erateks

Carbon Footprint Report 2020

Erateks design, develop, manufacture and export garment since 1992

A. COMPANY INFO

Erateks design, develop, manufacture and export garment, since 1992.

The main strength of Erateks is an experienced and engineering team which develop material and product, in collaboration with customers and other relevant suppliers.
Erateks headquartered in Esenyurt / Istanbul, based on a 3100 m² net area which includes operation of design, sampling, development, cutting, embroidering, and printing.

Erateks main production facility is based on a 9321 m² net area in an Industrial Park at Fatsa/ Ordu (North-East part of Turkey). This facility has 11 different production lines which are oriented and specialized on team sports, sports performance, and casual wear.

UN Sustainable Development Goals and Sustainable Developments at Erateks

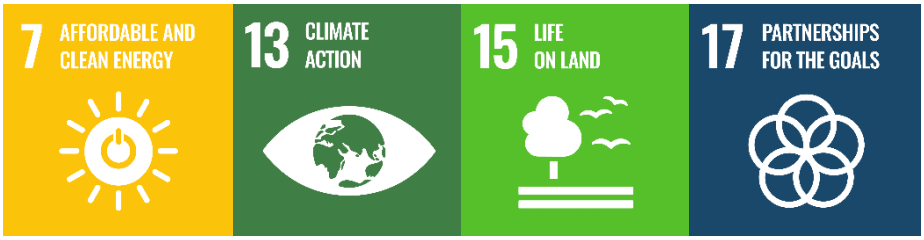
According to UN, Sustainability is a simple concept. In 1987, the UN Brundtland Commission defined sustainable development as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

The universal definition of sustainability is in consideration and in activity of Erateks. Sustainability Assessments on Labor, Health & Safety and Environmental performance; over the years the company conducted internally and hosted number of sustainability assessments in facilities by several brands,

buyers and MSIs. The sustainability assessments raise the awareness and helps to improve the capacity.

Erateks is committed to the UN Sustainable Development Goals and certified by internationally valid certifications, including ISO-14001. Therefore, Erateks measures all footprints, including carbon footprint to minimize negative impact.

This carbon footprint report link to the SDGs 7, 13, 15 and 17.



B. SCOPE, DATA and METHODOLOGY

The carbon footprint evaluation in this report includes direct greenhouse gas emissions and indirect greenhouse gas emissions caused by energy consumption of Erateks activities. Direct emissions related to transport process, natural gas consumption and air conditioner gases. Indirect emissions related to energy consumption and transportation of staffs.

Carbon footprint report was prepared in accordance with TS EN ISO 14064-1 standard and GHG emission inventory. The calculation methodology and tools were stated in Chapter C. All the data which used for calculation were based on internal consumption reports during the 2018. The data was recorded on monthly basis for two different facility. HQ of Erateks located in Istanbul and main production facility located in Fatsa/Ordu.

The results provide the amount of all greenhouse gas emissions according to the GHG Protocol. Therefore, the amount of the carbon footprint is given in kilogram/tons CO2 equivalents (CO2e).

C. CARBON FOOTPRINT RESULTS

GHG Quantification Methodology	
Standard:	EN ISO 14064-1:2012: Greenhouse gases – Specifications with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

Allocation:	No allocation conducted.
Units:	Considered as 'kg' or 'kWh'. See Appendix 2 for the density factor per DEFRA.
Combustion of biomass:	No biomass combustion.
Activities to reduce GHG emissions:	No activity to be in placed within the reporting period.
Quantification methodology per IPCC 2006:	Tier 1
Quantification equation:	Individual GHG emission amount (CO2e) = (Consumption Amount) x (Emission Factor)
GWP values:	IPCC 5th Assessment Report
Reporting method:	ISO 14064-1:2012; Section 7.3 GHG report content

