



SLN TEKSTİL
MODA ve SAN.TİC. A.Ş.

SLN TEKSTİL VE MODA SAN. TİC. A.Ş
CORPARETE CARBON FOOTPRINT REPORT,
2016

IN ACCORDANCE WITH ISO 14064 – 1



August, 2017



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1. BASIC OF THE REPORT

1.1 Goal

This report aims to calculate and present the greenhouse gas emissions caused by the activities and the energy consumption within SLN TEKSTİL VE MODA SAN. TİC. A.Ş boundaries as CO₂ equivalent.

1.2 Scope

This report covers all three premises of SLN TEKSTİL VE MODA SAN. TİC. A.Ş Kırklareli-Lüleburgaz SLN BOYA VE APRE SAN. TİC. A.Ş, Ordu-Fatsa SLN TEKSTİL KARADENİZ VE MODA SAN. TİC. A.Ş and İstanbul-Bağcılar SLN TEKSTİL İSTANBUL VE MODA SAN. TİC. A.Ş.

1.3 Company Profile

Since its foundation in 2006, SLN managed to stay at the forefront of the industry through its product portfolio, its approach to customers, products and employees and its ability to adopt and adapt to technological and quality trends.

As a result, it worked with global brands in the sportswear industry and succeeded in creating a business relationship, which continues today. The dye unit that was established in 2011 and SLN Tekstil Karadeniz is established in 2012 helped increase SLN's competitive power with regards to quality, cost, and manufacturing times.

SLN Tekstil has mission to become the most desirable manufacturing company at sportswear products. The never-ending goal is to create the perfect structure at unique products with quick response. SLN, is in İstanbul with a monthly capacity of 350.000 pcs per month. SLN's specialty is cotton knitting products and this is reflected in its products 50% of which are cotton while the remaining 50% are polyester and blends. We manufacture all sorts of sportswear and lifestyle products with high quality standard.

SLN İstanbul has 4000 m2 indoor production area as our head office where we have sampling, cutting, sewing and finishing in one roof. We are specialised on high standard fabrics as well like pima cotton, tencel, Meryl, modal and engineered yarn dyed ...etc. We can also produce all sorts of washed products with heavy worn outlook.

SLN Tekstil Karadeniz is located in Ordu, with a capacity of 250.000 per month. SLN Tekstil Karadeniz is based on 8000 m2 area in totally and 3000m2 area for production now.

Investment to an underdeveloped region, was the main target of SLN 2011 sustainability's focused on which is realized in 2012.

SLN dye house is based on 12.000 m2 area in Lüleburgaz which is 1 hr to İstanbul. The dying house has the capacity to enlarge till 45.000 m2 All dyeing machines are fully automatic and computerised. Dyeing operations are realised in accordance with the dyeing process after conducting the necessary tests. The dying house has a daily capacity of 15.000 kgs per day on cotton and polyester based products and can be enlarged to 20.000 kgs per day.

SLN dye house has obtained ISO 9001:2000 Quality Management System Certificate to ensure continuity of the efficiency and the effectiveness of the company within the course of its development. It has also set up ISO 14001 Environmental Management System to guarantee its environment friendly processes and also to set an example to its peers. It has also set up OHSAS 180001 on the occupational health and safety management system specification. SLN dye house has also obtained the Oekoteks Certification on all cotton and polyester based products.

SLN's clients include global companies from Germany, England, Scotland, and the Netherlands. PUMA, a sportswear company, has been working with SLN for 9 years and has the greatest share of production. SLN has been working with Tommy Hilfiger for 5 years, Lyle and Scott for 3 years, Leassig for 8 years, Gaastra and K1X for 3 years, NEW BALANCE for 5 years. We have added NEW ERA, SCHOEFFEL, UVEX and UMBRO among our customers in 2013. We continue already our product customer range and We have recently added Volcom, Head, Odlo, Kappa, Spalding, Varner group, Motorstore, Branded, Iceberg, Elcline, Warrior. Since all our clients are global brands, SLN exports apparel to different countries upon their request. We frequently export our products to Germany, Japan, U.A.E., Netherlands England and U.S.A. Netherlands England and U.S.A.

1.4 Contact Details

SLN TEKSTİL 2016 Corporate Carbon Footprint Calculation and Reporting has been prepared by the Semtrio Sustainability Consulting in accordance with the data provided by SLN TEKSTİL during the period January 1, 2016 - December 31, 2016.

The report was prepared in accordance with the GHG Protocol Standard and the ISO 14064-1 standard. The results of the study presented in this report show the total carbon footprint values resulting from the operations carried out in 3 different facilities of SLN Tekstil.

The table below contains the contact information of the process owners. Please do contact the person concerned for any comments about the work.

Table 1: Contact Details

Company	Address	Participant	Contact
SLN TEKSTİL VE MODA SAN. TİC. A.Ş	SLN TEKSTİL VE MODA SAN. TİC. A.Ş Mahmutbey Mah. 2655.Sk. No:2 Bağcılar İSTANBUL TURKEY	Meliha YILDIRIM HR & Sustainability Executive	+90 212 489 35 40 meliha.yildirim@slnmoda.com.tr
SLN BOYA VE APRE SAN.TİC.A.Ş.	SLN BOYA VE APRE SAN.TİC.A.Ş. Büyükkarıştıran Köyü Uğurludere Mevkii Lüleburgaz KIRKLARELİ TURKEY	Meliha YILDIRIM HR & Sustainability Executive	+90 288 436 24 24 meliha.yildirim@slnmoda.com.tr

SLN TEKSTİL VE MODA SAN. TİC. A.Ş	SLN TEKSTİL VE MODA SAN. TİC. A.Ş Fatsa Organize Sanayi Bölgesi Mehmet Akif Beşik Sok. No:7 Fatsa ORDU TURKEY	Meliha YILDIRIM HR & Sustainability Executive	+90 452 423 47 20 meliha.yildirim@slnmoda.com.tr
Semtrio Eğitim ve Danışmanlık Hizmetleri A.Ş.	AND Plaza Kozyatağı İstanbul	Bekir Çetin Project Manager	+90 216 504 08 88 bekircetin@semtrio.com

