



REDUCING ENVIRONMENTAL IMPACT

Environmental Management

“Reducing Environmental Impact” is one of the four principal foundations of ENKA’s sustainability strategy. ENKA has clearly stated its commitment to the preservation of the environment and to reducing the environmental impacts of its activities in its Health, Safety, Social and Environment (HSSE) Policy. ENKA and its subsidiaries are fulfilling their commitments in this respect in accordance with ISO 14001 Environmental Management Standard. ENKA and the group companies have established their own environmental management systems and opened them up to audit by independent institutions in accordance with the ISO 14001 Environmental Management Standard. ENKA systematically identifies all environmental impacts that might arise during the course of its activities through environmental impact assessments, and takes precautions accordingly. ENKA also expects its subcontractors and suppliers to show the same sensitivity, providing them with training and carrying out inspections to this end. The ENKA Supplier Code of Conduct and the procedures laid down for the selection, evaluation and supervision of suppliers clearly indicate the environmental behaviour and performance that ENKA requires from its suppliers. More detailed information about this matter can be found in the section of this report concerning “Responsible Supply Chains”.

At all the sites where they operate, ENKA and its subsidiaries establish departments responsible for the management of environmental impact; employing environmental engineers and experts. Environmental data is collected and evaluated regularly. Achieving the desired international standards in countries with differing environmental

infrastructures and environmental legislation represents both a goal and a risk for ENKA. When working in countries where standards are inferior to ENKA’s own environmental requirements, ENKA aims to establish environmental management systems that go beyond the standards of the country, comply with ENKA’s targets and can set an example for others. By assuring this, the activities in question are constantly inspected by the Health, Safety and Environment (HSE) department at Headquarters and at the project level, and any cases of non-conformity are eliminated as swiftly as possible.

The main environmental impacts stemming from construction activities throughout the world can be listed as follows: Expenditure of natural resources, impact on soil, impact on water resources, emissions, the greenhouse effect, erosion, impact on flora and fauna, and impact on endangered species. ENKA İnşaat Environmental Management System makes it obligatory to prioritise the elimination of these impacts at source. Where this is not possible, policies envisaging replenishment, isolation and/or appropriate engineering precautions must be adopted, depending on the circumstances. ENKA is engaged in a series of activities to measure, prevent and minimise the impacts referred above. The training provided to employees and relevant stakeholders constitutes one aspect of these activities. In 2017, ENKA İnşaat provided a total of 9,684 person-hours of environmental training.

ENKA and its subsidiaries determine environmental targets annually, monitor the extent to which these targets are being achieved, and take any actions necessary



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to accomplish them. In 2017, concrete steps were taken in order to measure ENKA’s basic environmental impacts, including those of its subsidiaries and projects, and report on them centrally and more systematically. A broad range of impacts were included in this initiative paying due attention to ENKA’s main fields of activity and the activities which are observed to have the greatest environmental impacts. Both carbon footprint and water consumption measurements were conducted for the companies and projects

included in the scope of these efforts. Starting in 2018, this data will make it possible to set collective, long-term targets and ENKA will decide on the actions to be taken to ensure constant improvement.



Read more...

for ENKA HSSE Policy: <http://www.enka.com/sustainability/home/health-safety-environment/hsse-policy/>
 for Çimtaş Energy, Environment, OHS Policies and Zero Incident Commitment: <http://www.cimtas.com/en/departments/health-safety-environment/health-safety-environment-energy-policy/>
 for ENKA Power HSE Management System: <http://www.enkapower.com/cgs/>

Water Management

ENKA is aware that water is the most important natural resource for life. For this reason, it manages its use of water responsibly, efficiently and effectively.

ENKA is carrying out projects in regions that vary widely in their geographical characteristics, and access to water in these regions differ accordingly. In projects carried out in Africa and the Middle East, where access to clean water is particularly restricted, the need arises for special solutions. In some places, the solution is to transport clean water to the sites of work and accommodation; in others, drinking water is obtained through advanced purification techniques such as reverse osmosis. Since transporting water creates additional risks and increases environmental impacts, clean water wells are opened at appropriate points after obtaining the necessary permits from the local authorities. When water is not at the desired quality

standard, it is subjected to appropriate purification processes before it is used.

