# ELSEWEDY ELECTRIC

## CARBON FOOTPRINT ASSESSMENT


ELSEWEDY
ELECTRIC

**Elsewedy Electric Carbon Footprint assessment**

2017

Study prepared by:
Carbon Footprint Center
The Carbon Footprint Center (CFC) belongs to Heliopolis University for Sustainable Development (HU)

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Content

# 01 Summary

**This study aims to layout and calculates the corporate carbon footprint of six of Elsewedy Electric's subsidiaries:**

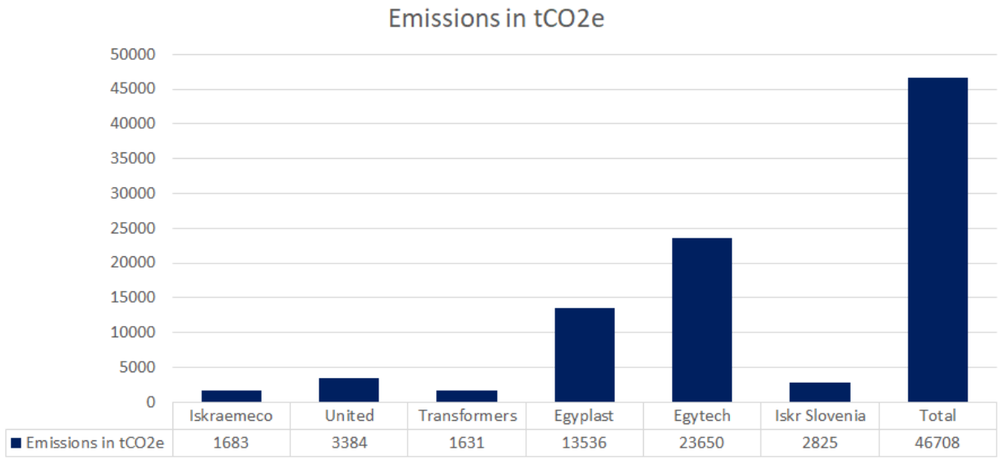
- Iskraemeco Energy Measurement
- United industries company
- Egyptian Company For Plastic Industry - Elsewedy Egyplast
- Elsewedy Transformers
- Egytech Cables and Elsewedy Cables
- Iskraemeco, d.d. Slovenia

**Within the scope of this assessment, Elsewedy Electric's subsidiaries' carbon foot print for the year 2017 were identified as follows:**

| Per total footprint (emissions caused by the company) | Per scope (term used to classify the different emissions sources into different categories according to the Greenhouse Gas Protocol) | Per level of activity (such as electricity and gas, travel related emissions, commuting, business travel, waste management and disposal and others, if applicable) |
|---|---|---|

**The results of Elsewedy Electric's overview of total carbon footprint in tCO2e1 is shown in Graphic 1. Total carbon footprint :**

Graphic 1: Total carbon footprint




Carbon dioxide equivalent (CO2e) Measures for describing how much global warming a given type and amount of greenhouse gas may cause, using the functionally equivalent amount or concentration of carbon dioxide (CO2) as the reference

# 02 Background information on Elsewedy Electric organization

## 2.1 Iskraemeco Energy Measurement

Iskraemeco's vision & mission is to become the preferred global solutions supplier for energy management and to make efficient energy use accessible.
Iskraemeco Slovenia is among the world leading companies in metering products, systems and services. Iskraemeco was acquired by Elsewedy Cables in June 2008. The quality of Iskraemeco Slovenia's products is based on a total business management system determined in the **ISO 9000:2000** standards.

It unites systems such as quality management, approach to the environment, quality of laboratories, financial management, health and safety at work, as well as security of assets and data. Iskraemeco's factory in Egypt was established in 2008 in 10th of Ramadan City. Iskraemeco Egypt's factory is producing different types of Smart Meters & Standalone Prepaid & others.

The quality of products is based on a total management system determined in:

- **ISO 9001:2015,**
- **ISO14001:2015,**
- **OHSAS 18001:2007,**
- **ISO/IEC 17025:2005,**
- **MID/2014/32 EU** (Measuring Instrument Directive).

The total business management system is based on a process model of constant improvements which enables them to increase efficiency and the satisfaction of customers, employees and owners.
Iskraemeco provide value to all energy market players: regulators, energy suppliers, utilities and consumers. Iskraemeco products meet the requirements of applicable international standards and legislation.
Namely Elsewedy Electric (industry leading company in Africa) and Iskraemeco (smart metering industry leading company in Europe).

| | | |
|---|---|---|
| Automatic meter management (AMM) Systems | Software Programs for reading and parameter setting | Data recorders and communicators |



## 2.2 United Industries

United industries is a branch of Elsewedy Cables that guarantees meeting tailored customers' requirements. United Industries product range from Domestic Appliance Cord to the extremely high performance Category 7 Local Area Network Cables required for the next generation of computers.
The product range includes small pairs telephone cables required in the home and business premises, up to the complex Instrumentation cables needed to monitor natural resources.
United industries vision is to become the most recognized company in the cables industry, providing local and foreign markets with defect free products complying with international standards, and satisfying customer needs, requirements and expectations.
Putting customer as the focus of its interest is United Industries' first priority that will consequently lead to increase in export and in new markets expansion. United industries invest on an annual basis to increase its production capacity to fulfill market needs with progressing cost reduction and ensure international competition.

Research, development and innovation in processes, and products are the utmost factors that reinforce United Industries' superiority.
In addition, adopting business automation of work flow is an un-compromised philosophy to reach benchmark performance in United Industries mission of reducing cycle times and maintaining continuous improvements.

All company stakeholders responsibly commit to implementing the requirements of the Quality Management system of: **ISO 9001-2000 and ISO/TS 16949-2002.**

## 2.3 Elsewedy Transformers Egypt

Elsewedy Transformers is a key subsidiary of Elsewedy Electric Group.
Leveraging its vast experience in providing high standard solutions for Power Generation, Transmission and Distribution fields, Elsewedy Transformers covers the whole Project cycle; Engineering, Designing, Manufacturing, Supplying, Installing, Testing and finally Commissioning and handover of the transformers.

| Engineering | Designing & Manufacturing, | Supplying | Installing | Testing |
|---|---|---|---|---|

Elsewedy Transformers' Vision & mission is to be a world class reliable brand in the field of transformers manufacturing & service provision, and to utilize the most updated technologies, skilled and well trained human capital & legacy of expertise to achieve the needs, and exceed expectations of customers.

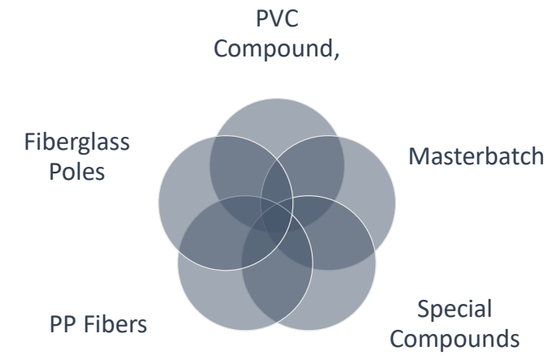
Elsewedy Transformers produces Power Transformers up to **250 MVA; 220 kV** and Distribution transformers (Oil immersed up to **5 MVA; 33 kV**) & (Dry / Cast resin up to **10 MVA; 22kV**).

Elsewedy Transformers follow the international standards Quality Management System **ISO 9001:2015**, Environmental Management System **ISO 14001:2015** and Occupational Health, Safety Management System OHSAS **18001:2007**.



## 2.4 Elsewedy for Plastic Industry

The Egyptian Company for Plastic Industry - Elsewedy EGYPLAST, was established in 1996 as a subsidiary of Elsewedy Electric Group.
EGYPLAST produces polymers compounding and processing for a sustainable future.
EGYPLAST combines economic success with environmental protection and social responsibility.
The approximately 700 employees contribute to the success of EGYPLAST's customers in various sectors locally and worldwide. EGYPLAST's portfolio is organized into five segments:




EGYPLAST is considered as one of the largest manufacturers of Plastic Compounds in the Middle East and Africa, with high dedications to PVC Compounds, Special Cable Compounds and Masterbatch, for various applications with annual production capacity 120,000 Tons
In 2015 the company acquired two factories to add new products to its range. The first is the Fiberglass Poles Factory which was established in 1998 by German Technology and equipped with two production lines of annual production capacity of 24,000 Poles covering Street lighting, Decorative & landscape applications. The Second is PP Fibers factory, which was established in 1998 by German Technology equipped with three production lines and annual production capacity reaches 17,000 tons covering both industrial and agriculture applications.

EGYPLAST is **ISO 9001, ISO 14001 and OH SAS 18001** certified, supplying materials according to RoHS and REACH regulations. EGYPLAST utilizes state of the art facilities in production units and modern laboratories to assure high quality control levels, and provides unique ability to offer specialized compounds tailored to customers' specific needs and in compliance with the international standards of quality, safety, environmental regulations.

+ PVC Compound.

↓

+ Soft PVC Compound& Rigid PVC Compound / Granules.

↓

+ Masterbatch, Special Compounds, PP Fibers and Fiberglass Poles.

## 2.5 Egytech Cables and Elsewedy Cables-Egypt

Egytech is a state of the art power cables factory created by the fusion of the technologies from all around the world, exporting products worldwide. Egytech's mission is to share success with their clients through producing cables that fulfill their needs, yet exceed their expectations. Egytech is distinguished by a variety of products:

- Low voltage cables up to **1KV**
- Medium voltage cables up to **36KV**
- High voltage cables up to **150KV**, Extra high voltage cables up to **500KV**
- Overhead transmission lines up to **750KV**
- Optical Ground Wires up to **500 KV**
- Turn key projects for Under Ground Cables
- Optical Ground Wires projects
- Steel and Wooden drums

Egytech's first priority is to educate and retain its manpower so, they have full commitment to implementing Egytech's standards such as Occupational Health, Safety and Environmental, ethical, and legal requirements.
In the process, Egytech enabled standards to limit Environmental pollution and to reduce hazards leading to injuries and occupational diseases to preserve the health and safety of its manpower, thus creating a safe workplace.
Egytech undertook continuous improvement of its performance as a tool to deter any deviation in performing its business. It is obligatory for all departments to be committed with the requirements of the following systems with frequently reviewing of QHSE objectives:

**Quality management system (ISO 9001:2015)**

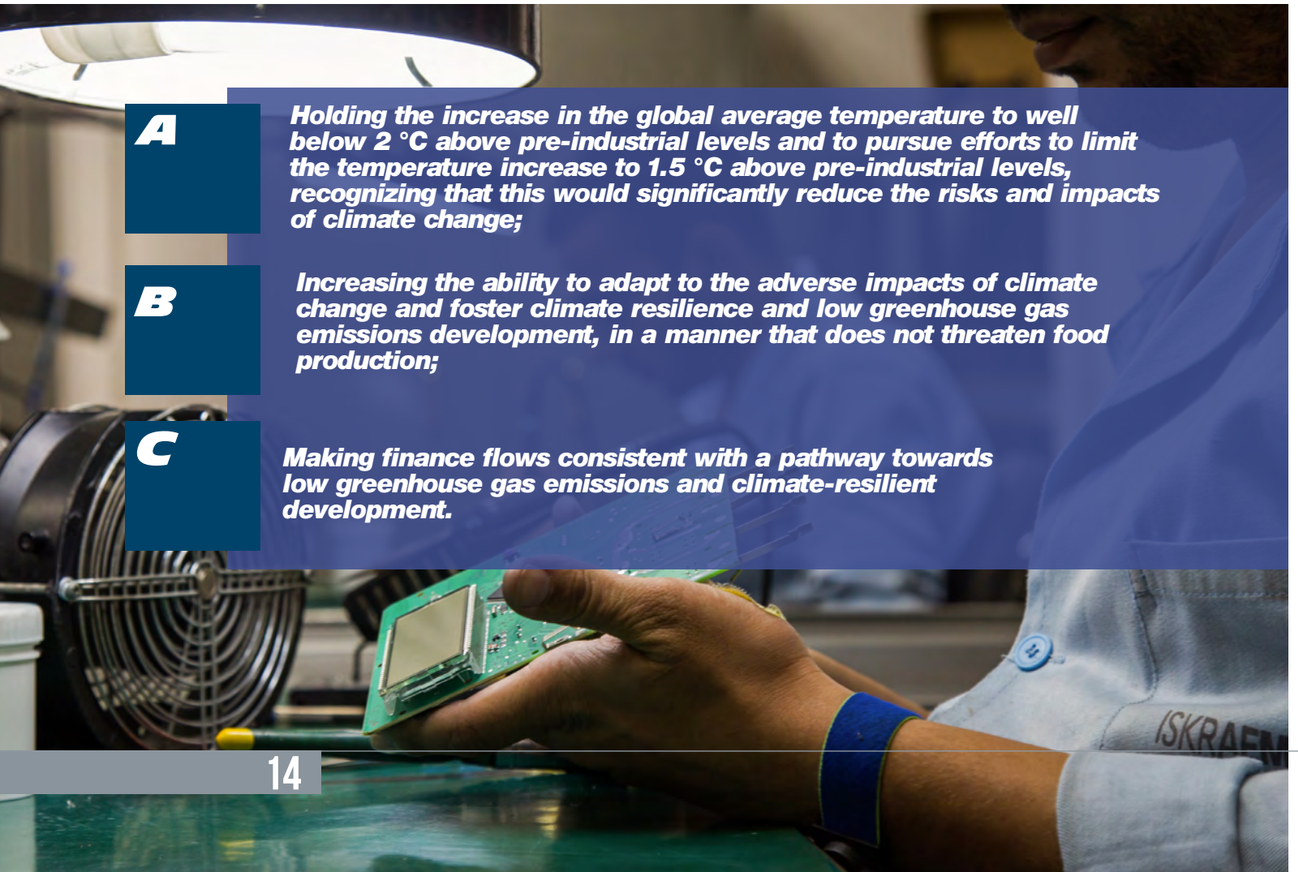
**Environmental management system (ISO 14001:2004)**

**Occupational Health and Safety management system (OHSAS 18001:2007)**

# 03 Introduction

# 03 Introduction

Become climate safe and achieve overall sustainable development, This is the challenge that was set out when the world agreed on the Sustainable Development Goals, The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in September 2015 and then a few weeks later on the Paris Climate Agreement in December 2015.
Agreements, such as the Paris Climate Agreement, are critical and governments have scrambled to put them into effect.
The Paris Climate Agreement, signed by 196 UNFCCC members, says that we should hold the increase of temperatures caused by human activity to well below 2 degrees Celsius.
Under the Paris Agreement, each country must determine, plan, and regularly report the contribution that it undertakes to mitigate global warming.
The aim of the agreement is described in Article 2, “enhancing the implementation” of the UNFCCC through:



**A** ***Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;***

**B** ***Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;***

**C** ***Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.***



Paris Agreement and Kyoto Protocol share the same goal; to restrict the global temperature rise to below 2 degrees Celsius per annum.
The Paris Agreement and Kyoto Protocol differ in their approach to achieve the ultimate goal of stabilizing Greenhouse Gases in the atmosphere and keeping the temperature rise below 2 degrees C.
The difference is in the way these treaties make developed and developing countries commit to take actions to combat climate change. Kyoto protocol does not bind developing countries to cut down their GHG emissions. Thus, the Kyoto protocol maintains a strict difference between the developed and the developing nations in terms of emission reduction targets.

Paris agreement on climate change attempts to blur the divide between the developed and the developing nations. It made all the nations under UNFCCC to voluntarily commit on their own domestic emission reduction targets.

Besides politicians, governmental authorities and organizations, another powerful group - which is the “consumer on the street” - increasingly pays attention to issues related to climate change, the environment and sustainability. Consumers’ expectations have changed. Nowadays, the customer will give preference to products which offer more than just a single quality claim.

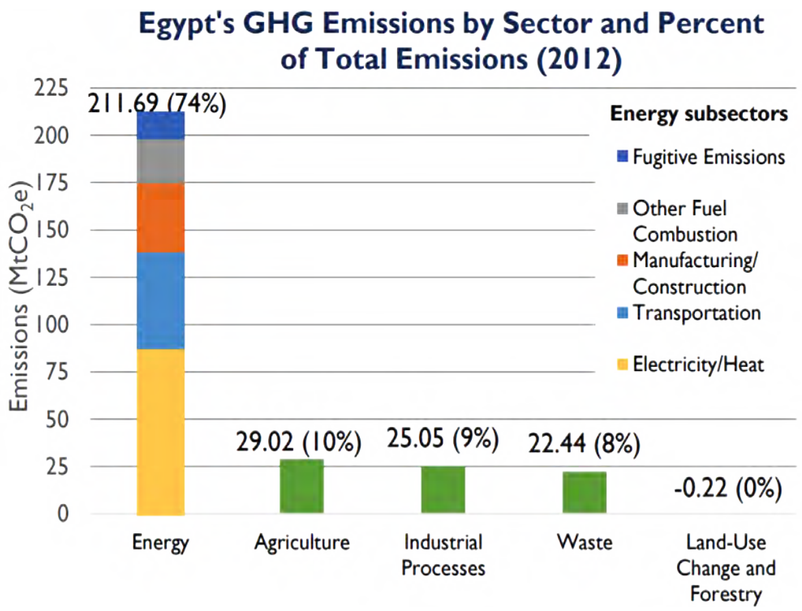
To meet these changing consumer expectations and to help mitigate climate change, many initiatives related to carbon footprinting and carbon labelling were - and are still being - developed worldwide beining - - developed worldwide

# 04 Challenges facing Egypt

# 04 Challenges facing Egypt

Egypt is a typical example of a developing country that is highly vulnerable to climate change and faces numerous threats to its economic, social and environmental sustainability – including energy, water, and food security.
Despite the fact that Egypt's contribution to the global GHG emissions is comparably insignificant, the impact of climate change on Egypt is strong.

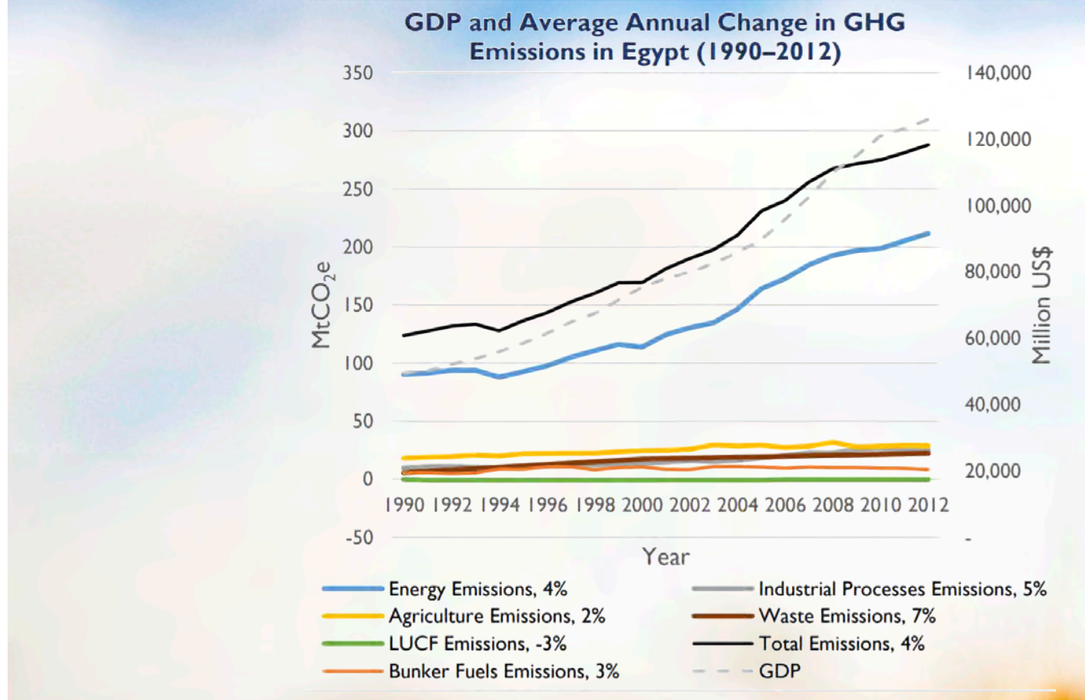
Due to low elevation in the Nile-Delta Region, Egypt will suffer the second most - after Bangladesh - in rising sea levels as a result of climate change.
Egypt emitted 288 million metric tons (MtCO2e) in 2012, Total GHG emissions (0.61% of world total) World: 47,599 MtCO2e (Ref 1). Egypt's emissions grew 133% from 1990-2012 (Ref 2).
According to the International Energy Agency (IEA) data, Egypt's total primary energy supply more than doubled from 1990-2012, with fossil fuels accounting for 94% and renewables 4% in 2012 (Ref 3).
The Climate Change Risk Management Programme asserts that Egypt "is moving towards a less GHG intensive path mainly by becoming a more energy efficient economy, and by increasing the utilization of its large renewable energy potential".