Table 2: Company Profile

Company	2016		
	SLN TEKSTİL VE MODA SAN.TİC.A.Ş	SLN BOYA VE APRE SAN.TİC.A.Ş.	SLN TEKSTİL VE MODA SAN. TİC. A.Ş
Employees	184	130	308
Interns	7	1	4
Working Days	243.5	297.5	236
Facility gross sqm	4500	9362	2589
Address	Mahmutbey Mah. 2655.Sk. No:2 Bağcılar İSTANBUL TURKEY	Büyükkarıştıran Köyü Uğurludere Mevkii Lüleburgaz KIRKLARELİ TURKEY	Fatsa Organize Sanayi Bölgesi Mehmet Akif Beşik Sok. No:7 Fatsa ORDU TURKEY

2. SYSTEM BOUNDARY

2.1 Organizational Boundaries

The organization may comprise one or more facilities. Facility-level GHG emissions or removals may be produced from one or more GHG sources or sinks and facilities.

The organization shall consolidate its facility-level GHG emissions and removals by one of the following approaches:

a) control: the organization accounts for all quantified GHG emissions and/or removals from facilities over which it has financial or operational control; or

b) equity share: the organization accounts for its portion of GHG emissions and/or removals from respective facilities.

For SLN TEKSTİL VE MODA SAN. TİC. A.Ş 2016 Corporate Carbon Footprint Report, operational control approach has been adopted. Therefore, 3 facilities of SLN Tekstil, Kırklareli-Lüleburgaz SLN BOYA VE APRE SAN. TİC. A.Ş, Ordu-Fatsa SLN TEKSTİL VE MODA SAN. TİC. A.Ş and İstanbul-Bağcılar SLN TEKSTİL VE MODA SAN. TİC. A.Ş have been considered.

2.2 Operational Boundaries

The organization shall establish and document its operational boundaries. The establishment of operational boundaries includes identifying GHG emissions and removals associated with the organization's operations, categorizing GHG emissions and removals into direct emissions, energy indirect emissions and other indirect emissions. It includes choosing which of the other indirect emissions will be quantified and reported.

Direct GHG Emissions:

Scope 1: Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment.

Indirect GHG Emissions:

Scope 2: Scope 2 accounts for GHG emissions from the generation of purchased electricity² consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated.

Scope 3: Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services.

SLN TEKSTİL 2016 Direct and Indirect emissions for Corporate Carbon Footprint reporting are broken down in Scope 1 and Scope 2, and greenhouse gas inventories have been created in this direction.

Emissions considered in the context of all coverage are as follows:

Scope 1 Direct Emission: Fossil fuels consumed in the production, heating, generators and forklift, mobile combustion, and refrigerants.

Scope 2 Indirect Emissions: Purchased electricity and steam.

2.3 Reporting Period

This report covers the carbon footprint result of SLN Tekstil between 1st January 2016 and 31th December 2016 and prepared only one time.

3. GHG INVENTORY

Calculation and reporting of carbon footprint for 2016 has been made according to the international standards and methods: ISO 14064 - 1 and GHG Protocol standards.

- ISO 14064 Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, ve
- The Greenhouse Gas Protocol's 'A Corporate Accounting and Reporting Standard.

The general principles in the framework of the ISO 14064-1 standard are given in Table 3.

Table 3: Carbon Footprint Calculation and Reporting ISO 14064-1 compatibility principles.

Relevance	The carbon footprint inventory appropriately reflects greenhouse gas emissions within SLN Tekstil and serves the decision-making needs of its users.
Completeness	The carbon footprint inventory is calculated for all greenhouse gas emission sources within the system boundaries established within SLN Tekstil.
Consistency	The calculation and the report follow a comparable valid methodology for future work.
Accuracy	SLN Tekstil confirms that all uncertainties in the study of carbon footprint have been reduced to the greatest extent and that no data can be ignored in the framework of the system boundaries.
Transparency	SLN Tekstil provides transparency in the scope of the study and provides references on data quality and data sources.

3.1 GHG Emissions and Methodology

3.1.1 GHG Emissions Sources

GHG emission sources calculated within the defined system boundaries are detailed as Scope 1 and Scope 2 in Table 4.

Table 4: GHG emission sources

Scope	Activity	Unit	Data Collection	EF Source
Scope 1	Natural Gas Consumption	kWh	Per annum – from company	IPCC (2006), Vol 2, Chapter 2, Table 2.3
Scope 1	Diesel consumption	lt	Per annum – from company	
Scope 1	Fuel Oil Consumption	kg	Per annum – from company	
Scope 1	Diesel – Mobile Consumption	lt	Per annum – from company	IPCC (2006), Vol 2, Chapter 3, Table 3.2.1, 3.2.2
Scope 1	Gasoline – Mobile Consumption	lt	Per annum – from company	
Scope 1	Refrigerant	kg	Per annum – from company	DEFRA, 2016
Scope 2	Purchased Electricity	kWh	Per annum – from company	Ecoinvent v3.3
Scope 2	Purchased Steam	kg	Per annum – from company	

Consumption amounts from emission sources shown in the table above are the data of 2016 recorded in SLN Tekstil and reported by the persons in Table 1.

In this study, there is no biomass burning carbon emissions in the company.

3.1.2 Assumptions and Allocations

All greenhouse inventory calculations are based directly on data from SLN Tekstil. Except for high-precision data collection and data analysis in SLN Tekstil, the correctness or verification of the data source is not checked. The data submitted by SLN Tekstil for Scope 1 and Scope 2 emission amounts have not been altered in any way or allocated. The emissions factors multiplied by the consumption data, as it was and presented to the report.