In ENKA projects, water is consumed mostly in irrigation to prevent dust emissions, in the production of materials such as concrete and asphalt at the worksites, and for purposes of domestic usage. Before starting work on any construction project, ENKA conducts a detailed Environmental Impact Assessment. Its first preference is to use the water resources that are found to be sufficient in quality and quantity. If the water is withdrawn from natural resources, the capacity and quality of the source are monitored regularly, and in the event of any change, discussions are held with the relevant authorities to find a solution. The proper infrastructure systems and highly efficient equipment are used in order to reduce water losses to a minimum. If an infrastructure system exists, waste water is discharged into the system in a manner

compatible with ENKA procedures and the local legislation. If there is no infrastructure system, treatment systems are established in order to be able to discharge water of an appropriate quality. Accredited laboratories test samples of water obtained and discharged regularly.

Depending on the type of activity that is being carried out, treated water can be recycled for use in the irrigation to prevent dust emissions, after concrete casting process, or re-used to irrigate green areas. In this way, the total amount of water used can be reduced. In cases where the nature of a project requires that a water course such as a river, streams or irrigation canal on the worksite needs to be crossed, pipes of appropriate dimensions are positioned at the crossing point and the necessary filling work is carried out in order to ensure that the water continues to flow and to preserve the bed of the water course and the quality of the water.

Due to its field of activity, ENKA Power, one of ENKA's subsidiaries, requires considerable quantities of water for use in the production of energy. At the Izmir plant, the need for water is particularly high as a wet cooling system is used. The water is drawn in a controlled manner, taking all necessary precautions to protect the Gulf of Izmir, and in line with a philosophy of not causing any damage to wildlife. At the Adapazarı plant, ground water is used in accordance with the permission granted. Care is taken to draw off less than the allocated amount, once again with the philosophy of protecting the basin. All drawings of water are metered and the amounts are recorded.

ENKA's other subsidiaries are also working to protect water resources, depending on their fields of activity. For example, ENKA TC makes use of grease traps to collect the waste oils of tenants providing services in the restaurant sections of its buildings, and has these cleansed and maintained regularly by authorised firms. Cimtas Pipe has started to make use of a siphonic rainwater collection system in order to reduce its water consumption. Çimtaş Precision Machining is aiming to put its rainwater collection system into operation in 2018, enabling it to meet 100% of its needs for water for siphons and garden watering using rainwater.

Water efficiency and conservation training is regularly held for employees throughout the ENKA group.

Amount of Water Withdrawal by Source

ENKA began work on measuring its water footprint systematically in 2017. The table next page lists the subsidiaries and sites that were included in this study in its first year.

The total amount of main water used in 2017 was 903,238m³, the amount obtained from surface waters such as rivers and lakes was 27,853,364m³, and the amount of groundwater drawn was 745,957m³. The total water consumption of the ENKA group companies and projects included in the study was 29,502,559m³, and their total discharges of waste water added up to 21,198,890m³.



| Subsidiary/Plant/Project | Water Withdrawal by Source | | | Total Amount of Discharged Waste Water (m ³) | Point of Discharge |
|--|-----------------------------------|--|-------------------------------|--|---------------------------------------|
| | Municipal Water (m ³) | Surface Waters (Rivers, Lakes, etc.) (m ³) | Groundwater (m ³) | | |
| Cimtas Boru İmalatları vTicaret Ltd. Şti. | 37,605 | - | - | 20,918 | Municipal Waste Water Treatment Plant |
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. | - | - | 21,398 | 7,541 | Sea of Marmara |
| ENKA Power Plants | Adapazarı | - | 134,264 | 134,264 | Municipal Waste Water Treatment Plant |
| | Gebze | - | 268,528 | 268,528 | Municipal Waste Water Treatment Plant |
| | Izmir | - | 27,853,364 | 30,715 | 19,781,418 |
| ENKA Pazarlama İhracat İthalat A.Ş. | 12,386 | - | - | 12,386 | - |
| Istanbul ENKA Schools | 10,887 | - | - | 8,710 | Municipal Waste Water Treatment Plant |
| ENKA Sports Club | 39,566 | - | - | 37,481 | Municipal Waste Water Treatment Plant |
| City Center Investment (CCI) | 192,780 | - | - | 192,780 | Municipal Waste Water Treatment Plant |

