

Emission factor (in units of metric tons CO2e per MWh)

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

0.03

Metric numerator

m3 of demineralized water

Metric denominator (intensity metric only)

MWh generated

% 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 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	2019	

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-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date

January 1, 2018

Investment end date

December 31, 2018

Investment area

R&D

Technology area

Other, please specify

R&D Center Staff Payments

Investment maturity

Applied research and development

Investment figure

3,500,000

Low-carbon investment percentage

41-60%

Please explain

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	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

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 in which you participate or anticipate participating?

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?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

ENKA İnşaat ve Sanayi A.Ş. took the first steps towards offsetting its carbon emissions by supporting “Solar Forests”, the first non-governmental organisation developed project in Turkey to be certified by Gold Standard VER in the field of solar energy, conducted by Aegean Forest Foundation. This self-sufficient project uses electrical energy generated by solar panels to provide irrigation.

Verified to which standard

Gold Standard

Number of credits (metric tonnes CO2e)

611

Number of credits (metric tonnes CO2e): Risk adjusted volume

611

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

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 behaviour)

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

% 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 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

% 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?

Type of engagement

Details of engagement

% of suppliers by number

% total procurement spend (direct and indirect)

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Impact of engagement, including measures of success

Comment

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

% 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 CEO in 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 MRV 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.

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 Workgroup 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 Workgroup 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 organisations.

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_SurdurulebilirlikRaporuENG.13.06.19.pdf

Page/Section reference

Energy Efficiency and Climate Change, pages 152-156

Content elements

Governance
Strategy

Emissions figures
Emission targets
Other metrics

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

ENKA_Sustainability_Policy_ENG.pdf

Page/Section reference

1

Content elements

Governance
Strategy

Comment

C14. 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.

No additional information

C14.1

(C14.1) 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?

Please confirm below