Refrigerant Leakage Assumptions		
Type of Technology	Leakage Percent	Reference
Domestic Refrigeration	%0.1	IPCC (2006), Vol 3, Chapter 7, Table 7.9
Chillers	%2	IPCC (2006), Vol 3, Chapter 7, Table 7.9
Residential and Commercial A/C, including Heat Pumps	%1	IPCC (2006), Vol 3, Chapter 7, Table 7.9
Fire extinguisher	%0.4	IPCC/TEAP Special Report: Safeguarding the Ozone Layer and the Global Climate System, Volume 9, Fire Protection

Emission Factors		
Stationary Combustion	IPCC 2006 Vol 2, Chapter 2 Table 2.3	$EF\ (kWh) = \frac{Default\ EF\ (per\ IPCC\ 2006)\frac{kg}{Tj}}{277777{,}78\ kWh/TJ}$ $EF\ (kg) = \frac{Default\ EF\ (per\ IPCC\ 2006)\ \frac{kg}{Tj}) \times (NCV\ \frac{Tj}{Gg})}{1000000 kg/Gg}$
Mobile Combustion – On Road	IPCC 2006 Vol 2, Chapter 3, Table 3.2.1 and 3.2.2	
Mobile Combustion – Off Road	IPCC 2006 Vol 2, Chapter 3, Table 3.3.1	
CO2 equivalents	$CO2\ e = (CO2 \times 1) + (CH4 \times 28) + (N2O \times 265)$	
Electricity EF:	Electricity for Turkey : 0.59 kg CO2e/kWh	Ecoinvent v.3.2
Refrigerants GWPs:	DEFRA, 2017 Emission Factors DEFRA, 2017 Emission Factors	
Net Calorific Value (NCV):	IPCC 2006 Vol 2, Chapter 1 Table 1.2	

Uncertainty of the Accounting		
Confidence level:	95%	Reference: IPCC, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories
Uncertainty quantification per:	GHG Uncertainty Tool	
Uncertainty of the study:	4.48	
Level of Assurance:	Makul	

a. This chart includes direct greenhouse gas emissions caused by Erateks activities for production process. Direct emissions sources named as like DATA SET-1.

DATA SET-1 Direct Greenhouse Gas Emission

Source Description	GHG Source	Factory Activity Data 2020	HQ Activity Data 2020	Unit
Stationary Combustion	Natural Gas LNG	289.035,6	0,00	kWh
Mobile Combustion – On Road	Diesel Consumption (Company vehicles consumption)	5.710,0	9.849,75	kg
Refrigerant Leakage	Air Conditioner Gas Leakage	0,0	4,0	kg
Refrigerant Leakage	CO2-carbondioxide - Fire extinguisher	354,00	334,00	kg

** Erateks consumption chart includes the info which belong to 01 Jan. 2020- 31 Dec. 2020.

Carbon equivalent chart which is calculated with the values is stated Data Set-1 chart. All the results stated in tonnes of CO2 equivalents. GHG Emission Factor 2020 units values used to conversion the data to same unit.

Source Description	GHG Source	Factory CO2 emissions in metric tonnes	HQ CO2 emissions in metric tonnes	Unit
Stationary Combustion	Natural Gas LNG	66,85	0	tCO2e
Mobile Combustion – On Road	Gas / Diesel Oil 2019 Company vehicles consumption	18,48	31,87	tCO2e
Refrigerant Leakage	Air Conditioner Gas Leakage	0,0	7,24	tCO2e
Refrigerant Leakage	CO2-carbondioxide - Fire extinguisher	0,36	0,34	tCO2e
TOTAL		**85,69**	**39,45**	tCO2e

** Carbon emissions stated in the chart as tonnes of CO2 equivalent.

b. This chart includes indirect greenhouse gas emissions caused by Erateks electricity usage. Indirect emissions sources named as like DATA SET-2.