| Subsidiary/Plant/Project | Municipal Water (m ³) | Surface Waters (Rivers, Lakes, etc.) (m ³) | Groundwater (m ³) | Total Amount of Discharged Waste Water (m ³) | Point of Discharge |
|---|-----------------------------------|--|-------------------------------|--|---------------------------------------|
| ENKA TC Limited Liability Company | 449,093 | - | - | 449,093 | Municipal Waste Water Treatment Plant |
| Moskva Krasnye Holmy | 59,217 | - | - | 59,217 | Municipal Waste Water Treatment Plant |
| Hotel Moskva Krasnye Holmy | 49,225 | - | - | 49,225 | Municipal Waste Water Treatment Plant |
| ENKA Headquarters | 13,041 | - | - | 12,771 | Municipal Waste Water Treatment Plant |
| SCPX | SCPX-CSG-1 | - | 128,410 | 61,190 | Municipal Waste Water Treatment Plant |
| | SCPX-CSG-2 | - | 117,270 | 57,996 | Municipal Waste Water Treatment Plant |
| | SCPX-Area 81 | - | 45,372 | 45,372 | Soil |
| Kashirskaya Multi-Functional Trade Center | 39,438 | - | - | - | Municipal Waste Water Treatment Plant |
| TOTAL (m³) | 903,238 | 27,853,364 | 745,957 | 21,198,890 | |



Determination of Water Shortage and Water Pollution Risks

Within the context of the work on water footprint measurement and water risks assessment that ENKA embarked upon in 2017, the risks of water shortage and water pollution were identified for the facilities surveyed. For this purpose, the coordinates of the facility sites were compared with maps showing water shortages and water pollution, and those water resources that might be affected significantly by the drawing off of water were identified.

The risk of water shortage for a facility increases with the degree of water shortage. In places where water shortage is a major issue, challenges in obtaining water will increase in the short and medium term, the groundwater level will decrease, and water prices are also very likely to rise.

The degree of water shortage is high at the sites of all the companies and institutions in Turkey. This means that the risks of obtaining water for these facilities are high. In order to reduce the risk of water shortages at the facilities to a minimum, work needs to be done to reduce their blue water footprints.

Major outcomes of the water footprint studies are as follows.

- Most of the facilities included in the study use groundwater. It is important to monitor groundwater levels for the continuity of supply from these sources.
- Efforts to measure and keep track of the water consumption of the facilities need to be stepped up.
- An examination of the levels of nitrogen and phosphorus pollution in water in the regions where the facilities are located points to a high risk of water pollution at the facilities in Turkey and Russia. In these places, nitrification pollution is very noticeable. These findings signal that the level of nitrogen pollution in the groundwater will increase in the short/medium term and that clean water resources will therefore decline.

In the foreseeable future, ENKA will shape its water management actions while taking these outcomes into consideration.

Levels of Water Shortage and Water Pollution in the Regions where the Facilities are Located

| Company / Institution / Project | District/City | Country | Water shortage degree | Nitrogen pollution level | Phosphorus pollution level | Water shortage risk | Water pollution risk |
|---|---------------|---------|-----------------------|--------------------------|----------------------------|---------------------|----------------------|
| Adapazarı Elektrik Üretim Ltd. Şti. | Adapazarı | Turkey | High | High | High | +++ | +++ |
| Cimtas Boru İmalatları ve Ticaret Ltd. Şti. | Gemlik | Turkey | High | Medium | Medium | +++ | ++ |
| City Center Investment B.V. | Moscow | Russia | Medium | High | Medium | ++ | +++ |
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. | Moscow | Russia | Medium | High | Medium | ++ | +++ |
| ENKA Headquarters | Istanbul | Turkey | High | High | Medium | +++ | +++ |
| ENKA Pazarlama İhracat İthalat A.Ş. | Istanbul | Turkey | High | High | Medium | +++ | +++ |
| ENKA TC Limited Liability Company | Moscow | Russia | Medium | Low | Low | ++ | + |
| ENKA Sports Club | Istanbul | Turkey | High | High | Medium | +++ | +++ |
| Gebze Elektrik Üretim Ltd. Şti. | Gebze | Turkey | High | High | High | +++ | +++ |

| Company / Institution / Project | District/City | Country | Water shortage degree | Nitrogen pollution level | Phosphorus pollution level | Water shortage risk | Water pollution risk |
|---|---------------|---------|-----------------------|--------------------------|----------------------------|---------------------|----------------------|
| Istanbul ENKA Schools | Istanbul | Turkey | High | High | Medium | +++ | +++ |
| İzmir Elektrik Üretim Ltd. Şti. | Izmir | Turkey | High | High | High | +++ | +++ |
| Moskva Krasnye Holmy | Moscow | Russia | Medium | High | Medium | ++ | +++ |
| Hotel Moskva Krasnye Holmy | Moscow | Russia | Medium | High | Medium | ++ | +++ |
| Kashirskaya Multi-Functional Trade Center | Moscow | Russia | Medium | High | Medium | ++ | +++ |
| SCPX-Area 81 Site | Meskhetian | Georgia | Low | Low | Low | + | + |
| SCPX-CSG- 1 Site | Meskhetian | Georgia | Low | Low | Low | + | + |
| SCPX-CSG-2 Site (main camp) | Meskhetian | Georgia | Low | Low | Low | + | + |
| SCPX-CSG-2 Site (route camp) | Meskhetian | Georgia | Low | Low | Low | + | + |
| SCPX-CSG-2 Site (crushing plant) | Meskhetian | Georgia | Low | Low | Low | + | + |