Source: WRI CAIT 2.0, 2015
Note: Percentages do not add up to 100% due to rounding

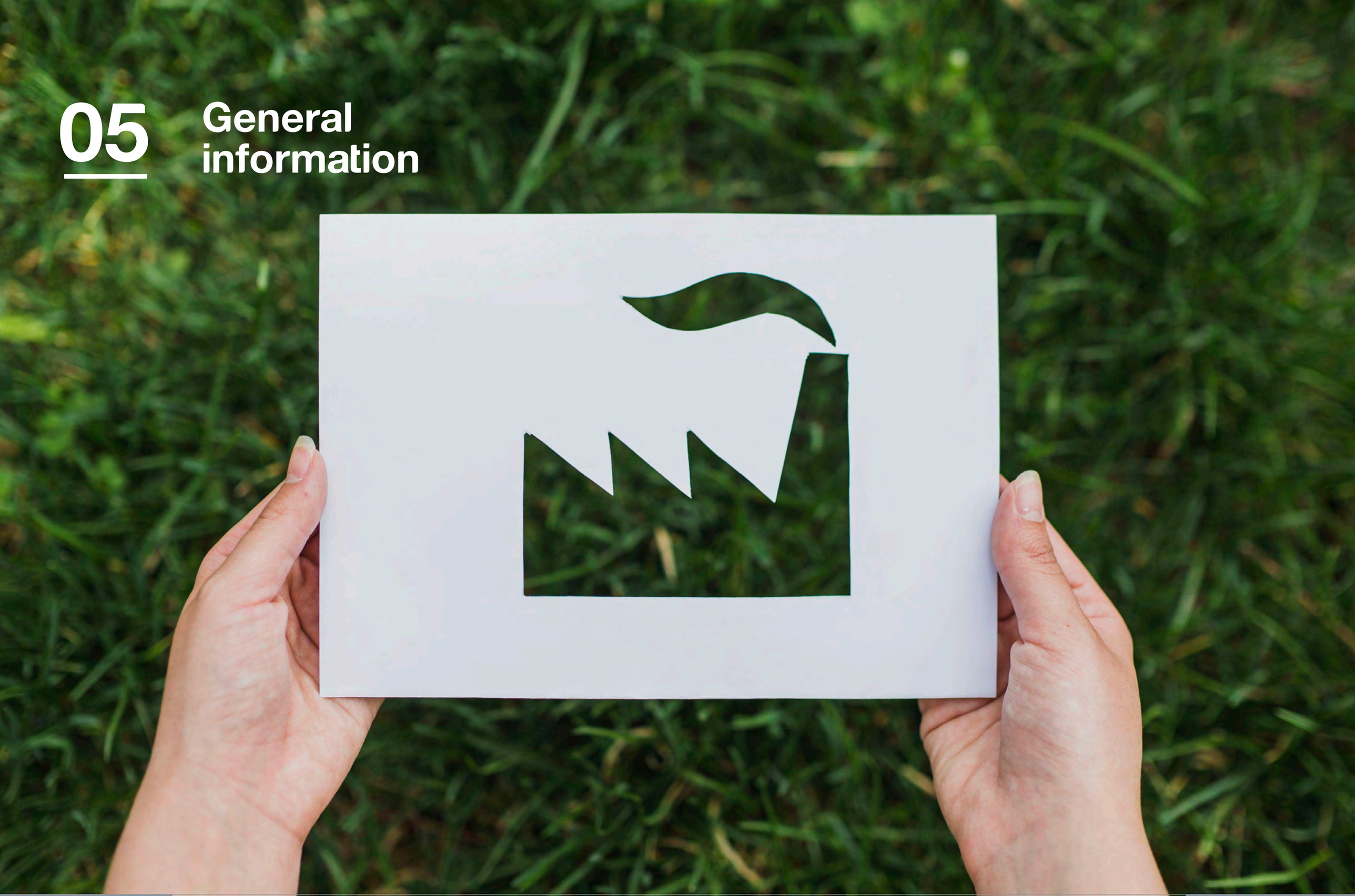

Ref 1: World Resources Institute Climate Analysis Indicators Tool (WRI CAIT) 2.0, 2015.
Ref 2: WRI CAIT. 2
Ref 3: IEA, 2015. Egypt Energy Balances data. See http://www.iea.org/countries/non-membercountries/egypt




Source: WRI CAIT 2.0, 2015

# 05 General information



# 05 General information

## 5.1 Introduction

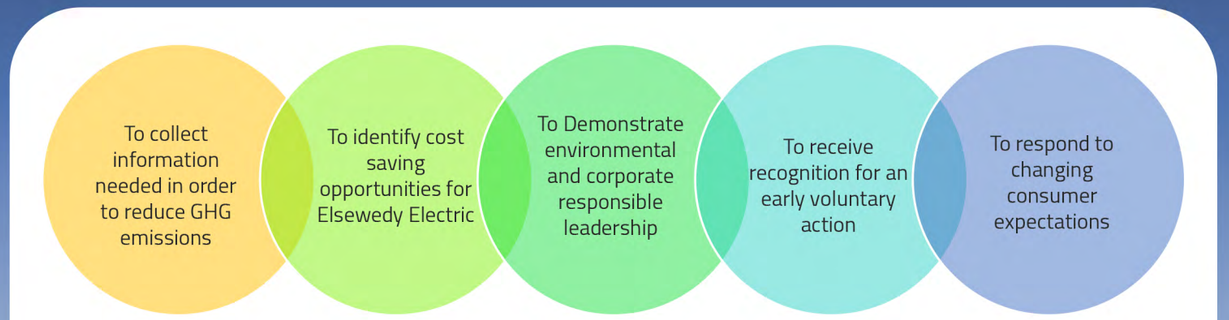
This carbon footprint calculation was carried out upon request by ELSEWEDY ELECTRIC Group and executed by the Carbon Footprint Center (CFC).
The study aims to layout and calculates the corporate carbon footprint for six factories of ELSEWEDY ELECTRIC Group.
This report is based on the reported Elsewedy Electric emissions for the period of January 1st 2017 until December 31st 2017.

## 5.2 Goals of a carbon footprint

This assessment results in the carbon footprint of ELSEWEDY ELECTRIC.
The goal is to identify sources of greenhouse, exact amount of such gases emitted due to the operation of the assessed company over one determined year. The carbon footprint serves to identify the environmental performance of a specific company as to greenhouse gas emissions, thus assessing its impact on climate change.



## Further GOALS of this carbon footprint are:




# 06 Methodology

# 06 Methodology

## 6.1 General methodology

The methodology used for this assessment is based on the guidelines of the WRI/ WBCSD Greenhouse Gas Protocol, PAS2050 and TÜV-Nord's Climate Neutral Company Standard. In the following paragraphs, the methodological choices regarding this particular assignment are summarized.

## 6.2 System boundary and scopes

In this chapter, the system boundary, as well as the scopes of assessed corporate will be described. The term boundary refers to the parameters that are accounted for in the carbon footprint of a specific Corporate.
In this assessment, the boundaries were set to cover all corporate facilities and staff related emissions in their corporate.
Once this boundary has been defined, the greenhouse gas emissions arising from the corporate's operations will be identified and assigned to three different scopes, as introduced in the Greenhouse Gas Protocol.
In line with the approach of the Greenhouse Gas Protocol, the emissions identified within the system boundary and the different levels are assigned to three different scopes as follows:


| Scope 1: | Scope 2: | Scope 3: |
|---|---|---|
| **emissions include the direct greenhouse gas emissions of a corporate.** | **emissions include indirect greenhouse gas emissions caused by the corporate.** | **emissions include other indirect greenhouse gas emissions of the corporate.** |
| These emissions arise from sources that are owned or controlled by the corporate or employees. | These are emissions from the generation of purchased electricity consumed by the corporate. | These emissions are a consequence of the activities of the corporate but (mostly) occur at sources owned or controlled by another entity. |

## 6.3 Data sources

Different types of data may be taken to carry out a corporate carbon footprint. The most commonly used types of data are:

**Primary data**

- Data taken from documents that are directly linked to the assessment questionnaire, such as electricity invoices to calculate emissions caused due to electricity.

**Secondary data**

- Databases, studies, and reports.

**Assumptions**

- Assumptions made based on internationally recognised standards and studies.

[1] WRI stands for World Resources Institute, and WBCSD stands for World Business Council for Sustainable Development
[2] Greenhouse Gas Protocol. A Corporate and Reporting Standard. Revised Edition. WBCSB & WRI.

# 07 Identification of GHG emissions

# 7.1 Iskraemeco Energy Measurement Egypt

# 7.1 Iskraemeco Energy Measurement Egypt

## 7.1.1 Power related emissions

**These emissions are linked to purchase electricity the corporate used, as well as its diesel and petrol consumption.**

### A| DIESEL

Iskraemeco consumed 5,229 litter diesel in 2017. Diesel is direct emission accounted under scope1. This amount used in forklifts and on the generator. The results are shown in Table 1.

Table1: Direct Emissions - scope 1 Diesel

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Diesel | 5,229 | l/year | 13,994 |

### B| COMPANY OWNED CARS

Iskraemeco owned cars were travelled 642,954 km in year 2017. The company owned car emissions are direct emission accounted under scope1. The results are shown in Table 2.

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Company owned cars | 642,954 | km/year | 128,803 |

### C| ELECTRICITY

Electricity is indirect emission under scope 2. Iskraemeco used electricity from the grid as energy source for Production, lighting, cooling, etc. Iskraemeco consumed 2,420,269 kWh per year. The results are shown in Table 3.

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 2** | Electricity | 2,420,269 | kWh/year | 1,210,135 |



## 7.1.2 Travel related emissions

These emissions consist of the corporate's employee's daily travel, as well as their business travel.

### A| BUSINESS TRAVEL

In 2017 Iskraemeco total number of flights are 194 flights. 86 flights were long haul (flights longer than 3,700 km), 108 flights were short haul (flights up to 3,700km) .

Table 4: Indirect Emissions - scope 3 Travel related emission

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Business travel, aircraft (short haul) | 259,900 | km/year | 42,689 |
| **Scope 3** | Business travel, aircraft (long haul) | 747,300 | km/year | 142,676 |
| **Scope 3** | Taxi rides due to business travels | 9,700 | km/year | 2,168 |

### B| COMMUTING RELATED EMISSIONS

The total Iskraemeco staff counts 366 employees. Their accumulated commuting km is 1,376,890 km per year. All employees use local micro bus. The results are shown in Table 5.

Table 5: Indirect Emissions - scope 3 Office staff commuting emission

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Office staff commuting | 1,376,890 | km/year | 139,823 |

## 7.1.2 Travel related emissions

In 2017 Iskraemeco used 215,000 sheets of DINA4 paper total weight of 1,073kg.The emission results are shown in Table 6

Table 6: Indirect Emissions - scope 3 Emissions due to paper consumption

| | scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Paper consumption | 1,073 | kg/year | 1,545 |

## 7.1.4 Emissions due to waste management and disposal

Emissions at this section occur through the Iskraemeco waste management and waste disposal process, the total amount of waste occurring in 2017 was 76.09 tons all of the waste was 100% recycled. The emission results are shown in Table 7.