DATA SET-2 Energy Indirect GHG Emission

Source Description	GHG Source	Factory Activity Data 2020	HQ Activity Data 2020	Unit
Purchased Energy: Electricity	Electricity for Turkey	658.038,00	283.214,00	kWh

** Erateks electricity usage chart includes the info which belong to 01 Jan. 2020- 31 Dec. 2020.

Carbon equivalent chart which is calculated with the values is stated Data Set-2 chart. All the results stated in tonnes of CO2 equivalents. GHG Emission Factor 2020 units values used to conversion the data to same unit.

Source Description	GHG Source	Factory CO2 emissions in metric tonnes	HQ CO2 emissions in metric tonnes	Unit
Purchased Energy: Electricity	Electricity for Turkey	383,15	164,91	tCO2e
TOTAL		**383,15**	**164,91**	tCO2e

** Carbon emissions stated in the chart as tonnes of CO2 equivalent.

c. This chart includes other indirect greenhouse gas emissions caused by Erateks business travels. Other indirect emissions sources named as like DATA SET-3.

DATA SET-3 Other Indirect GHG Emission

Source Description	GHG Source	Factory Activity Data 2020	HQ Activity Data 2020	Unit
Travel	Business Travel-Airline	0,00	153.009,66	km
Water Consumption	Water Consumption	8.530	1.175	m3
Waste Disposal	Plastic-Paper-Fabric recycling	7.270	216.520	kg

** Erateks electricity usage chart includes the info which belong to 01 Jan. 2020- 31 Dec. 2020.

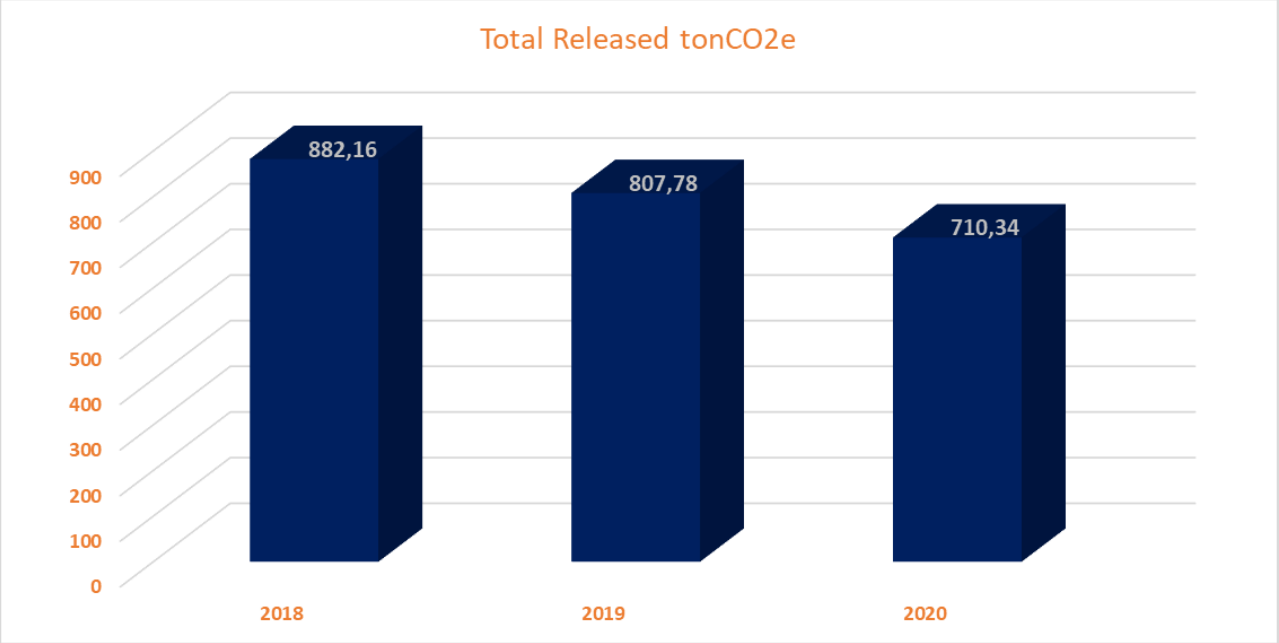
Carbon equivalent chart which is calculated with the values is stated Data Set-3 chart. All the results stated in tonnes of CO2 equivalents. GHG Emission Factor 2020 units values used to conversion the data to same unit.