+: Low Risk, ++: Medium Risk, +++: High Risk

Energy Efficiency and Climate Change

The daily growth of the urban population, rising urbanisation and changes in consumption habits, and the increasing demand for energy which they bring with them, pose important threats to our climate and planet. Realizing that climate change is a serious reality, ENKA is making efforts to fulfil its responsibilities for leaving future generations a world that can be lived in, and to reduce the negative impacts of its activities on the environment and the climate to a minimum.

Climate change is an important issue that constitutes a risk to the activities that ENKA carries out around the world, in terms of them

being sustainable. At the same time, climate change constitutes an opportunity for the construction and real estate sectors, in which ENKA is active. The design of buildings and the production of technologies that use less energy and are environmentally friendly form part of ENKA's sustainability strategy.

In 2017, ENKA embarked on an effort to measure its carbon and water footprints to make the potential impacts of its activities that might lead directly or indirectly to climate change visible, and to be able to set targets for its efforts to reduce those impacts.

Carbon footprint calculations have been calculated in the scope of ENKA Headquarters, the ENKA Power Adapazarı, Gebze and İzmir power plants; Çimtaş Steel; Cimtas Pipe; ENKA Pazarlama; ENKA Schools - Istanbul; ENKA Sports Club; ENKA TC, CCI, MKH and OMKH investments in Russia, and two of ENKA's projects - namely, the Kashirskaya Multi-Functional Trade Center in Moscow and the CSG-1, CSG-2 and Area 81 sites of the SCPx Pipeline Project in Georgia.

Another important aspect of ENKA's energy efficiency and climate change efforts is the training it provides to its employees with the intent to increase the level of awareness and increase their sensitivity on energy conservation. As part of the Environmental

Management System, environmental engineers and trainers are employed at ENKA Headquarters, in the subsidiaries and on the projects. Environmental training starts from the induction and continues throughout the project, ensuring that all employees become part of the energy and climate change efforts.

Energy Consumption

The levels of energy consumption stemming from fuel consumption, electricity consumption, consumption for heating and cooling purposes and hot water consumption in 2016 and 2017, measured in terajoules (TJ), are shared in the following table:

Annual In-House Energy Consumption

| | 2016 | 2017 |
|---|----------------|----------------|
| Fuel Consumption (TJ) | 161,468 | 157,873 |
| Electricity Consumption (TJ) | 858 | 881 |
| Consumption for Heating and Cooling Purposes (TJ) | 11.3 | 14.7 |
| Hot Water Consumption(TJ) | 492 | 461 |
| TOTAL (TJ) | 162,829 | 159,230 |

Total energy consumption is observed to have declined from 162,829 TJ in 2017 to 159,230 TJ in 2017. This 2.2% decline is thought to have stemmed from fluctuations

in production activities. In 2018, systematic efforts will start to be made with the aim of increasing energy efficiency further.



| Region/Site | Fuel Consumption | Energy Consumption | | | Energy Sold |
|--|-------------------|--------------------|---------------------------------|---|------------------|
| | Fossil Fuels (TJ) | Electricity (TJ) | Heating & Cooling Purposes (TJ) | Hot Water Consumption for Heating & Cooling Purposes (TJ) | Electricity (TJ) |
| ENKA İnşaat | 213.10 | 75.61 | - | - | - |
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. & Çimtaş Boru İmalatları ve Ticaret Ltd. Şti. | 38.16 | 59.62 | - | - | - |
| ENKA Power | 157,532.28 | 4.69 | 14.68 | - | 89,884.18 |
| ENKA Real Estate | 55.59 | 726.08 | - | 461.21 | - |
| Istanbul ENKA Schools | 6.56 | 3.65 | - | - | - |
| ENKA Sports Club | 19.60 | 7.26 | - | - | - |
| ENKA Pazarlama İhracat İthalat A.Ş. | 8,333 | 4.21 | - | - | - |
| TOTAL | 157,873 | 881.12 | 14.68 | 461.21 | 89,884.18 |

Energy Intensity

The energy intensity of 12 ENKA Group companies and two projects has been calculated, taking into account all the energy consumed as a result of their activities. In order to report energy intensity, annual turnover in US dollars was used as an indicator. The energy intensity of the ENKA workplaces covered by the calculations was found to be 78.2 TJ per million US dollars of turnover.