Table7: waste management and disposal

| | Scope | Consumption | unit |
|---|---|---|---|
| | Waste | 76.09 | t waste |
| **Scope 3** | Waste management &transport | 1,512.92 | Kgco2e |

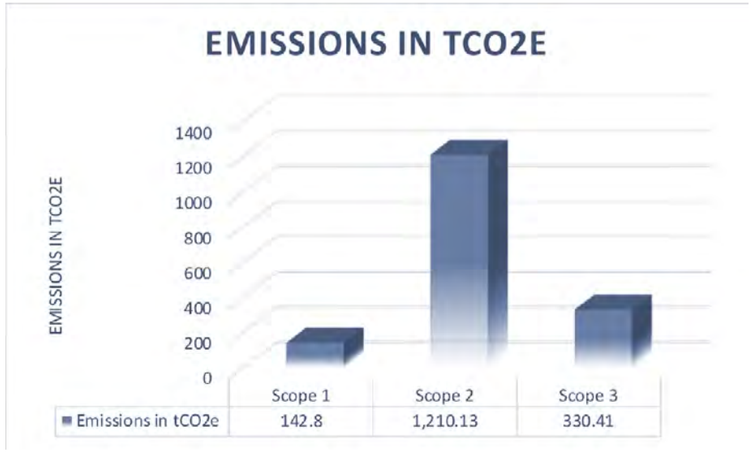
## 7.1.5 Results Iskraemeco Egypt

The total carbon footprint for ELSEWEDY ELECTRIC Egypt 2017 amounts to 1,683,345.89 kg $CO^2e$ (1,683.35 tons of $CO^2e$ when rounded).

### A| EMISSION PER SCOPE

Table 8: Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| **Scope 1** | 142.80 | 8.5% |
| **Scope 2** | 1,210.13 | 71.9% |
| **Scope 3** | 330.41 | 19.6% |
| Total | 1,683.35 | 100% |




### B| EMISSION PER CATEGORY

Table 9: Emissions per category

| Category | Emissions in tCO2e | % of total |
|---|---|---|
| **Company owned cars** | 128.80 | 8% |
| **Diesel** | 13.99 | 0.8% |
| **Electricity** | 1,210.13 | 72% |
| **Commuting** | 139.82 | 8% |
| **Business travel** | 187.53 | 11.1% |
| **Paper consumption** | 1.54 | 0.09% |
| **Waste** | 1.51 | 0.09% |
| Total | 1,683.35 | |






### D| EMISSION PER EMPLOYEE

Table 10: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per employee** | 1,683.35 | 4.60 |

### E| EMISSION PER $M^2$

Table 11: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per m2 (Office space)** | 1,683.35 | 0.03 |

# 7.2 United Industries Company

# 7.2 United Industries Company

## 7.2.1 Power related emissions

### A| DIESEL

United Industries consumed 144,000 litter diesel in 2017. Diesel is direct emission accounted under scope1. This amount used in forklifts. The results are shown in Table12

Table12: Direct Emissions - scope 1 Diesel

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 1 | Diesel | 144,000 | l/year | 384,480 |

### B| NATURAL GAS

United Industries consumed 715,476 cubic meter of Natural Gas in 2017. Natural Gas is direct emission accounted under scope1. This amount used in chillier. The results are shown in Table13

Table13 Direct Emissions - scope 1 Gas

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 1 | Gas | 715,476 | m3/year | 1,455,707 |

### C| COMPANY OWNED CARS

United Industries owned cars were travelled 683,309km in year 2017. The company owned car emissions are direct emission accounted under scope1. The results are shown in Table 14

Table14: Direct Emissions - scope 1 Gas

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 1 | Company owned cars (Petrol) | 683,309 | km/year | 136,887 |

### C| ELECTRICITY

Electricity is an indirect emission under scope 2. United Industries used electricity from the grid as an energy source for production, lighting, cooling, etc. United Industries consumed 2,286,000 kWh per year. The results are shown in Table 15.

Table 15: Indirect Emissions - scope 2 Electricity

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 2 | Electricity | 2,286,000 | kWh/year | 1,143,000 |



## 7.2.2 TRAVEL RELATED EMISSIONS

These emissions consist of the corporate's employee's daily travel, as well as their business travel.

### A| BUSINESS TRAVEL

In 2017 United Industries total number of flights are 28 flights. 28 flights were short haul (flights up to 3,700km) and 19200 km business travel_no flights by car. The results are shown in Table 16. Business travel is indirect emission under scope3

Table 16: Indirect Emissions - scope 3 Travel related emission

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 3 | Business travel, aircraft (short haul) | 72,800 | km/year | 12,103 |
| Scope 3 | Taxi rides due to business travels | 1,400 | km/year | 312.91 |
| Scope 3 | Business travel_no flights | 19,200 | km/year | 3,856 |

### B| COMMUTING RELATED EMISSIONS

The total United Industries staff counts 920 employees. Their accumulated commuting km is 1,723,600 km per year.
Employees use cars, bus and mini bus. The results are shown in Table 17. Commuting emission is indirect emission under scope 3.

Table 17: Indirect Emissions - scope 3 Office staff commuting emission

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 3 | Office staff commuting | 1,723,600 | km/year | 178,234 |

## 7.2.3 EMISSIONS DUE TO PAPER CONSUMPTION

In 2017 United Industries used 750,000 sheets of DINA4 paper total weight of 3,742.20 kg. The emission results are shown in Table18

Table18: Indirect Emissions - scope 3 Emissions due to paper consumption

| scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 3 | Paper consumption | 3,742.20 | kg/year | 5,388.77 |

## 7.2.4 EMISSIONS DUE TO WASTE MANAGEMENT AND DISPOSAL

Emissions at this section occur through the United Industries waste management and waste disposal process, the total amount of in 2017 was 1,409 ton, 61% of the total waste was recycled and 39%of the total waste was landfill. The emission results are shown in Table 19.

Table 19: waste management and disposal

| Scope | | Consumption |
|---|---|---|
| Scope 3 | Waste | 1,409 |
| | Waste management &transport | 63,541.46 |

## 7.2.5 Results United Industries Egypt

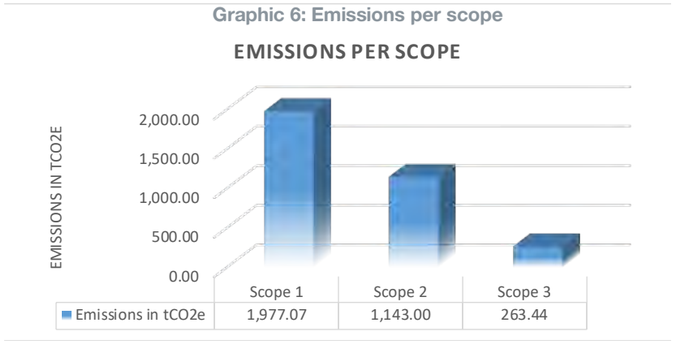
**The total carbon footprint for United Industries 2017 amounts to 3,383,511.78 kg CO2e (3,383.51 tons of CO2e when rounded).**

### A| EMISSION PER SCOPE

Table 20: Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| **Scope 1** | 1,977.07 | 58.4% |
| **Scope 2** | 1,143.00 | 33.8% |
| **Scope 3** | 263.44 | 7.8% |
| **Total** | 3,383.51 | 100% |

Graphic 6: Emissions per scope



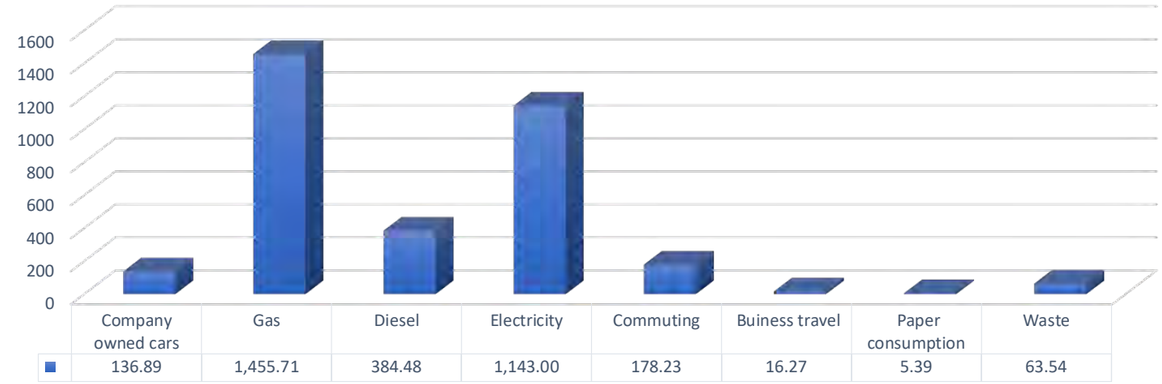

### B| EMISSION PER CATEGORY

Table 21 : Emissions per category

| Category | Emissions in tCO2e | % of total |
|---|---|---|
| **Company owned cars** | 136.89 | 4% |
| **Gas** | 1,455.71 | 43% |
| **Diesel** | 384.48 | 11% |
| **Electricity** | 1,143.00 | 34% |
| **Commuting** | 178.23 | 5% |
| **Buiness travel** | 16.27 | 0% |
| **Paper consumption** | 5.39 | 0% |
| **Waste** | 63.54 | 2% |
| **Total** | 3,383.51 | |



Graphic 7: Emissions per category




### C| EMISSION PER EMPLOYEE

Table 22: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per employee** | 3,383.51 | 3.68 |

### D| EMISSION PER M²

Table 23: Emissions per m²

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per m2 (office space)** | 3,383.51 | 0.08 |

# 7.3 Elsewedy Transformers

# 7.3 Elsewedy Transformers

## 7.3.1 Power related emissions

### A| DIESEL

Elsewedy Transformers consumed 300,000 litter diesel in 2017. Diesel is direct emission accounted under scope1.
This amount used in production and forklifts. The results are shown in Table 24.

Table24: Direct Emissions - scope 1 Diesel

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 1 | Diesel | 300,000 | l/year | 801,000 |

### B| COMPANY OWNED CARS

Elsewedy Transformers owned cars were travelled 281,760 km in year 2017. The company owned car emissions are direct emission accounted under scope1. The results are shown in Table 25.

Table 25: Direct Emissions - scope 1 company owned car

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 1 | Company owned cars (Petrol) | 79,200 | km/year | 15,866.13 |
| Scope 1 | Company owned cars (Diesel) | 202,560 | km/year | 80,203.13 |

### C| ELECTRICITY

Electricity is an energy source under scope 2. Elsewedy Transformers used electricity from the grid as energy source for production, lighting, cooling, etc. Elsewedy Transformers consumed 10,800 kWh per year. The results are shown in Table 26.