Source Description	GHG Source	Factory CO2 emissions in metric tonnes	HQ CO2 emissions in metric tonnes	Unit
Travel	Business Travel-Airline	0,00	29,0	tCO2e
Water Consumption	Water Consumption	2,94	0,41	tCO2e
Waste Disposal	Plastic-Paper-Fabric recycling	0,16	4,63	tCO2e
TOTAL		**3,1**	**34,14**	tCO2e

** Carbon emissions stated in the chart as tonnes of CO2 equivalent.

D. CARBON FOOTPRINT ANALYSIS

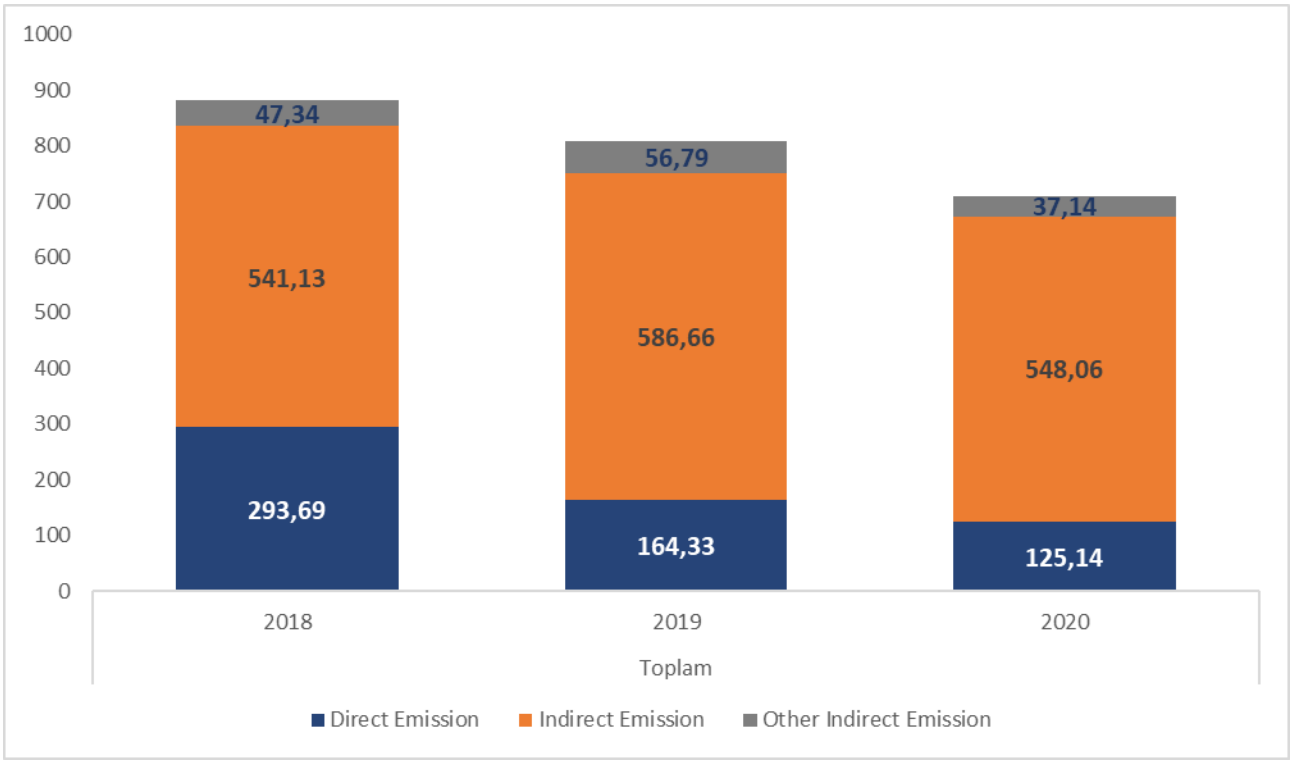
We have a quality improvement targets to the continuous improvement in yearly period. We set the target for each operation in our process, we will reduce carbon release by %5 as against to previous year. We follow up consumptions for to reduce wastage in production and management operations.