Direct and Indirect Greenhouse Gas Emissions

In the scope of ENKA's greenhouse gas emissions calculations for 2017, the greenhouse gas emissions arising from ENKA's

activities constitute "Scope-1 direct greenhouse gas emissions", and the greenhouse gas emissions stemming from the consumption of energy obtained from outside the organisation in the form of electricity, heat and steam were classed as "Scope-2 indirect energy greenhouse gas emissions". As it was not possible to obtain sufficient and accurate data, emissions falling into "Scope-3 other indirect greenhouse gas emissions" were excluded from the calculations for the 2017 reporting period.

Scope-1 emissions account for about 98% of all emissions. This high ratio is due to the amount of fuel consumed by the natural gas combined cycle power plants. When the fuel used for electricity generation in the power

plants is excluded from the calculations, the share of Scope-1 emissions in total emissions falls to 12%.

The Scope-1 greenhouse gas emissions stemming from fuel consumption, cooling gases and fire extinguishers accounted for a large percentage of ENKA's carbon footprint in 2017. In terms of CO₂ equivalent, the total amount of Scope-1 emissions in 2017 was 9,380,851 tonnes.

The greenhouse gas emissions that arise during ENKA's construction activities stem largely from the fuel consumption of vehicles, equipment used for construction projects and the consumption of electricity on the project sites.

The Scope-2 emissions resulting from the consumption of electricity, steam and heat

energy at the workplaces in question in 2017 added up to a total of 192,502 tonnes of CO₂ equivalent.

The aggregate carbon footprint of all of the ENKA workplaces where measurements were made in 2017 worked out at 9,573,355 tonnes of CO₂ equivalent.

In the activities conducted in the 2017 reporting period, there were declines of 2.22% in direct (Scope-1) greenhouse gas emissions and 2.16% in total (Scope-1 + Scope-2) greenhouse gas emissions, by comparison with the preceding year, owing to fluctuations in production and other policies and practices. Indirect (Scope-2) greenhouse gas emissions were 0.96% higher than in 2016. Conscious and systematic work on reducing greenhouse gas emissions is planned to begin in all workplaces as of 2018.



| Company/Project | 2016 Scope-1 (tonnes CO ₂ e) | 2017 Scope-1 (tonnes CO ₂ e) |
|---|--|--|
| Adapazarı Elektrik Üretim Ltd. Şti. | 1,883,730 | 1,829,315 |
| Cimtas Boru İmalatları ve Ticaret Ltd. Şti. | 506 | 1,022 |
| City Center Investment B.V. | 264 | 303 |
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. | 625 | 1,104 |
| ENKA Headquarters | 220 | 202 |
| ENKA Pazarlama İhracat İthalat A.Ş. | 142 | 660 |
| ENKA TC Limited Liability Company | 5,047 | 4,162 |
| ENKA Sports Club | 161 | 147 |
| Gebze Elektrik Üretim Ltd. Şti. | 3,874,829 | 3,897,160 |
| Istanbul ENKA Schools | 84 | 84 |
| İzmir Elektrik Üretim Ltd. Şti. | 3,811,620 | 3,631,000 |
| Moskva Krasnye Holmy | 581 | 676 |
| Hotel Moskva Krasnye Holmy | 101 | 95 |
| Kashirskaya Multi-Functional Trade Center | 1,949 | 2,753 |
| SCPX-Area 81 Site | 3,617 | 2,217 |
| SCPX-CSG- 1 Site | 3,727 | 3,587 |
| SCPX-CSG-2 Site | 7,183 | 6,363 |
| TOTAL (tonnes) | 9,594,386 | 9,380,851 |