Table 26: Indirect Emissions - scope 2 Electricity

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 2 | Electricity | 10,800 | kWh/year | 5,400 |



## 7.3.2 TRAVEL RELATED EMISSIONS

These emissions consist of the corporate's employee's daily travel, as well as their business travel.

### A| BUSINESS TRAVEL

In 2017 Elsewedy Transformers total number of flights are 138 flights. 119 flights were short haul (flights up to 3,700km). 19 flights were long haul (flights longer than 3,700 km) and 1,346,660 km Business travel_no flights.
The results are shown in Table 27. Business travel is indirect emission under scope3

Table 27: Indirect Emissions - scope 3 Travel related emission

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 3 | Business travel, aircraft (short haul) | 205,880 | km/year | 34,227 |
| Scope 3 | Business travel, aircraft (long haul) | 98,984 | km/year | 20,808 |
| Scope 3 | Taxi rides due to business travels | 6,900 | km/year | 1542.22 |
| Scope 3 | Business travel_no flights | 1,346,660 | km/year | 268,931 |

### B| COMMUTING RELATED EMISSIONS

The total Elsewedy Transformers staff counts 810 employees. Their accumulated commuting km is 2,544,984 km per year. Employees use cars, carpooling and mini/micro bus. The results are shown in Table 28. Commuting emission is indirect emission under scope 3

Table 28: Indirect Emissions - scope 3 Office staff commuting emission

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 2 | Office staff commuting | 2,544,984 | km/year | 388,683 |

## 7.3.3 EMISSIONS DUE TO PAPER CONSUMPTION

In 2017 Elsewedy Transformers used 364,500 sheets of DINA4 paper and 900 sheets of DINA3 paper with total weight of 1,827.69kg. The emission results are shown in Table 29

Table 29: Indirect Emissions - scope 3 Emissions due to paper consumption

| scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| Scope 3 | Paper consumption | 1,827.69 | kg/year | 2,618.95 |

## 7.3.4 EMISSIONS DUE TO WASTE MANAGEMENT AND DISPOSAL

Emissions at this section occur through the Elsewedy Transformers waste management and waste disposal process, the total amount of waste in 2017 were 774 ton, all the amount of waste was 100% recycled. The emission results are shown in Table 30.

Table 30: waste management and disposal

| Scope | | Consumption | unit |
|---|---|---|---|
| Scope 3 | Waste | 774 | t waste |
| | Waste management &transport | 11,555.65 | Kgco2e |

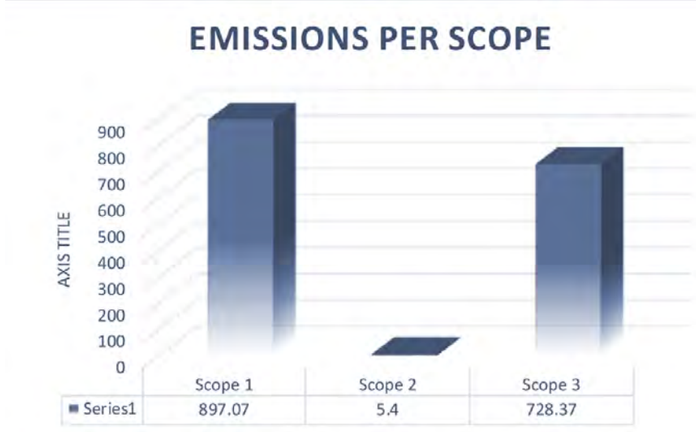
## 7.3.5 Results Elsewedy Transformers Egypt

The total carbon footprint for Elsewedy Transformers 2017 amounts to 1,630,205.65 kg CO2e (1,630.21 tons of CO2e when rounded).

### A| EMISSION PER SCOPE

Table 31: Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| Scope 1 | 897.07 | 55.0% |
| Scope 2 | 5.40 | 0.3% |
| Scope 3 | 728.37 | 44.7% |
| Total | 1,630.84 | |



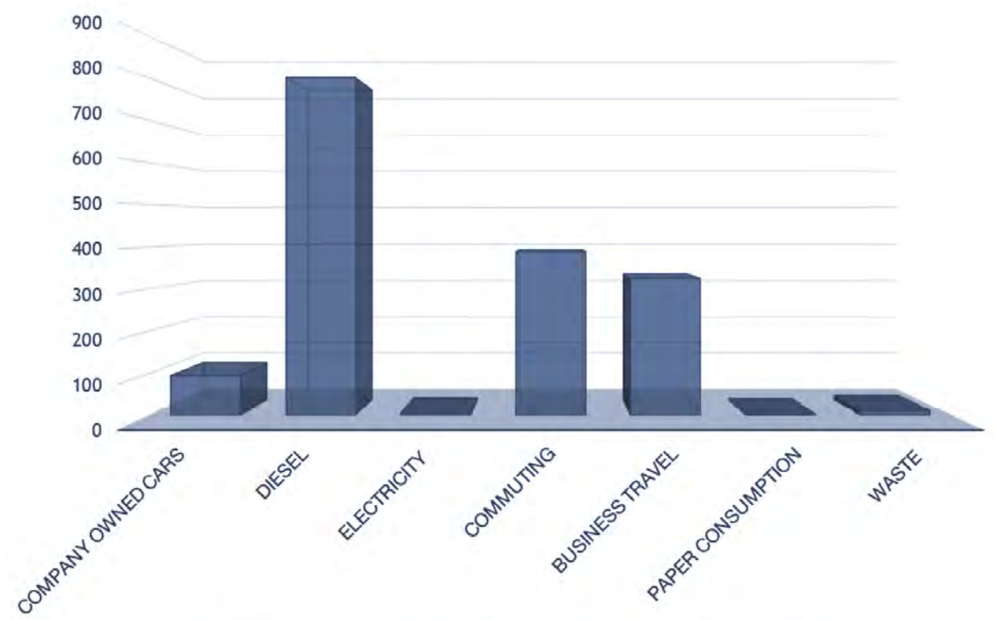

### B| EMISSION PER CATEGORY

Table 32: Indirect Emissions - scope 2 Electricity

| Category | Emissions in tCO2e | % of total |
|---|---|---|
| Company owned cars | 96.07 | 6% |
| Diesel | 801.00 | 49.1% |
| Electricity | 5.40 | 0% |
| Commuting | 388.68 | 24% |
| Business travel | 325.51 | 20.0% |
| Paper consumption | 2.62 | 0.16% |
| Waste | 11.55 | 0.71% |
| Total | 1,630.84 | |



Graphic 9: Emissions per category




| | Company owned cars | Diesel | Electricity | Commuting | Business travel | Paper consumption | Waste |
|---|---|---|---|---|---|---|---|
| Column2 | 96.07 | 801 | 5.4 | 388.68 | 325.51 | 2.62 | 11.55 |

### C| EMISSION PER EMPLOYEE

Table 33: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| per employee | 1,630.84 | 2.01 |

### D| EMISSION PER M²

Table 34: Emissions per m2

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| per m2 (office space) | 1,630.84 | 0.01 |

# 7.4 Egyptian Company for Plastic Industry - Elsewedy Egyplast

# 7.4 Egyptian Company for Plastic Industry - Elsewedy Egyplast

## 7.4.1 Power related emissions

### A| DIESEL

Elsewedy Egyplast consumed 78,482 litter diesel in 2017. Diesel is direct emission accounted under scope1. This amount used in forklifts. The results are shown in Table 35.

Table35: Direct Emissions - scope 1 Diesel

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Diesel | 78,482 | l/year | 209,546.94 |

### B| COMPANY OWNED CARS

Elsewedy Egyplast owned cars consumed 10,086 litter of petrol in year 2017 used for employee commuting and Egyplast owned trucks consumed 236,331 litter diesel. The company owned car emissions are direct emission accounted under scope1. The results are shown in Table 36

Table 36: Direct Emissions - scope 1 company owned car

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Company owned cars (Petrol) | 10,086 | l/year | 22,491.78 |
| **Scope 1** | Company owned trucks(Diesel) | 236,331 | l/year | 631,003.77 |

### C| ELECTRICITY

Electricity is energy source under scope 2. Elsewedy Egyplast used electricity from the grid as energy source for Production, lighting, cooling, etc. Elsewedy Egyplast consumed 25,265,916 kWh per year. The results are shown in Table 37.

Table 37: Indirect Emissions - scope 2 Electricity

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 2** | Electricity | 25,265,916 | kWh/year | 12,632,958 |



## 7.4.2 TRAVEL RELATED EMISSIONS

These emissions consist of the corporate's employee's daily travel, as well as their business travel.

### A| BUSINESS TRAVEL

In 2017 Elsewedy Egyplast total number of flights are 36 flights. 6 flights were long haul (flights over than 3,700km). 30 flights were short haul (flights up to 3,700km). Business travel is indirect emission under scope3. The results are shown in Table 38.

Table 38: Indirect Emissions - scope 3 Travel related emission

| | Scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Business travel, aircraft (long haul) | 24,900 | km/year | 5,453 |
| **Scope 3** | Business travel, aircraft (short haul) | 32,800 | km/year | 4,140 |
| **Scope 3** | Taxi rides due to business travels | 1,800 | km/year | 402 |

### B| COMMUTING RELATED EMISSION

The total Elsewedy Egyplast staff counts 711 employees. All employees used company owned car which mentioned on table 38.

## 7.4.3 EMISSIONS DUE TO PAPER CONSUMPTION

In 2017 Elsewedy Egyplast used 948,000 sheets of DINA4 paper and 500 sheets of DINA3 paper total weight of 4,735.13kg.The emission results are shown in Table 39.

Table 39: Indirect Emissions - scope 3 Emissions due to paper consumption

| | scope | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Paper consumption | 4,735.13 | kg/year | 6,818.59 |

## 7.4.4 EMISSIONS DUE TO WASTE MANAGEMENT AND DISPOSAL

Emissions at this section occur through the Elsewedy Egyplast waste management and waste disposal process, the total amount of waste was 827.95 ton are shown in Table 40.