3.1.3 GHG Emission Reduction

There has been no work on mitigation of GHG emission within the system boundary.

3.2 GHG Emission Calculation Methodology

Tier 1 approach has been taken as basis for SLN Tekstil 2016 carbon footprint calculations.

The Tier 1 method is fuel-based, since emissions from all sources of combustion can be estimated based on the quantities of fuel combusted (usually from national energy statistics) and average emission factors. Tier 1 emission factors are available for all relevant direct greenhouse gases.

The quality of these emission factors differs between gases. For CO₂, emission factors mainly depend upon the carbon content of the fuel. Combustion conditions (combustion efficiency, carbon retained in slag and ashes etc.) are relatively unimportant.

However, emission factors for methane and nitrous oxide depend on the combustion technology and operating conditions and vary significantly, both between individual combustion installations and over time. Due to this variability, use of averaged emission factors for these gases that must account for a large variability in technological conditions will introduce relatively large uncertainties.

In the emission sources calculations given in Table 4, emissions factors presented in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories reports and in Ecoinvent v3.3 are used. The consumption quantities resulting from the company's operations were multiplied by the emission factors presented in these reports, resulting in carbon dioxide equivalent results.

Carbon Footprint(CO₂e) = (Consumption Amount) x (Emission Factor)

To calculate the greenhouse gas emission inventory, all relevant greenhouse gas emission sources and activity data from the relevant services have been identified. Emissions from each source are calculated as Direct and Indirect emissions by applying the relevant emission factors. In this way, SLN Tekstil's total carbon footprint has been collected at the corporate level.

Emission factors represent carbon dioxide equivalent (CO₂e) and convert the effect of six greenhouse gases covered by the Kyoto Protocol to a common ton CO₂e unit based on Global Warming Potential (GWP). The GWP, the Intergovernmental Panel on Climate Change (IPCC), is a concept based on a 100-year GWP coefficient that measures how much heat a given gas holds in the atmosphere over a certain period.

4. CARBON FOOTPRINT RESULTS

4.1 SLN Tekstil Istanbul Carbon Footprint Interpretation

Table 5: SLN Tekstil Istanbul Carbon Footprint Results

Scope	Parameters	Consumption Amount	Emission Factors	Carbon Footprint, ton-CO ₂ e
SCOPE 1	Natural Gas Consumption	1779.01 kWh	0.2022 kgCO ₂ e/kWh	0.36
	Fuel Oil Consumption	65.80 kg	2.9874 kg CO ₂ e/kg	0.21
	Mobile Combustion - Diesel	22100.00 lt	2.90437 kg CO ₂ e/lt	64.19
	Mobile Combustion Gasoline	2800,00 lt	2.40270 kg CO ₂ e/lt	6.81
	Refrigerant – R410	7.00 kg	2088.00kg CO ₂ e/kg	14.62
	Refrigerant – R22	15.00 kg	1810.00kg CO ₂ e/kg	27.15
	Scope 1 Total			113.32
SCOPE 2	Purchased Electricity	472183.00kWh	0.589 kgCO ₂ e/kWh	278.12
	Scope 2 Total			278.12
Scope 1+2				391.44

The carbon footprint results calculated in the direction of data provided by SLN Tekstil Istanbul are presented in Table 5. The carbon footprint of the year 2016 was calculated as a total of 391.44 tons of CO₂ equivalent in Scope 1 and Scope 2. Electricity consumption is 278.12 tonCO₂e as the highest emission source and it constitutes the main hot spot source within system boundaries.

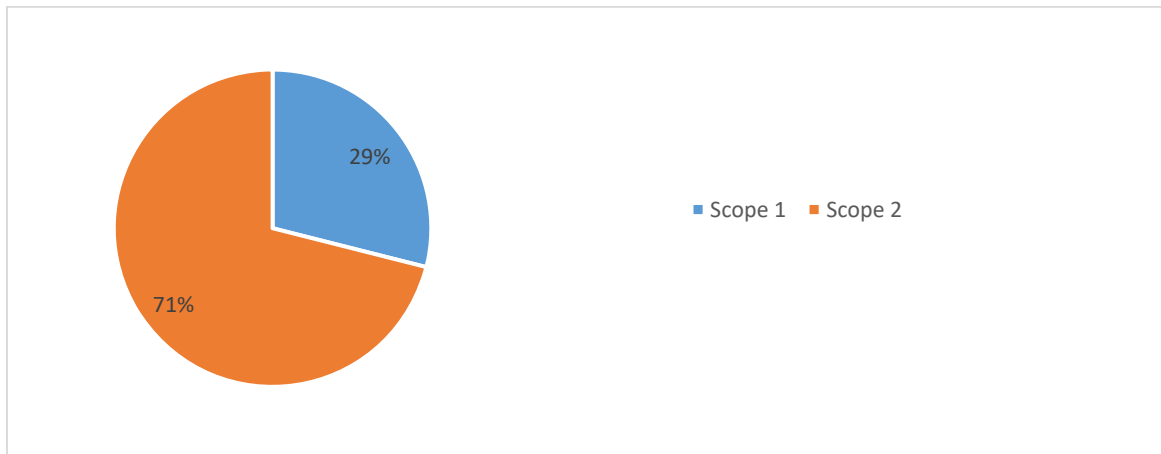


Figure 1: SLN Tekstil İstanbul Scope 1&2 percentages

As a result of the calculations, it is observed that 29% of total carbon footprints in Scope 1 are directly emitted, and 71% of the total carbon footprint is in Scope 2 when the purchased electricity emissions are examined.