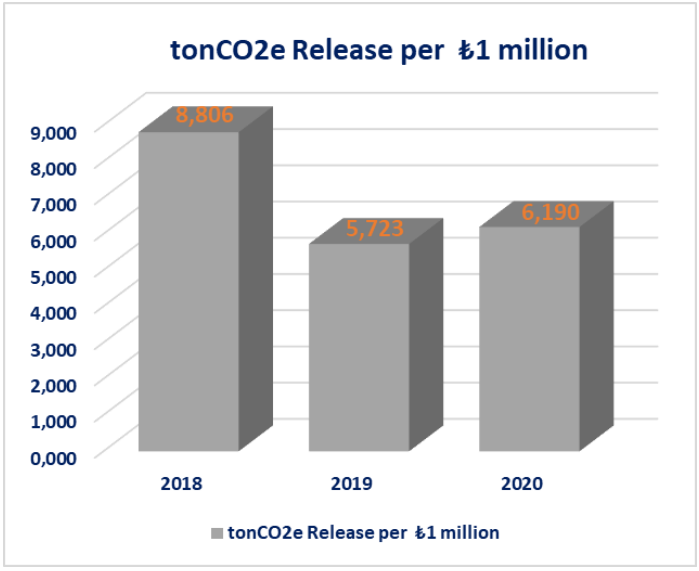


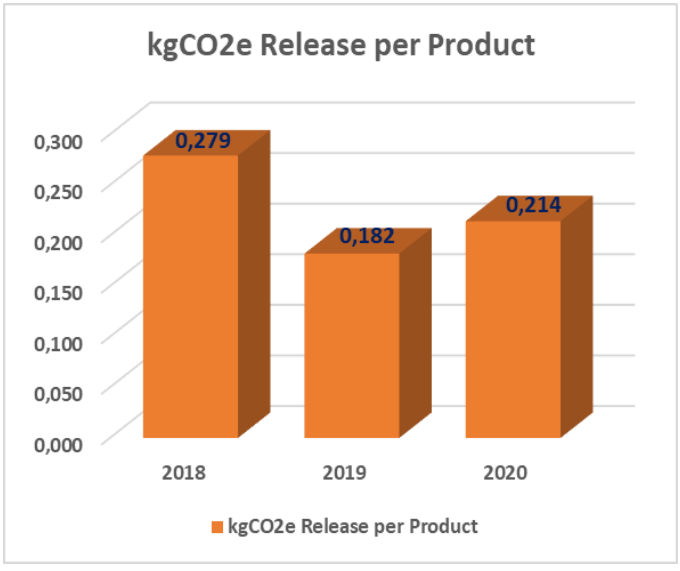
In 2020, we reached and passed Carbon Footprint Reduce target, we reduced our carbon release at the rate of %13,7 when we compared to the year 2019. Carbon Footprint Reduce rate in 2019 was %9,2 less than 2018. But this is not complete success, because main reason of decrease was Covid-19.