Table 40: waste management and dispoal

| | Scope | Consumption | unit |
|---|---|---|---|
| | Waste | 827.95 | t waste |
| **Scope 3** | Waste management &transport | 23,398.01 | Kgco2e |

## 7.4.5 Results Elsewedy Egyplast Egypt

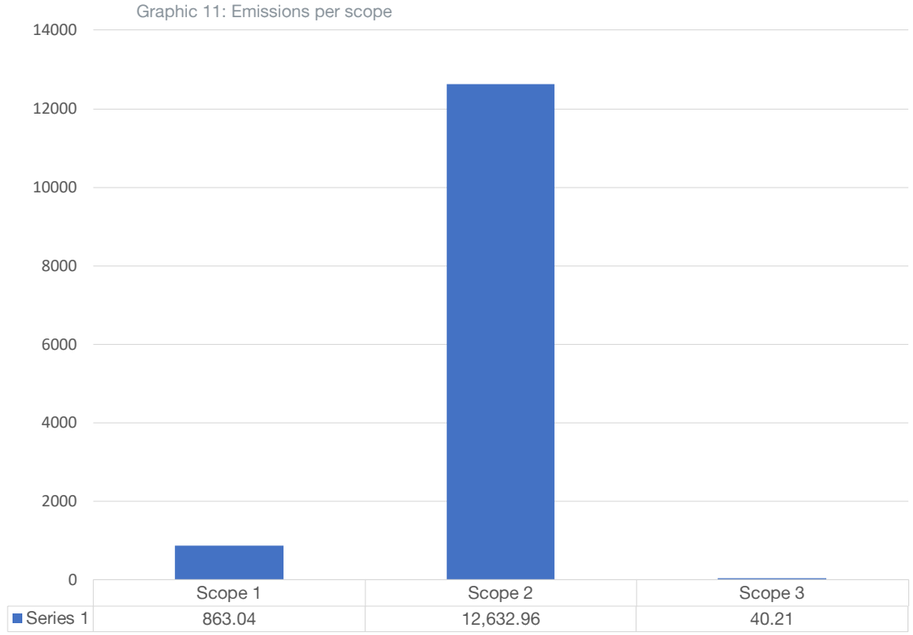
The total carbon footprint for Elsewedy Egyplast 2017 amounts to 13,536,212.03 kg $CO^2e$ (13,536.21 tons of $CO^2e$ when rounded).

### A| EMISSION PER SCOPE

Table 41: Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| **Scope 1** | 863.04 | 6.4% |
| **Scope 2** | 12,632.96 | 93.3% |
| **Scope 3** | 40.21 | 0.3% |
| Total | 13,536.21 | 100% |

Graphic 11: Emissions per scope



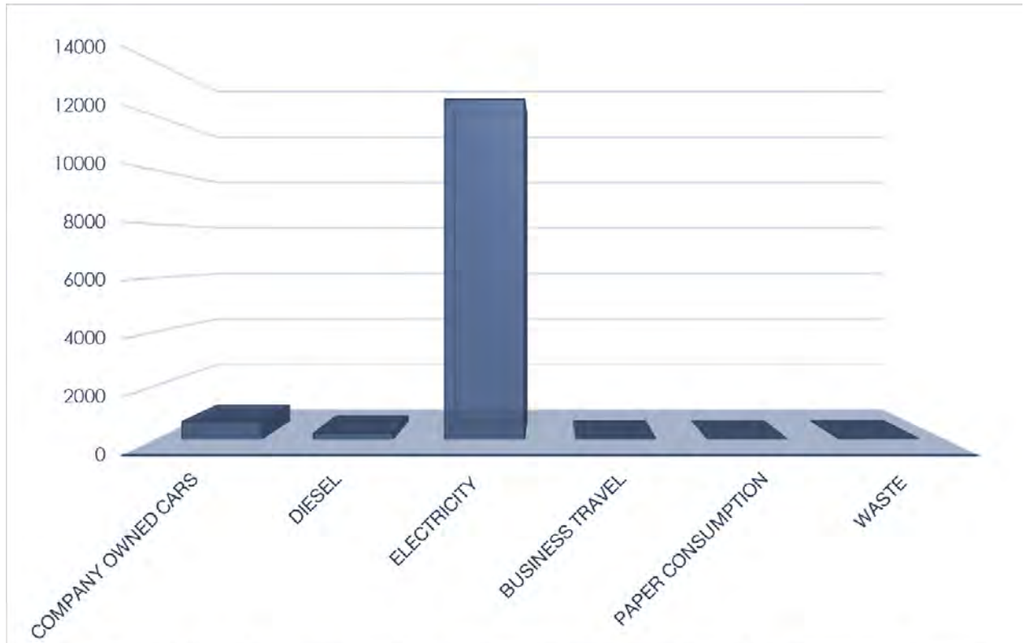

### B| EMISSION PER CATEGORY

Table 42: Emissions per category

| Category | Emissions in tCO2e | % of total |
|---|---|---|
| **Company owned cars** | 653.50 | 5% |
| **Diesel** | 209.55 | 1.5% |
| **Electricity** | 12,632.96 | 93% |
| **Business travel** | 9.99 | 0.1% |
| **Paper consumption** | 6.82 | 0.05% |
| **Waste** | 23.40 | 0.17% |
| Total | 13,536.21 | |



Graphic12 Emissions per category




### C| EMISSION PER EMPLOYEE

Table 43: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| per employee | 13,536.21 | 19.04 |

### D| EMISSION PER M²

Table 44: Emissions per m2

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| per m2 (office space) | 13,536.21 | 0.23 |

# 7.5 Egytech Cables and Elsewedy Cables-Egypt

# 7.5 Egytech Cables and Elsewedy Cables-Egypt

## 7.5.1 Power related emissions

### A | DIESEL

Egytech consumed 288,323 litter diesel in 2017. Diesel is direct emission accounted under scope1. This amount used in forklift, trucks and boilers. The results are shown in Table 45.

Table 45: Direct Emissions - scope 1 Diesel

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Diesel | 288,323 | l/year | 769,822 |

### B | COMPANY OWNED CARS

Egytech owned cars were travelled 640,000 km in year 2017. The company owned car emissions are direct emission accounted under scope1. The results are shown in Table 46.

Table 46: Direct Emissions - scope 1 company owned car

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Company owned cars (Petrol) | 640,000 | km/year | 128,803 |

### C | ELECTRICITY

Electricity is an energy source under scope 2. Egytech used electricity from the grid as energy source for Production, lighting, cooling, etc. Egytech consumed 44,882,843 kWh per year. The results are shown in Table 47.

Table 47: Indirect Emissions - scope 2 Electricity

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 2** | Electricity | 44,882,843 | kWh/year | 22,441,421 |



## 7.5.2 TRAVEL RELATED EMISSIONS

These emissions consist of the corporate's employee's daily travel, as well as their business travel.

### A | BUSINESS TRAVEL

In 2017 Egytech total number of flights are 36 flights. All flights were short haul (flights up to 3,700km) and 20,000km Business travel_no flights .The results are shown in Table 48. Business travel is indirect emission under scope3

Table 48: Indirect Emissions - scope 3 Travel related emission

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Business travel, aircraft (short haul) | 82,301 | km/year | 13,682 |
| **Scope 3** | Taxi rides due to business travels | 1,800 | km/year | 402.32 |
| **Scope 3** | Business travel_no flights | 20,000 | km/year | 4,017.60 |

### B | COMMUTING RELATED EMISSIONS

The total Egytech staff counts 1135 employees. Their accumulated commuting km is 1,698,000 km per year. All employees use car and mini bus. The results are shown in Table 49. Commuting emission is indirect emission under scope 3

Table 49: Indirect Emissions - scope 3 Office staff commuting emission

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Office staff commuting | 1,698,000 | km/year | 205,806.78 |

## 7.5.3 EMISSIONS DUE TO PAPER CONSUMPTION

In 2017 Egytech used 9,850,000 sheets of DINA4 paper total weight of 49,147kg the emission results are shown in Table 50.

Table 50: Indirect Emissions - scope 3 Emissions due to paper consumption

| scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Paper consumption | 49,147.56 | kg/year | 70,772.49 |

## 7.5.4 EMISSIONS DUE TO WASTE MANAGEMENT AND DISPOSAL

Emissions at this section occur through the Egytech waste management and waste disposal process, the total amount of waste in 2017 was 402.37ton. 99.5% of the total waste was landfill and other are recycling and burned. The emission results re shown in Table 51.

Table 52: Indirect Emissions - scope 3 Emissions due waste

| Scope | | Consumption | unit |
|---|---|---|---|
| | Waste | 402.37 | t waste |
| **Scope 3** | Waste management &transport | 15,513.40 | Kgco2e |

## 7.5.5 Results Egytech Egypt

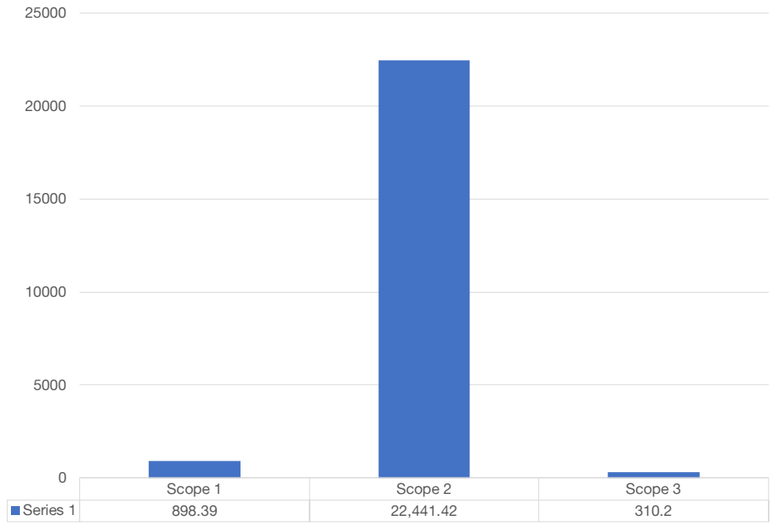
The total carbon footprint for ELSEWEDY ELECTRIC Egypt 2017 amounts to 23,650,002.15 kg CO2e (23,650.00 tons of CO2e when rounded).