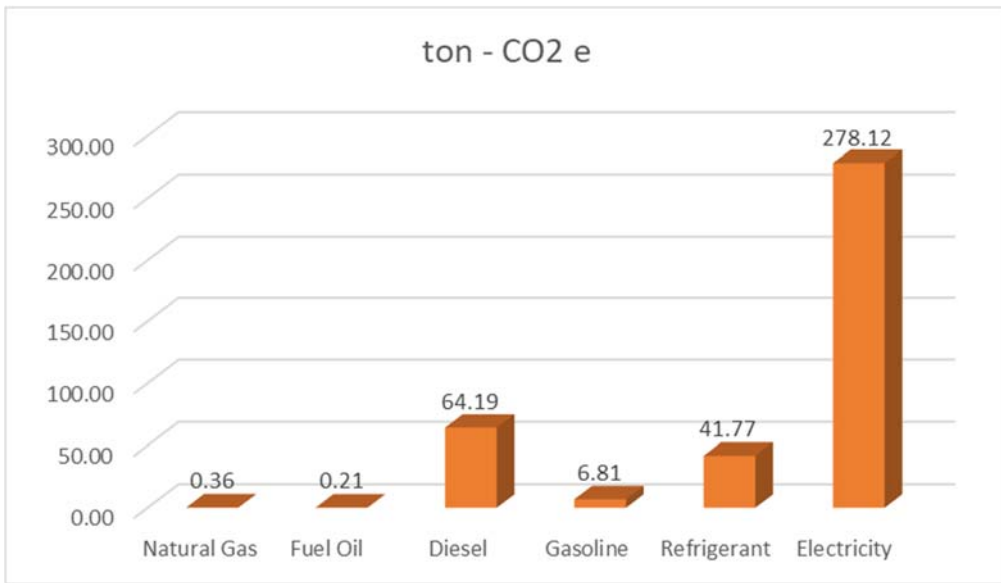


Figure 2: SLN Tekstil İstanbul Scope 1&2 GHG emissions by activity

In SLN Tekstil İstanbul 2016 Scope 1 GHG sources, emission caused by diesel consumption has been calculated as 64.19 tons CO2e. In Figure 3, the carbon emission quantities of all Scope 1 & 2 emission sources are presented separately.

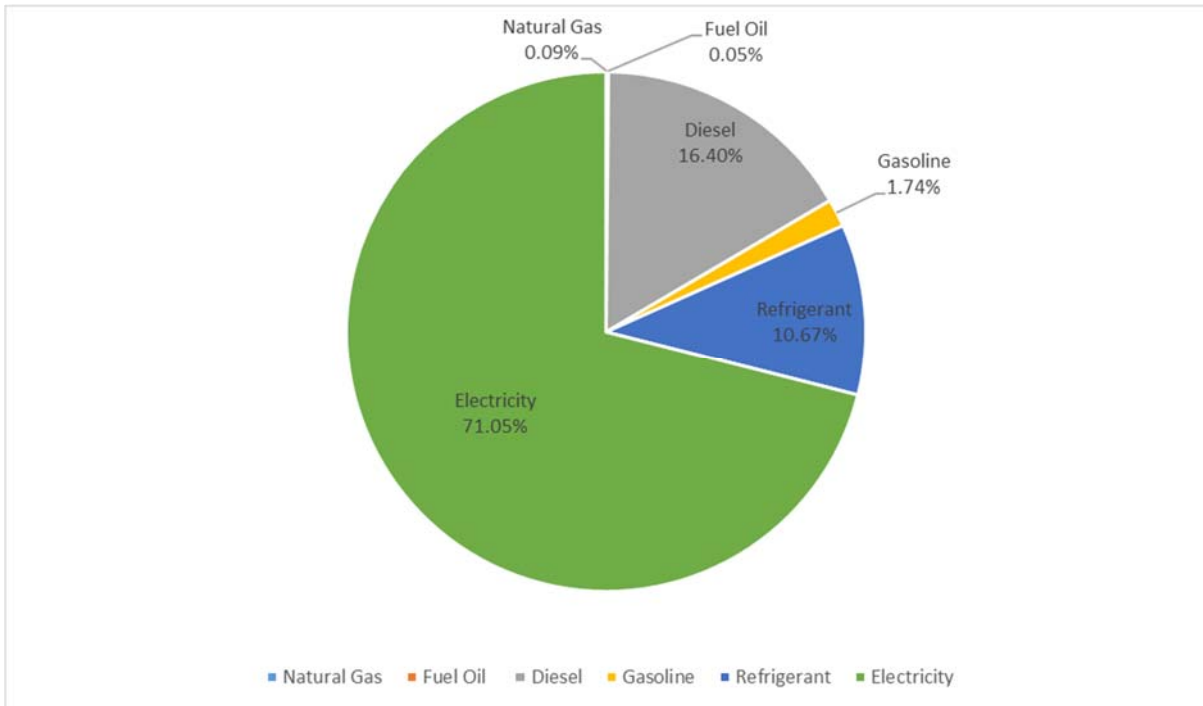


Figure 3: SLN Tekstil İstanbul Scope 1&2 analysis chart

4.2 SLN Boya ve Apre Carbon Footprint Interpretation

Table 6: SLN Boya ve Apre Carbon Footprint Results

Scope	Parameters	Consumption Amount	Emission Factors	Carbon Footprint, ton-CO ₂ e
SCOPE 1	Natural Gas Consumption	14961989.228 kWh	0.2022 kgCO ₂ e/kWh	3024.66
	Mobile Combustion - Diesel	11689.85 lt	2.90437 kg CO ₂ e/lt	33.91
	Refrigerant – R410	0.00 kg	2088.00kg CO ₂ e/kg	0
	Refrigerant – R22	0.00 kg	1810.00kg CO ₂ e/kg	0
	Scope 1 Total			3058.57
SCOPE 2	Purchased Electricity	4763000.00 kWh	0.589 kgCO ₂ e/kWh	2805.41
	Purchased Heating	17437569.00 kg	0.167 kgCO ₂ e/kWh	2912.07
	Scope 2 Total			5717.48
Scope 1+2				8776.05

The carbon footprint results calculated in the direction of the data provided by SLN Boya ve Apre are presented in Table 6. The carbon footprint of the year 2016 was calculated as equivalent to a total of 8776.05 tons of CO₂ in Scope 1 and Scope 2. Natural gas consumption is the highest emission source, totalling 3024.66 tonCO₂e and is the main hot spot source. The second highest source of emissions is the heating purchased with 2912.07 tonnes of CO₂ emissions. In 2016 there is no detection of refrigerant leakage and the amount of emission is calculated as zero.