| Company/Project | 2016 Total (Scope-1+ Scope-2) (tonnes CO ₂ e) | 2017 Total (Scope-1+ Scope-2) (tonnes CO ₂ e) |
|---|--|--|
| Adapazarı Elektrik Üreti Ltd. Şti. | 1,883,811 | 1,829,478 |
| Cimtas Boru İmalatları ve Ticaret Ltd. Şti. | 5,747 | 5,910 |
| City Center Investment B.V. | 42,557 | 43,660 |
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. | 5,866 | 4,075 |
| ENKA Headquarters | 1,058 | 1,042 |
| ENKA Pazarlama İhracat İthalat A.Ş. | 640 | 1,239 |
| ENKA TC Limited Liability Company | 109,719 | 106,522 |
| ENKA Sports Club | 1,226 | 1,145 |
| Gebze Elektrik Üretim Ltd. Şti. | 3,874,991 | 3,897,485 |
| Istanbul ENKA Schools | 559 | 585 |
| İzmir Elektrik Üretim Ltd. Şti. | 3,811,766 | 3,631,157 |
| Moskva Krasnye Holmy | 16,668 | 15,821 |
| Hotel Moskva Krasnye Holmy | 9,606 | 8,918 |
| Kashirskaya Multi-Functional Trade Center | 3,236 | 8,707 |
| SCPX-Area 81 Site | 4,477 | 2,774 |
| SCPX-CSG- 1 Site | 5,376 | 5,132 |
| SCPX-CSG-2 Site | 7,734 | 9,702 |
| TOTAL (tonnes) | 9,785,037 | 9,573,355 |

The following policies have been put into effect within the ENKA Group with the aim to minimise the level of emissions from activities and managing environmental risks:

- At the power plants, resource efficiency and advanced emission control technologies (AGP.DLN2,+6) are in use to meet the need for power while lowering greenhouse gas emissions. This investment has reduced emissions by approximately 225,000 tonnes of CO₂.
- The food waste generated in the canteen of the SCPx project under way in Georgia is dried in a food drying unit, resulting in a lower volume of dry, hygienic food waste through waste minimisation. The dry food waste is then converted to energy in a Biomass System, and the energy produced is used to provide the camp area with hot water. This arrangement leads to fuel savings.
- When purchasing construction machinery and equipment, preference is given to

those, which are more efficient in terms of energy consumption, with the aim of achieving a reduction in the total amount of energy consumed.

- All the equipment in our machinery park is subject to regular and timely maintenance. This prevents any increase in their fuel consumption and hence in their potential emission levels.
- Speed limits introduced for vehicles on work sites serve to reduce fuel consumption and the volume of emissions stemming from vehicles.
- The materials to be used in offices and worksite buildings are chosen with a view to reducing the energy consumption that may arise due to variations in temperature.
- Posters and signs are used to increase the awareness and knowledge of employees working in our projects regarding energy conservation and environmental matters and to ensure that they integrate this approach into the work they perform.

Greenhouse Gas Emission Intensity

The intensity of the greenhouse gas emissions of the various companies and sites for which calculations have been made is reported here in relation to their annual turnovers in

US dollars. The greenhouse gases included in the intensity calculations are made up of Scope-1 and Scope-2 emissions. All kinds of greenhouse gas emissions have been concerned into their CO₂ equivalents.

| | |
|---|---|
| ENKA Sports Club | 14 tonnes CO ₂ e*per one million US dollars |
| ENKA Pazarlama İhracat İthalat A.Ş. | 5.6 tonnes CO ₂ e per one million US dollars |
| İzmir Elektrik Üretim Ltd. Şti. | 6,967tonnes CO ₂ e per one million US dollars |
| Adapazarı Elektrik Üretim Ltd. Şti. | 6,900tonnes CO ₂ e per one million US dollars |
| Gebze Elektrik Üretim Ltd. Şti. | 7,308 tonnes CO ₂ e per one million US dollars |
| Çimtaş Çelik İmalat Montaj veTesisat A.Ş. | 65.3 tonnes CO ₂ e per one million US dollars |

| | |
|---|---|
| Cimtas Boru İmalatları ve Ticaret Ltd. Şti. | 43 tonnes CO ₂ e per one million US dollars |
| ENKA TC Limited Liability Company | 1,076 tonnes CO ₂ e per one million US dollars |
| Moskva Krasnye Holmy | 559 tonnes CO ₂ e per one million US dollars |
| Hotel Moskva Krasnye Holmy | 537 tonnes CO ₂ e per one million US dollars |
| City Center Investment B.V. | 399 tonnes CO ₂ e per one million US dollars |
| Istanbul ENKA Schools | 35 tonnes CO ₂ e per one million US dollars |

*CO₂ equivalent

Greenhouse Gas Emission Intensities of ENKA Buildings

The greenhouse gas emission intensities of the buildings used in the activities of ENKA have been calculated in terms of the volume of greenhouse gas emissions, expressed in CO₂ equivalent, per square metre

of construction area. The great majority of the buildings for which these calculations have been made are used as offices. In some cases, open areas where energy consumption or other activities that lead to emissions take place have also been included in the calculations.