## A| EMISSION PER SCOPE

Table 53: Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| **Scope 1** | 898.39 | 3.8% |
| **Scope 2** | 22,441.42 | 94.9% |
| **Scope 3** | 310.20 | 1.3% |
| **Total** | 23,650.00 | 100% |

Graphic 13: Emissions per scope



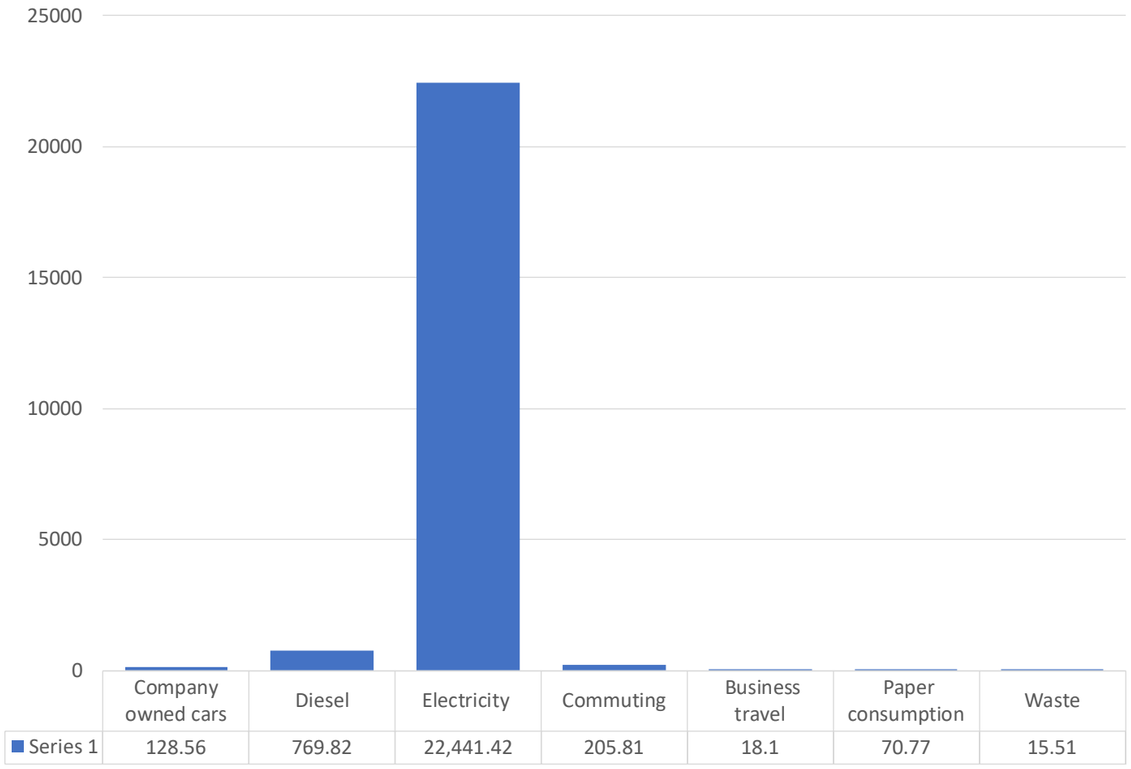

## B| EMISSION PER CATEGORY

Table 54: Emissions per category

| Category | Emissions in tCO2e | % of total |
|---|---|---|
| **Company owned cars** | 128.56 | 1% |
| **Diesel** | 769.82 | 3.3% |
| **Electricity** | 22,441.42 | 95% |
| **Commuting** | 205.81 | 1% |
| **Business travel** | 18.10 | 0.1% |
| **Paper consumption** | 70.77 | 0.30% |
| **Waste** | 15.51 | 0.07% |
| **Total** | 23,650.00 | |



Graphic 14: Emissions per category




## C| EMISSION PER EMPLOYEE

Table 55: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per employee** | 23,650.00 | 20.84 |

## D| EMISSION PER M²

Table 56: Emissions per m²

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per m2 (office space)** | 23,650.00 | 0.26 |

# 7.6 Iskraemeco, d.d. - Slovenia

# ISKRAEMECO, D.D. - SLOVENIA

## 7.6.1 Power related emissions

These emissions are linked to purchase electricity the corporate used, as well as its diesel and petrol consumption.

### A | NATURAL GAS

Iskraemeco Slovenia consumed 409,922 cubic meters of Natural Gas in 2017. Natural Gas is direct emission accounted under scope1. This amount used for heating and preparation of hot sanitary water. The results are shown in Table 57.

Table 57: Direct Emissions - scope 1 Diesel

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | GAS | 409,922 | M3/year | 834,027 |

### B | COMPANY OWNED CARS

Iskraemeco Slovenia owned cars were consumed 15,003 litter diesel in year 2017. The company owned car emissions are direct emission accounted under scope1. The results are shown in Table 58.

Table 58: Direct Emissions - scope 1 company owned car

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 1** | Company owned cars (Diesel) | 15,003 | l/year | 40,058.01 |

### C | ELECTRICITY

Electricity is an energy source under scope 2. Iskraemeco Solvenia used electricity from the grid as energy source for Production, lighting, etc. Iskraemeco Solvenia consumed 5,003,960 kWh per year. The results are shown in Table 59.

Table 59: Indirect Emissions - scope 2 Electricity

| Scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 2** | Electricity | 5,003,960 | kWh/year | 1,931,578 |

## 7.6.2 TRAVEL RELATED EMISSIONS

The total Iskraemeco Slovenia staff counts 915 employees. The accumulated commuting Data and business travel data for 2017 weren't available.



## 7.6.3 EMISSIONS DUE TO PAPER CONSUMPTION

In 2017 Iskraemeco Slovenia used 1,262,500 sheets of DINA4 paper and 21,000 sheets of DINA3 paper total weight of 6,299.37 kg. The emission results are shown in Table 60.

Table 60: Indirect Emissions - scope 3 Emissions due to paper consumption

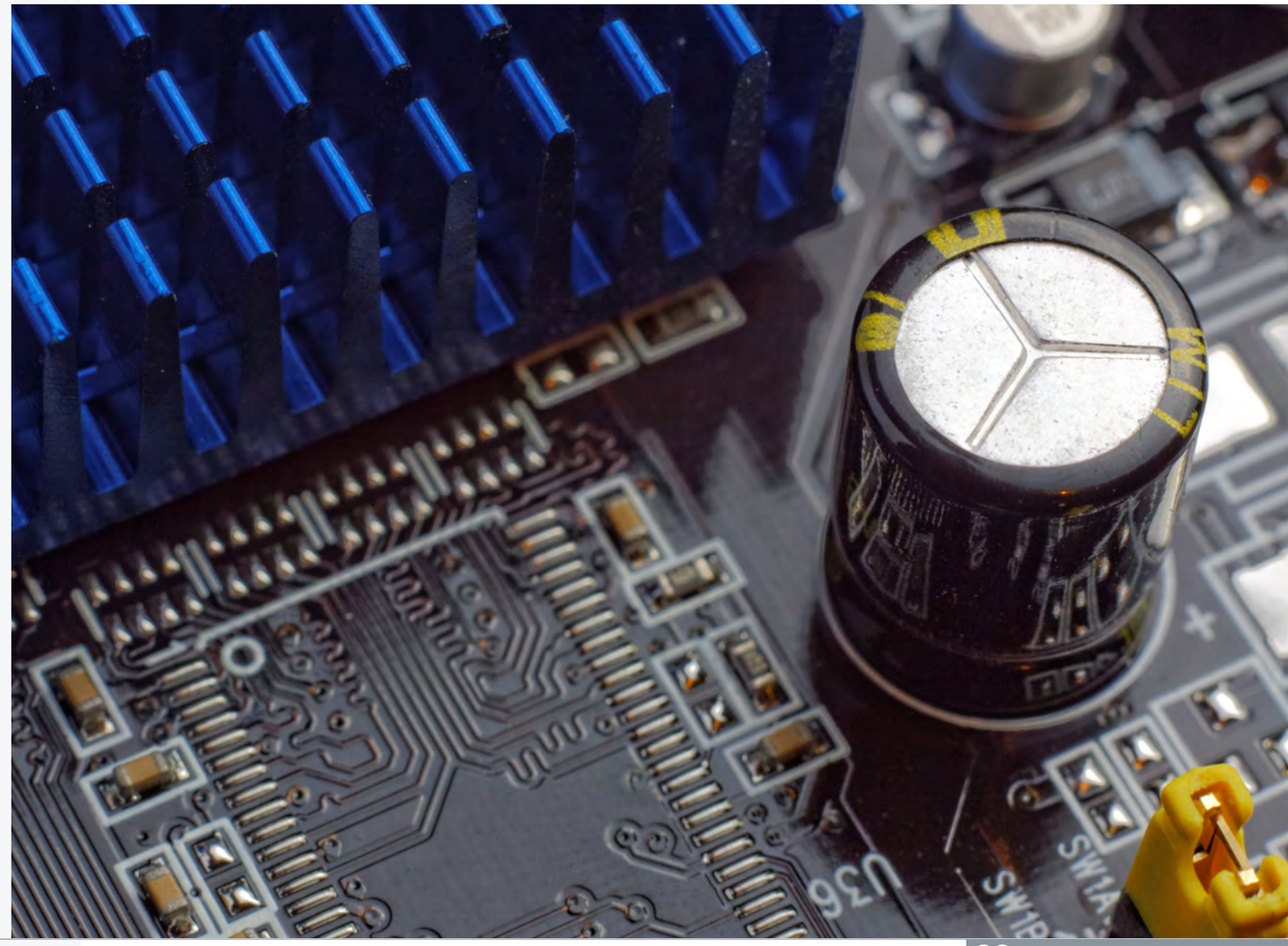
| scope | | Consumption | Unit | $kgCO_2e$ |
|---|---|---|---|---|
| **Scope 3** | Paper consumption | 6,299.37 | kg/year | 9,071.39 |

## 7.6.4 EMISSIONS DUE TO WASTE MANAGEMENT AND DISPOSAL

Emissions at this section occur through Iskraemeco Slovenia waste management and waste disposal process, the total amount of waste in 2017 was 263.327ton, 74% of the total waste was recycled and 25%were land ill and 1% were burned. The emission results are shown in Table 61.

Table 61: Indirect Emissions - scope 3 Emissions due waste

| Scope | | Consumption | unit |
|---|---|---|---|
| | Waste | 263.33 | t waste |
| **Scope 3** | Waste management &transport | 9,896.20 | kgCO2e |



# 7.6.5 Results Iskraemeco Slovenia Egypt

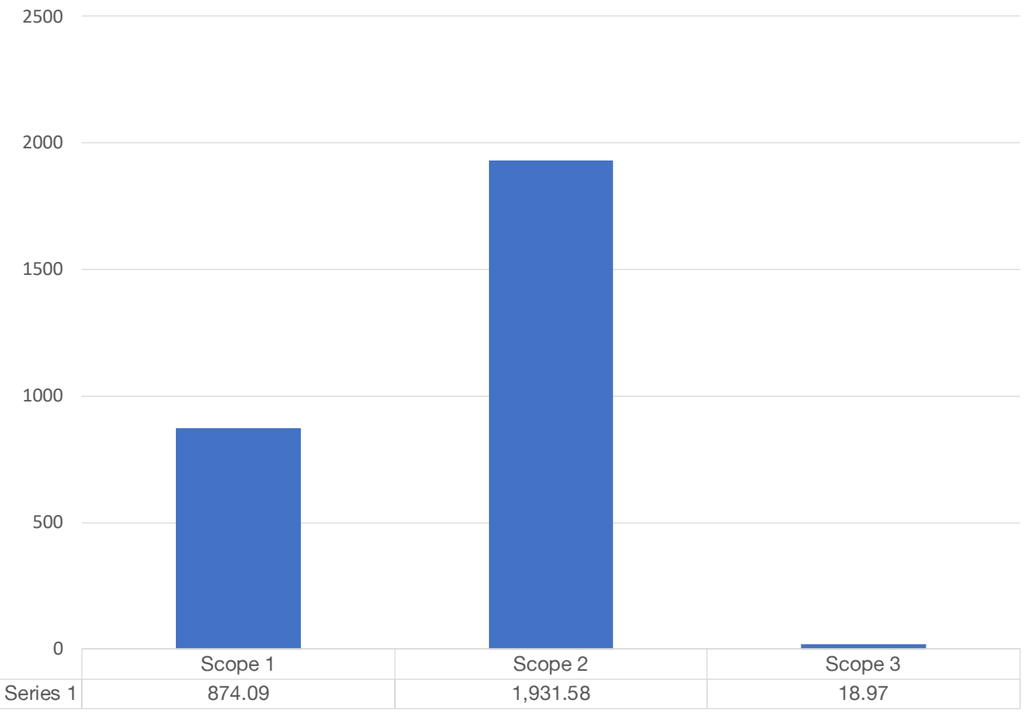
The total carbon footprint for Iskraemeco Slovenia Egypt 2017 amounts to 2,824,631.50 kg $CO_2$e (2,824.63 tons of $CO_2$e when rounded).