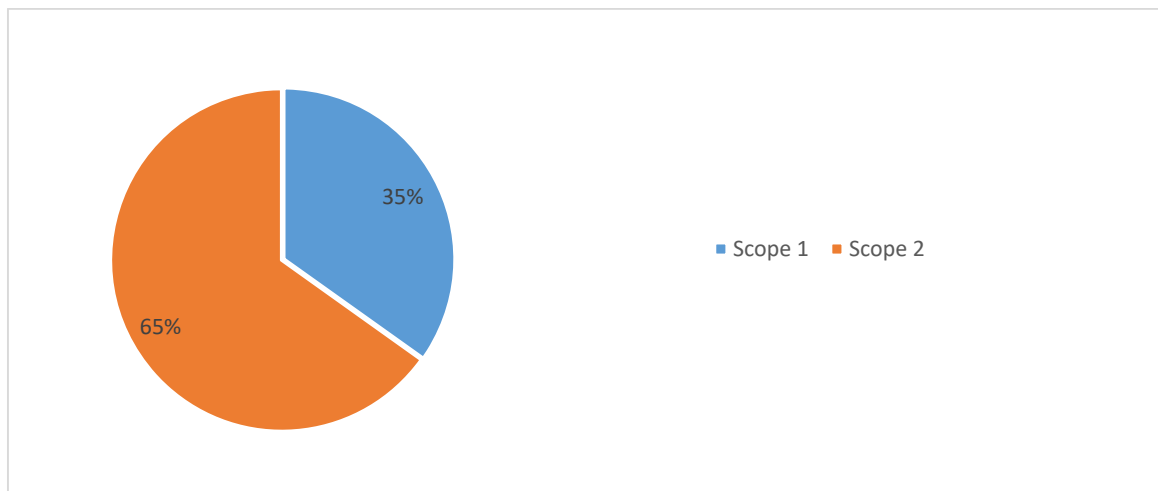


Figure 4: SLN Boya ve Apre Scope 1&2 percentages

As a result of the calculations, it is observed that 35% of the total carbon footprints in Scope 1 are direct emission, and 65% of the total carbon footprint in Scope 2 caused by the electricity and heating consumption.

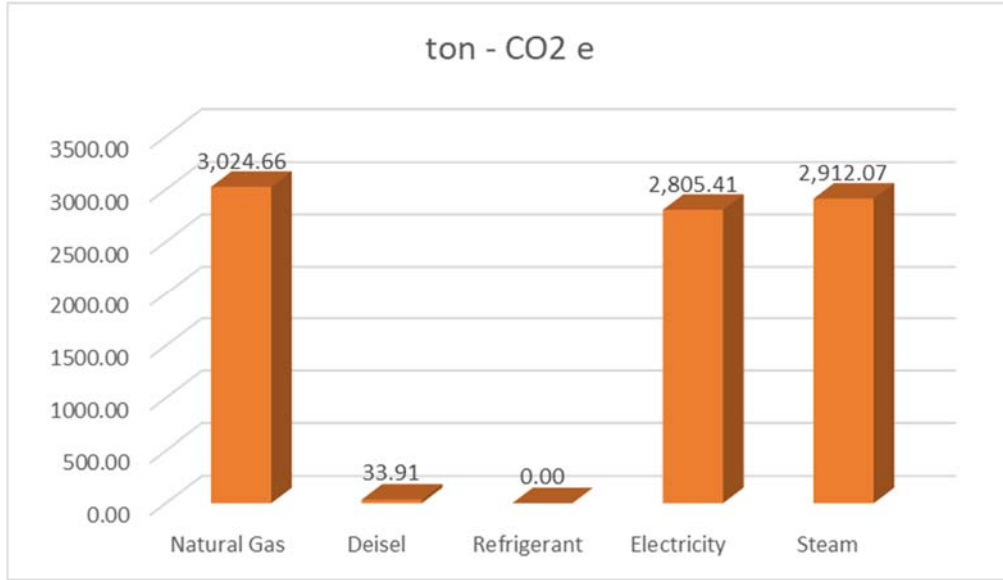


Figure 5: SLN Boya ve Apre Scope 1&2 GHG emissions by activity

Among the 2016 Scope 1 greenhouse gas emission sources, the natural gas emission amount was calculated as 3024.66 ton CO2e and all emission sources are shown separately in Figure 5a. In Figure 6, the carbon emission quantities of all Scope 1 & 2 emission sources are presented separately.