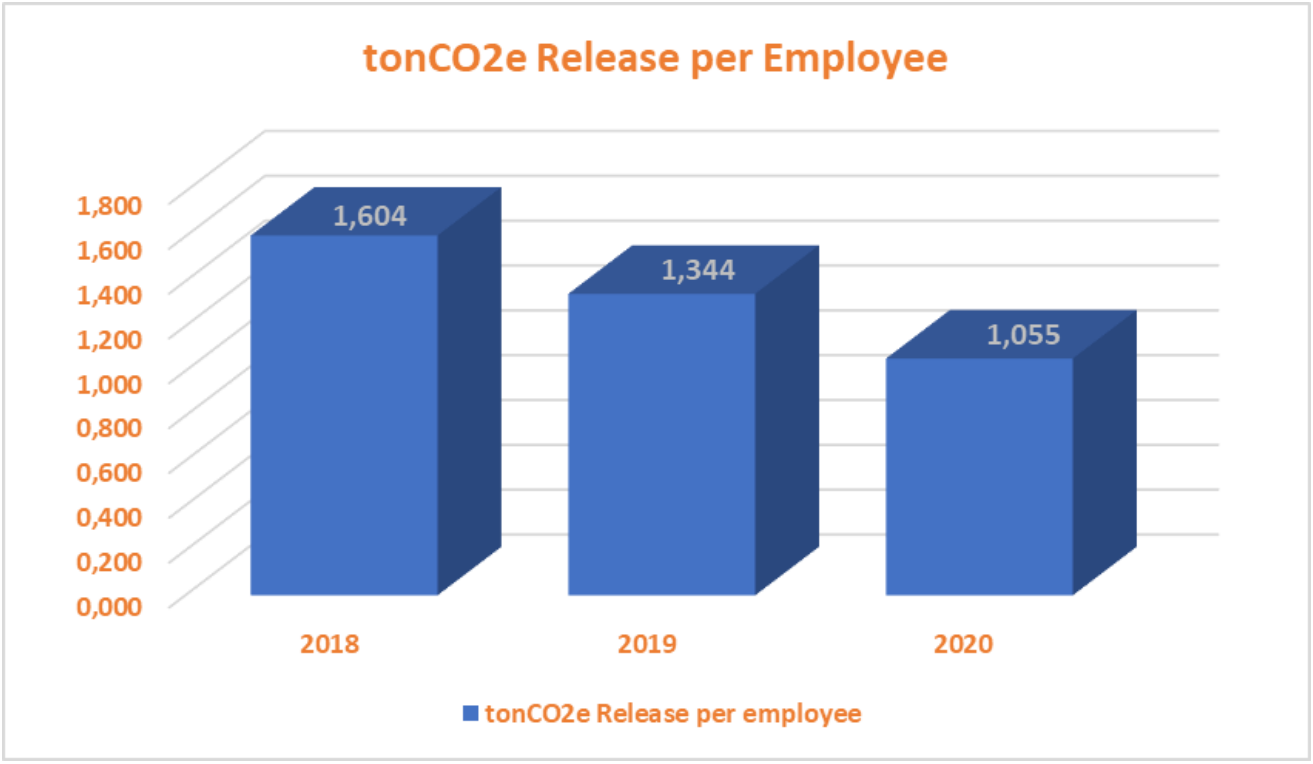
Production quantities, productivities and working times were reduced all around the world. As a result, it affected our production capacities.

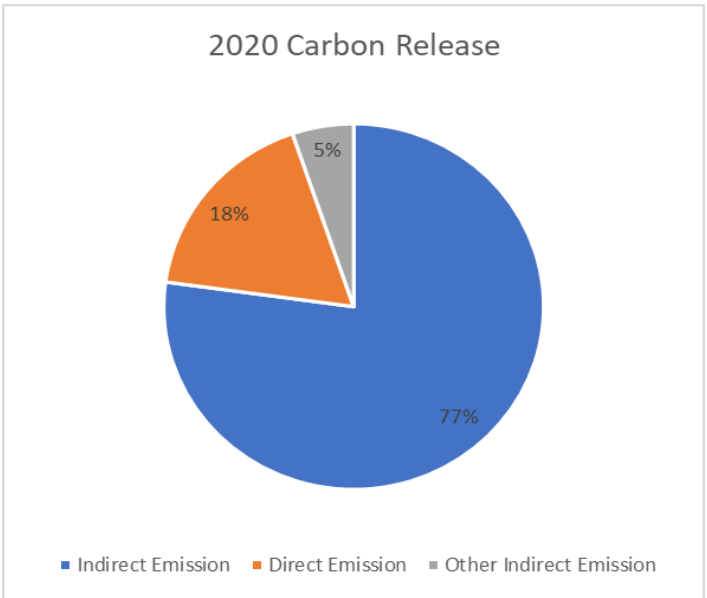
During this pandemic, we recognize that we could organise our operations on online meetings instead of internal onsite audits. Airline travels replaced with the online meetings.