## A| EMISSION PER SCOPE

Table 62 : Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| **Scope 1** | 874.09 | 30.9% |
| **Scope 2** | 1,931.58 | 68.4% |
| **Scope 3** | 18.97 | 0.7% |
| **Total** | 2,824.63 | 100% |

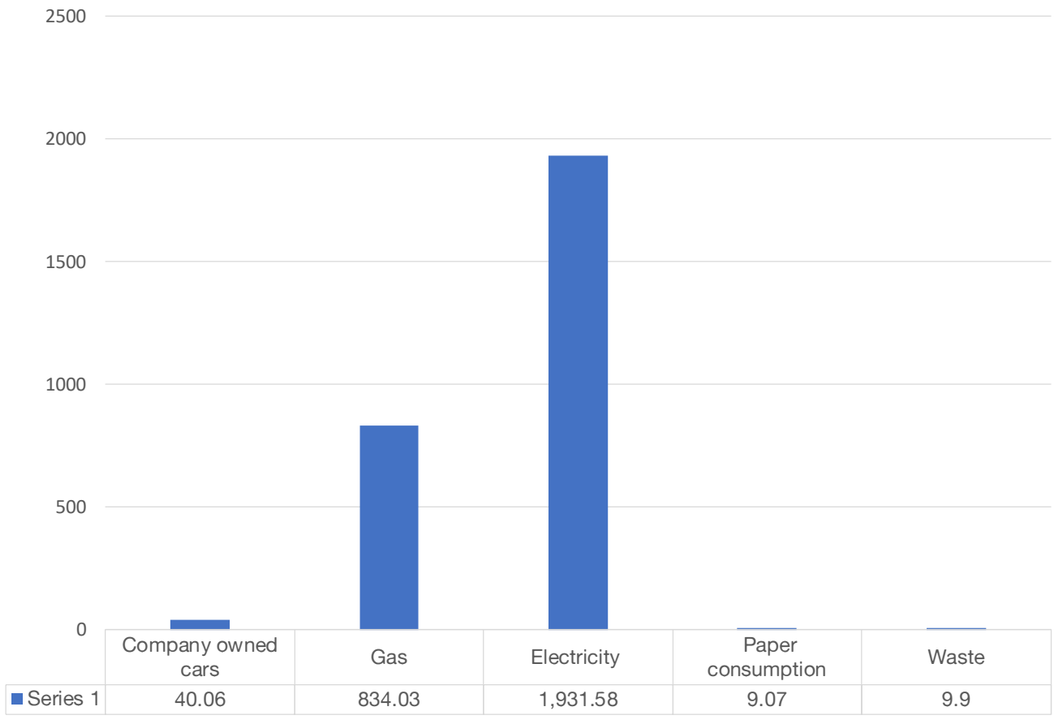
Graphic 15: Emissions per scope




## B| EMISSION PER CATEGORY

Table 63: Emissions per category

| Category | Emissions in tCO2e | % of total |
|---|---|---|
| **Company owned cars** | 40.06 | 1% |
| **Gas** | 834.03 | 29.5% |
| **Electricity** | 1,931.58 | 68% |
| **Paper consumption** | 9.07 | 0.32% |
| **Waste** | 9.90 | 0.35% |
| **Total** | 2,824.63 | 100% |




## C| EMISSION PER EMPLOYEE

Table 64: Emissions per employee

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per employee** | 2,824.63 | 1.29 |

## D| EMISSION PER M²

Table 65: Emissions per m²

| Category | Emissions in tCO2e | tCO2e |
|---|---|---|
| **per m2 (office space)** | 2,824.63 | 0.02 |

# 7.7 SUMMARY OF RESULTS

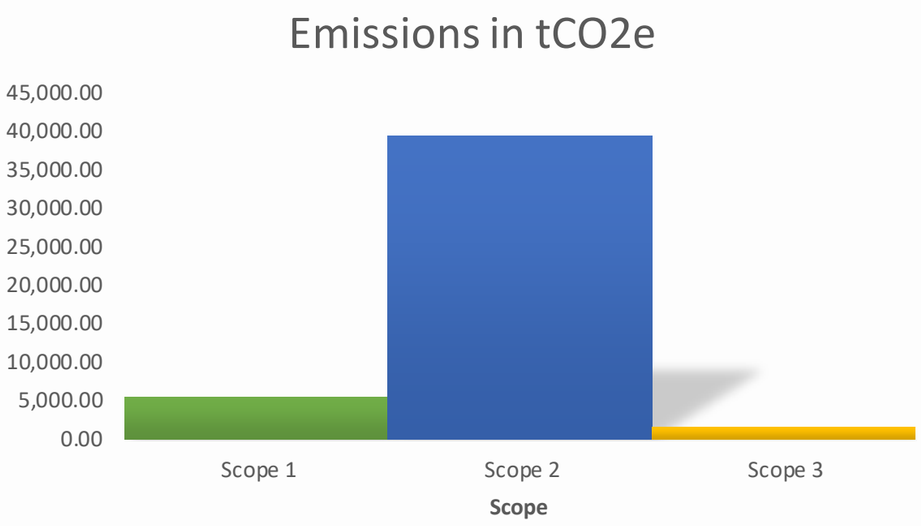
The total carbon footprint for Elsewedy Eclectic Entities in 2017 amounts to 46,708.54 tons of $CO_2e$.

## A| EMISSION PER SCOPE

Table 66: Emissions per scope

| Scope | Emissions in tCO2e | % of total |
|---|---|---|
| Scope 1 | 5,652.45 | 12% |
| Scope 2 | 39,364.49 | 84% |
| Scope 3 | 1,691.59 | 4% |
| Total | 46,708.54 | |

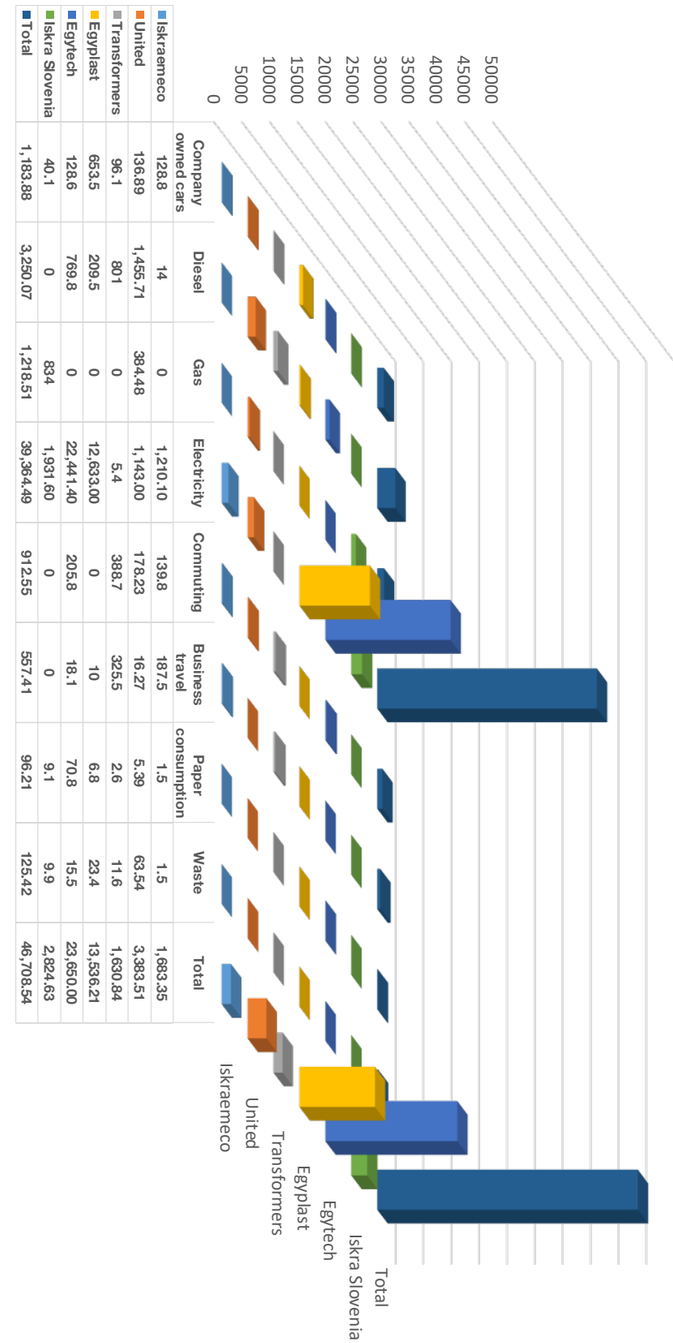
Graphic 17: Emissions per scope






## B| EMISSION PER CATEGORY

| Category | Iskramco | United | Transformer | Egyplast | Egytech | Iskr Slovenia | Total |
|---|---|---|---|---|---|---|---|
| Company owned cars | 128.8 | 136.89 | 96.1 | 653.5 | 128.6 | 40.1 | 1,183.88 |
| Diesel | 14.0 | 1,455.71 | 801.0 | 209.5 | 769.8 | - | 3,250.07 |
| Gas | - | 384.48 | - | - | - | 834.0 | 1,218.51 |
| Electricity | 1,210.1 | 1,143.00 | 5.4 | 12,633.0 | 22,441.4 | 1,931.6 | 39,364.49 |
| Commuting | 139.8 | 178.23 | 388.7 | - | 205.8 | - | 912.55 |
| Business travel | 187.5 | 16.27 | 325.5 | 10.0 | 18.1 | - | 557.41 |
| Paper consumption | 1.5 | 5.39 | 2.6 | 6.8 | 70.8 | 9.1 | 96.21 |
| Waste | 1.5 | 63.54 | 11.6 | 23.4 | 15.5 | 9.9 | 125.42 |
| Total | 1,683.35 | 3,383.51 | 1,630.84 | 13,536.21 | 23,650.00 | 2,824.63 | 46,708.54 |



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