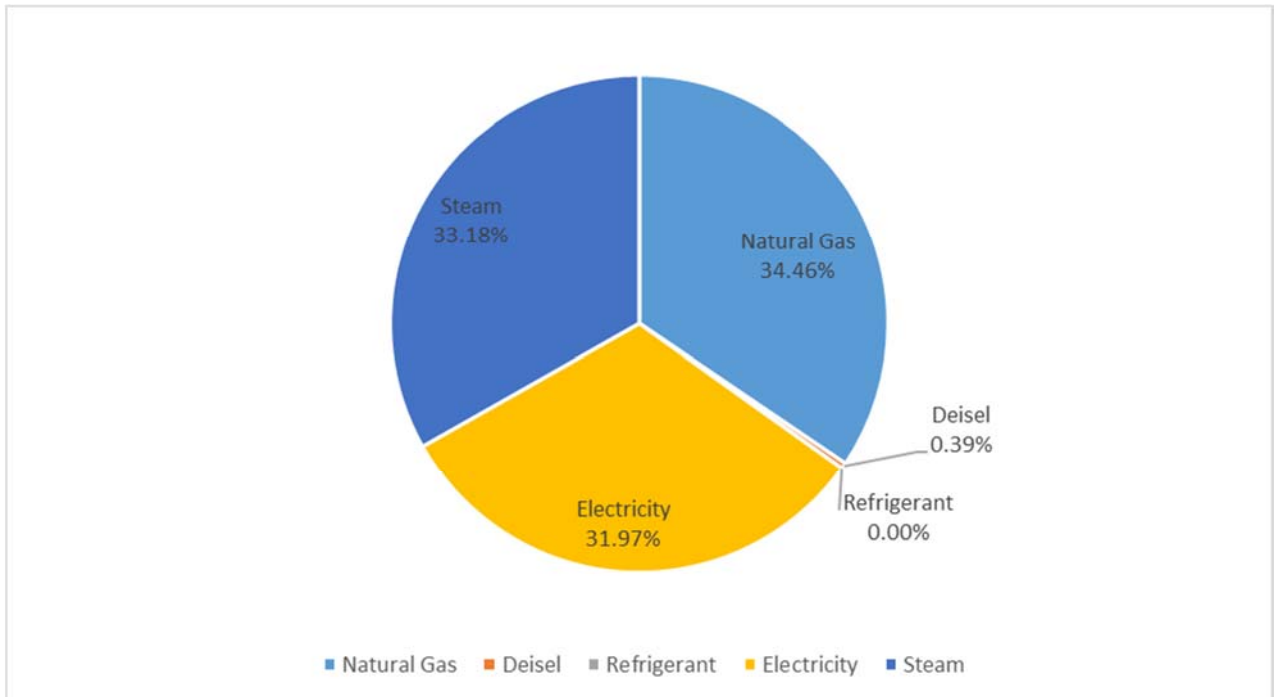


Figure 6: SLN Boya ve Apre Scope 1&2 analysis chart

4.3 SLN Tekstil Karadeniz Carbon Footprint Interpretation

Table 7: SLN Tekstil Karadeniz Carbon Footprint Results

Scope	Parameters	Consumption Amount	Emission Factors	Carbon Footprint, ton-CO ₂ e
SCOPE 1	Mobile Combustion - Diesel	4250.00lt	2.90437 kg CO ₂ e/lt	12.34
	Refrigerant – R410	4.85kg	2088.00kg CO ₂ e/kg	10.13
	Scope 1 Total			12.34
SCOPE 2	Purchased Electricity	477056.00 kWh	0.589 kgCO ₂ e/kWh	280.99
	Scope 2 Total			280.99
Scope 1+2				303.46

The carbon footprint results calculated in the direction of the data provided by SLN Tekstil Karadeniz are presented in Table 7. The carbon footprint of the year 2016 was calculated as a total of 303.46 tons of CO₂ equivalents in Scope 1 and Scope 2. Electricity consumption is the highest emission source, totalling 280,99 tonCO₂e and constituting the main hot spot source within the system boundary.

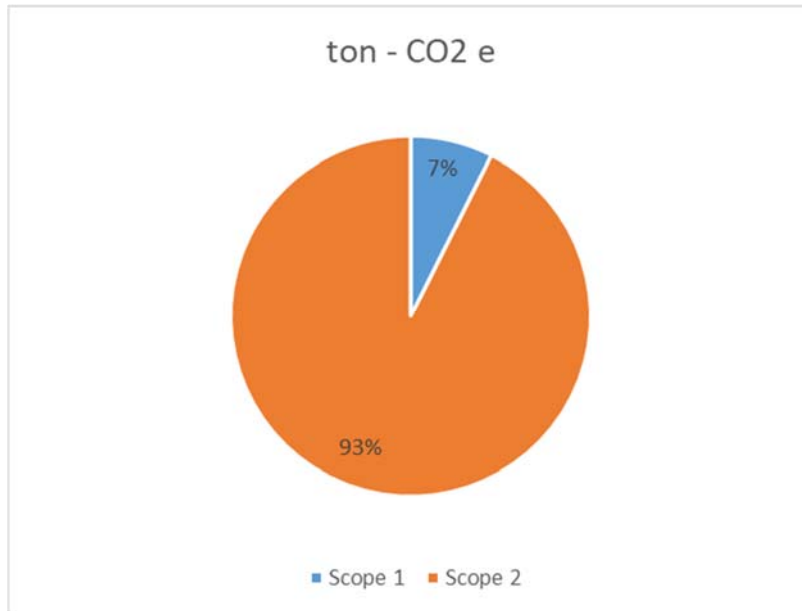


Figure 7: SLN Tekstil Karadeniz Scope 1&2 percentages

As a result of the calculations, it is observed that 7% of the total carbon footprints in Scope 1 are direct emissions, while the purchased electricity is 93% of the total carbon footprint in Scope 2.