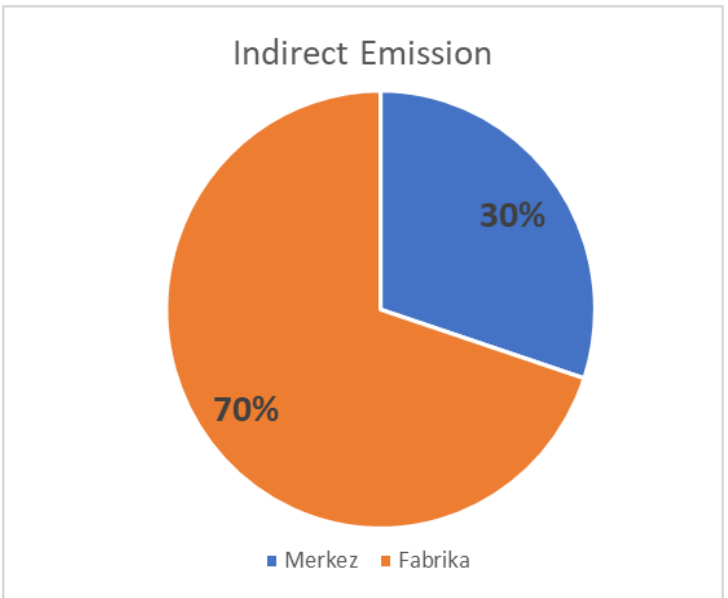


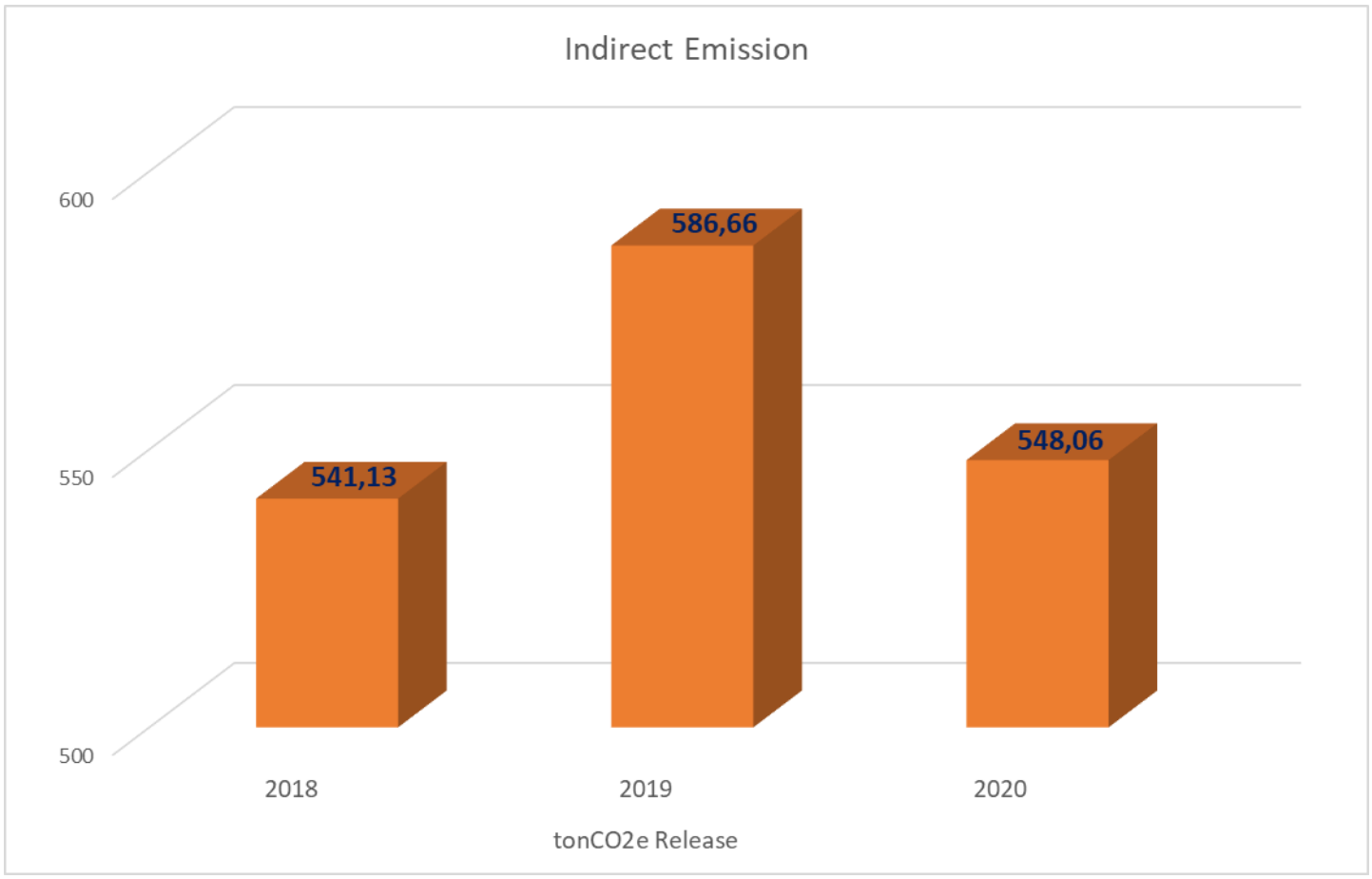





tonCO2e Release per Employee
1,800
1,600
1,400
1,200
1,000
0,800
0,600
0,400
0,200
0,000
1,604
1,344
1,055
2018
2019
2020
tonCO2e Release per employee


2020 Carbon Release
5%
18%
77%
Indirect Emission
Direct Emission
Other Indirect Emission


Indirect Emission
30%
70%
Merkez
Fabrika



We focused on improve productivity to use energy more effective. We reduced rework quantities and spare times in production, by this way we reduced energy wastages in production.

All the lighting system replaced with the LED lightings in production area for energy saving.

Thanks to our team members for all their supports and efforts to save our planet.

E. FUEL DENSITY CHART

The fuel properties can be used to determine the typical calorific values/densities of most common fuels		