Emission Intensity by Total Construction Area (m²)

| | |
|---|---|
| ENKA Sports Club | 0.10 tonnes CO ₂ e/m ² /year |
| ENKA Pazarlama İhracat İthalat A.Ş. | 0.05 tonnes CO ₂ e/m ² /year |
| ENKA Power (Adapazarı, Gebze, İzmir) | 16.37 tonnes CO ₂ e/m ² /year |
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. | 0.08 tonnes CO ₂ e/m ² /year |
| Cimtas Boru İmalatları ve Ticaret Ltd. Şti. | 0.11 tonnes CO ₂ e/m ² /year |
| ENKA TC Limited Liability Company | 0.16 tonnes CO ₂ e/m ² /year |
| City Center Investment B.V. | 0.27 tonnes CO ₂ e/m ² /year |
| Istanbul ENKA Schools | 0.03 tonnes CO ₂ e/m ² /year |

Emission Intensity Per Employee

| | |
|---|--|
| Çimtaş Çelik İmalat Montaj ve Tesisat A.Ş. | 6.7 tonnes CO ₂ e per person |
| Cimtas Boru İmalatları ve Ticaret Ltd. Şti. | 4.8 tonnes CO ₂ e per person |
| ENKA Headquarters | 1.89 tonnes CO ₂ e per person |
| ENKA Pazarlama İhracat İthalat A.Ş. | 6.5 tonnes CO ₂ e per person |
| Istanbul ENKA Schools | 5.9 tonnes CO ₂ e per person |
| ENKA Sports Club | 3.9 tonnes CO ₂ e per person |
| İzmir Elektrik Üretim Ltd. Şti. | 25,042 tonnes CO ₂ e per person |
| Gebze Elektrik Üretim Ltd. Şti. | 35,432 tonnes CO ₂ e per person |
| Adapazarı Elektrik Üretim Ltd. Şti. | 33,263 tonnes CO ₂ e per person |
| City Center Investment B.V. | 364 tonnes CO ₂ e per person |
| Moskva Krasnye Holmy | 158 tonnes CO ₂ e per person |
| Hotel Moskva Krasnye Holmy | 30 tonnes CO ₂ e per person |
| ENKA TC Limited Liability Company | 324 tonnes CO ₂ e per person |

Greenhouse Gas Emission Intensity in Construction Activities

Construction work is one of the most important fields of activity of ENKA İnşaat, and construction sites are responsible for a portion of the ENKA Group's greenhouse gas emissions. All of the Scope-1 and Scope-2 greenhouse gas emissions stemming

from the SCPx Project in Georgia and the Kashirskaya Multi-Functional Trade Center in Russia have been calculated in terms of CO₂ equivalent, and these have been set against the total number of person-hours worked per year on the projects in question in order to calculate the emission densities of these projects.

| | |
|---|--|
| Kashirskaya Multi-Functional Trade Center | 0.02 tonnes CO ₂ e/person-day |
| SCPX-CSG- 1 Site | 0.04 tonnes CO ₂ e/person-day |
| SCPX-CSG-2 Site | 0.05 tonnes CO ₂ e/person-day |
| SCPX-Area 81 Site | 0.06 ton tonnes CO ₂ e/person-day |
| ENKA Headquarters | 0.02 ton tonnes CO ₂ e/person-day |

Waste Management

In all the regions and places it works, ENKA manages its waste in such a way as to minimise its impact on the environment, paying due attention to the waste hierarchy. All related operations are conducted in the context of waste management plans developed in accordance with the ISO 14001:2015 Waste Management System standard, and in compliance with the local legislation in the country where the activity is being carried out.

ENKA's primary approach to the management of waste is to prevent or reduce the amount of waste at source as much as possible, and to recycle and re-use those wastes which are formed in spite of this. In cases where these primary steps cannot be implemented, waste is categorised and disposed of via authorised institutions.

In addition, training and awareness raising activities aimed at employees and relevant stakeholders are carried out in all of ENKA's subsidiaries and workplaces so as to ensure

waste management is properly addressed. For instance, in the offices and shopping centres, which ENKA TC owns and manages in Moscow, awareness-raising activities are conducted even for tenants and customers, to ensure that they show the necessary sensitivity.