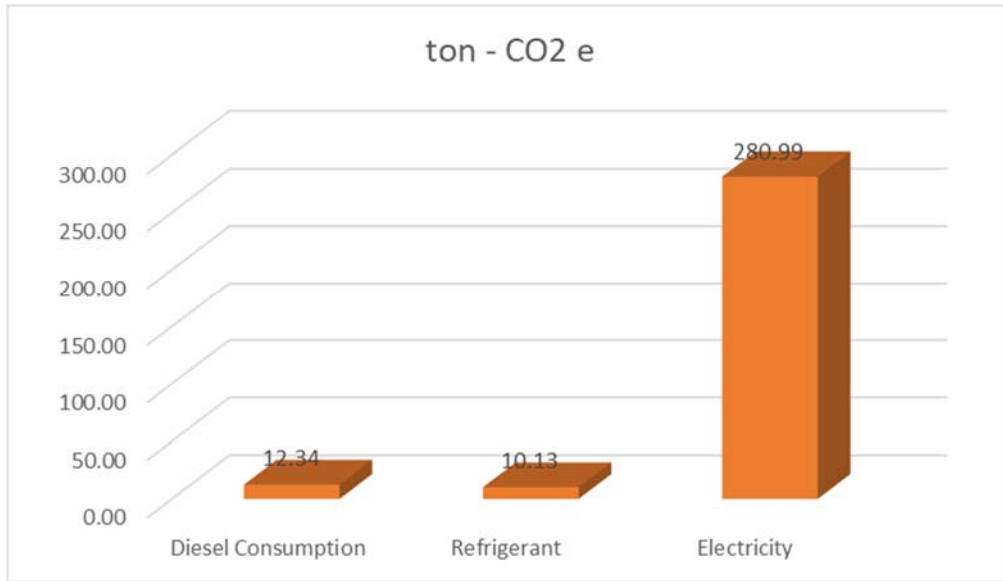


Figure 8: SLN Tekstil Karadeniz Scope 1&2 GHG emissions by activity

Among Scope 1 the greenhouse gas emission sources, emissions from diesel consumption were calculated as 12,34 tons CO₂e, and in Figure 8 all emission sources are shown separately. In Figure 9, the carbon emission quantities of all Scope 1 & 2 emission sources are presented separately.

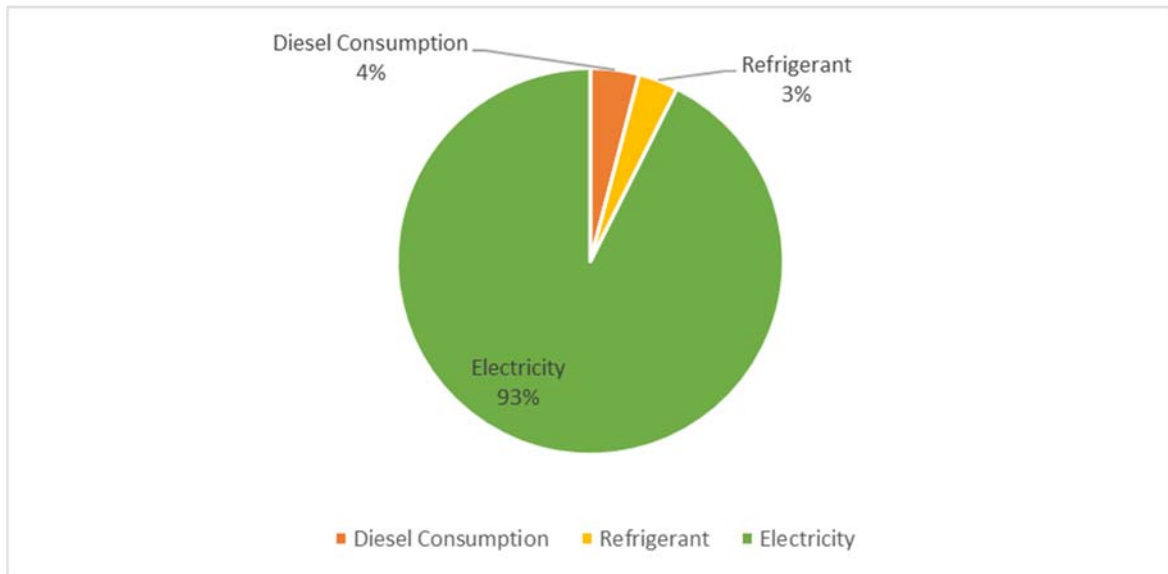


Figure 9: SLN Tekstil Karadeniz Scope 1&2 analysis chart

5. ENERGY MANAGEMENT AND UNCERTAINTY

ISO 14064-1 specifies that uncertainties must be calculated within the scope of the study, but it does not mention a particular methodology. In this context, parameter uncertainty evaluation will be performed and uncertainties related to modeled inputs will be expressed (eg emission factors, tolerance of measuring equipment, etc.) and this will be the focus of uncertainty evaluation.

A confidence interval must be specified to define uncertainty. The most commonly used confidence interval is 95% and this is stated in IPCC, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories.

5.1 Electricity, Natural Gas, and Diesel Inventory

Electricity, natural gas and diesel consumptions are monitored monthly by meters and recorded by consumption bills.

5.2 Mobile Combustion Inventory

There are many uncertainty analyses regarding to transport data such as; vehicle engine volume uncertainty, total travel distance, vehicle fuel performance. In this report, total yearly diesel and gasoline consumption amount have been used to calculate emissions.

5.3 Electricity and Natural Gas Meters Uncertainties

In natural gas meters, the calibration interval is set to +/- 0.3%.

The calibration interval in the electricity meters is set at +/- 0,5%.

5.4 GHG Emissions Uncertainty Analysis

In greenhouse gas emission calculation, uncertainties of the Emission Factors and uncertainties in the calculation of consumption data have been taken into account.

The confidence interval for the emission factors in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories is set at 95%. Uncertainties of all facilities are calculated according to the form defined in the GHG Uncertainty Tool.

Table 8: SLN Tekstil Istanbul Plant Carbon Footprint Uncertainty Calculations

Carbon Footprint		293.33	ton CO2 eq	Aggregated Certainty Ranking
Cumulated Uncertainty		$\pm u = \pm \frac{\sqrt{\sum_{i=1}^n (H_i * I_i)^2}}{M}$		HIGH
				+/- 4,1%

Table 9: SLN Boya ve Apre Plant Carbon Footprint Uncertainty Calculations

Carbon Footprint		8776.05	ton CO2 eq		Aggregated Certainty Ranking	
Cumulated Uncertainty		$\pm u = \pm \frac{\sqrt{\sum_{i=1}^n (H_i * I_i)^2}}{M}$			+/- 2,9%	HIGH

Table 10: SLN Tekstil Karadeniz Plant Carbon Footprint Uncertainty Calculations

Carbon Footprint		303.46	ton CO2 eq		Aggregated Certainty Ranking	
Cumulated Uncertainty		$\pm u = \pm \frac{\sqrt{\sum_{i=1}^n (H_i * I_i)^2}}{M}$			+/- 4,7%	HIGH

6. CONCLUSION

This report is prepared for the year of 2016 (1 January 2016 - 31 December 2016) on behalf of SLN TEKSTİL VE MODA SAN. TIC. AS presents the findings of the calculation of the CO2 equivalence of individual greenhouse gas for "İstanbul – Bağcılar SLN TEKSTİL VE MODA SAN. TİC. A.Ş", "Kırklareli-Lüleburgaz SLN BOYA VE APRE SAN. TİC. A.Ş, Ordu-Fatsa", "SLN TEKSTİL KARADENİZ VE MODA SAN. TİC. A.Ş".