Commonly Used Fossil Fuels	Density kg/m3	Density litres/tonne
Aviation Spirit	710,23	1.408
Aviation Turbine Fuel	798,08	1.253
Burning Oil	800,00	1.250
Coal (domestic)	850,00	1.176
Diesel (100% mineral diesel)	837,52	1.194
Diesel (average biofuel blend)	839,00	1.192
Fuel Oil	982,32	1.018
Gas Oil	851,06	1.175
LPG	512,87	1.950
Naphtha	676,13	1.479
Natural Gas	0,75	1.342.097
Other petroleum gas	366,30	2.730
Petrol (100% mineral petrol)	730,46	1.369
Petrol (average biofuel blend)	733,54	1.341
Other fuels		
Biodiesel (ME)	890,00	1.124
Biodiesel (BtL or HVO)	780,00	1.282
Bioethanol	794,00	1.259
BioETBE	750,00	1.333
Biogas	1,15	869.565
Biomethane	0,73	1.376.922
CNG	175,00	5.714
Grasses/Straw	160,00	6.250
Landfill Gas	1,30	769.231
LNG	452,49	2.210
Wood Chips	253,00	3.953
Wood Logs	425,00	2.353
Wood Pellets	650,00	1.538
Gases		
Methane (CH4)	0,72	1.394.700
Carbon Dioxide (CO2)	1,9770	505.817