ENKA makes maximum efforts to prevent leaks and spills and takes all necessary precautions to prevent any leaks from reacting with the soil or water. During the reporting period, there were no major (Tier-III) leaks or spills at any ENKA workplace. During the SCPx pipeline project under way in Georgia, 17 Tier-II leaks occurred. These leaks were handled in the shortest possible time under Emergency Response Plans. Absorbent pads and granules were used, and contaminated soil was packed into special bags, which were transported to the relevant temporary storage area and subsequently disposed of in the same way as hazardous waste.





Total Amount of Waste by Type and Disposal Method

The following table encompasses data from: ENKA Headquarters, ENKA Power electricity generation plants in Adapazarı, Gebze and Izmir, Çimtaş Steel, Cimtaş Pipe, ENKA

Pazarlama, Istanbul ENKA Schools, ENKA Sports Club, ENKA TC, CCI, MKH and OMKH workplaces in Russia, and selected ENKA projects - namely, the Kashirskaya Multi-Functional Trade Center in Russia and the CSG-1, CSG-2 and Area 81 sites of the SCPx project in Georgia.

| | Hazardous Waste (kg) | Hazardous Waste (m ³) | Non-Hazardous Waste (kg) | Non-Hazardous Waste (m ³) |
|---|----------------------|-----------------------------------|--------------------------|---------------------------------------|
| Recycling | 1,627 | - | 1,249,661 | 11,828 |
| Recovery (including energy recovery) | 231,463 | - | - | 34 |
| Disposal by licensed waste disposal companies | 254,235 | 466.5 | 9,477,610 | 62,167 |
| TOTAL | 487,325 | 466.5 | 10,727,271 | 74,029 |

Environmentally-Friendly Buildings

Environmentally friendly buildings are known to consume less energy and water, cause lower greenhouse gas emissions, provide their users with a more comfortable and pleasant environment and generate savings due to their lower operating costs. Although the investment costs of environmentally friendly buildings are higher than those buildings constructed in the standard manner, the features they incorporate enable them to redeem the extra cost rapidly.

In recent years, ENKA TC has embarked on a process of major investments to convert its older buildings into new buildings that are capable of meeting modern requirements and more responsive to the environment. The Kuntsevo Plaza project, for instance, holds a Russian Green Building certificate and is one of 37 green investments in Russia. The Kashirskaya Multi-Functional Trade Center project, which is under construction in Moscow, has been awarded a project design certificate, which is the first step towards meeting Russia's national Green Building Standard. It is also aiming to obtain LEED Gold certification. Also in future investments, the aim will be to control the potential negative impacts on human beings and the natural environment and keep them to a minimum through the use of the best available expertise and the latest science and technology. Fourteen of

the projects that ENKA has completed to date have been awarded LEED certificates.

Similarly, Cimtaş Pipe has completed the LEED Certification work, which it began in June 2016, and its Pipe Work plant has earned the right to LEED Gold certification. Green buildings are certified in accordance with a set of criteria that includes, in



summary, the energy efficiency of the machinery selected, and the reduction of negative impacts on the environment during all processes from the purchase of materials onwards, the quality of interior spaces, and the adoption of environmentally friendly and innovative approaches. It is the first time that this certificate has been awarded to a pipe fabrication facility anywhere in the world.

The administration building that forms part of the new Cimtaş Ningbo plant investment has also been designed in accordance with the LEED Gold certification criteria.

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Reserves of natural resources are declining significantly as a result of global warming and environmental pollution. Research points to high levels of natural resource use, energy consumption and greenhouse gas emissions in buildings. In order to prevent this, the construction sector has started to adopt the approach of developing environmentally friendly projects that consume less energy and water and create less waste. Activities of this kind are important if natural resources are to be conserved and sustainable living environments ensured, both in Russia and all over the world.

ENKA TC's Kuntsevo Plaza project, which went into operation in 2015, received its first Russian Green Building certificate in 2013. Work is now in progress to obtain the same certification for the Kashirskaya Multi-Functional Trade Center project. The work which has been done on the Kuntsevo Plaza and Kashirskaya Multi-Functional Trade Center projects has set a precedent, since they are multi-purpose shopping centres and have been the pioneers in this sector. At the same time, ENKA TC has been a member of the US Green Building Council since 2013.

In our future investments, our goal will be to pay more attention to this issue, to score points on those criteria for which we lost points during the certification of the Kuntsevo Plaza and Kashirskaya Multi-Functional Trade Center projects, and to obtain international certificates with more stringent criteria, such as LEED. Our activities related to environmentally friendly buildings will continue and increase in the context of the ENKA Sustainability Strategy.

**Kemal Atay, ENKA TC
Project Development and
Construction Department
Manager**



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