This report has been prepared in accordance with the 7.3 clause of ISO 14064-1: 2012 Greenhouse Gases - Part 1: Specification with guidance for reporting of quantification and reporting of greenhouse gas emissions and removals.

The system boundaries were established within the scope of the "Control Approach" methodology and the calculations are divided into "Direct Greenhouse Gas Emissions - Scope 1" and "Energy Indirect Greenhouse Gas Emissions - Scope 2". Emission factors for greenhouse gas emissions calculated in accordance with Tier 1 approach have been obtained from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2 Chapter 2 and Ecoinvent v3.3. Figure 10 shows the results for Total coverage 1 & 2 carbon footprint for 3 different plants.

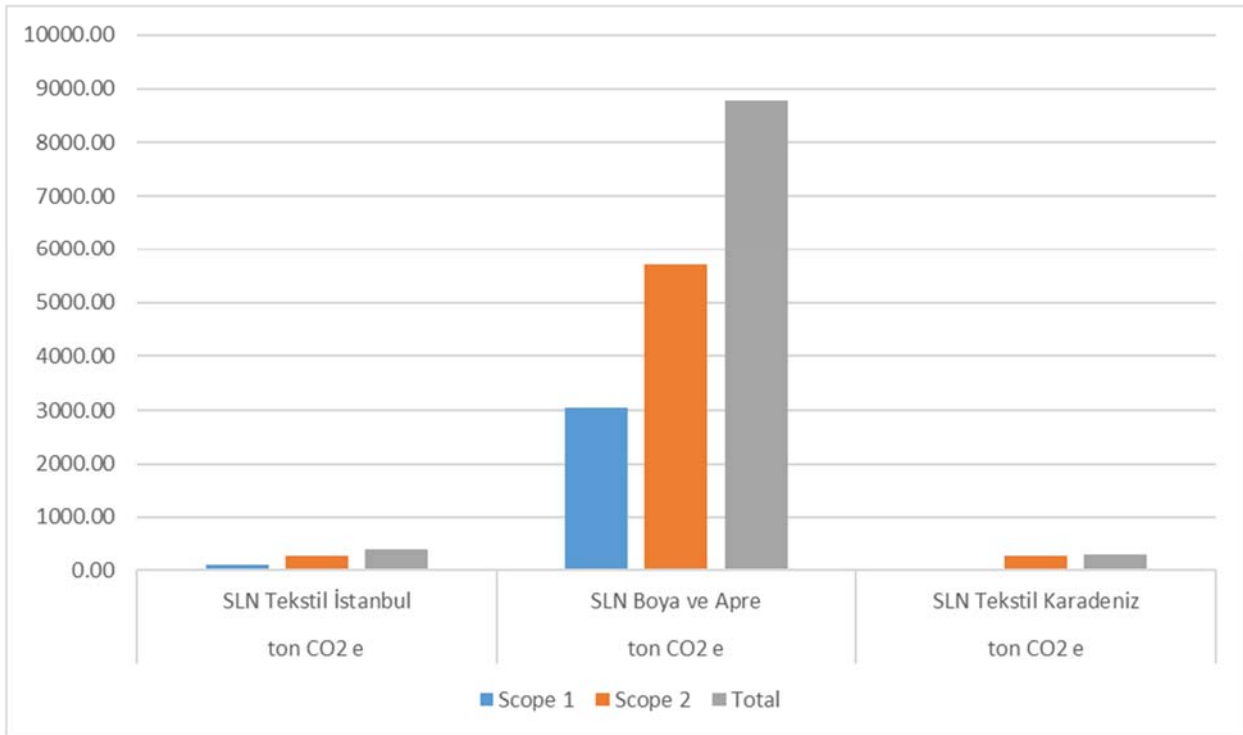


Figure 10: SLN Tekstil Carbon Footprint Results

7. POTENTIAL IMPROVEMENTS

SLN Istanbul and SLN Karadeniz enterprises have processed 6097628 meters of fabric for production in 2016. The carbon emissions in these two plants are a total of 649900 kg CO₂ equivalents. It was calculated that 0,111 kg kg CO₂ was released for 1-meter fabric processed.

It is observed that electricity consumption constitutes the main hot spot source in all 3 plants. The company may set targets to reduce Scope 2 emissions to “zero” by switching to renewable electricity generation with solar panels to be installed by taking investment decision. Balancing the annual emission amounts with the method of purchasing carbon credits from the international voluntary carbon market can be considered as an alternative method.

It is estimated that 41,77 tons of CO₂ e is emitted in SLN Istanbul and 10,13 tons of CO₂ is emitted in SLN Karadeniz due to refrigerant leakage / change. The refrigerant gases used are R22 and R410 with a high Ozone Deletion Potential and Global Warming Potential. Instead of these gases, refrigerant in the cooling systems shall be replaced by HFC 134a gas, which can lead to a reduction in the amount of carbon emissions. For example, when HFC 134a gas is used, cooling gas emissions can be reduced to 38.4 CO₂ instead of 51.9 tons CO₂ e total emission due to its lower global warming potential.

REFERENCES

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- SLN Tekstil <http://www.slnmoda.com>
- SLN Boya <http://www.slnboya.com/default.asp>