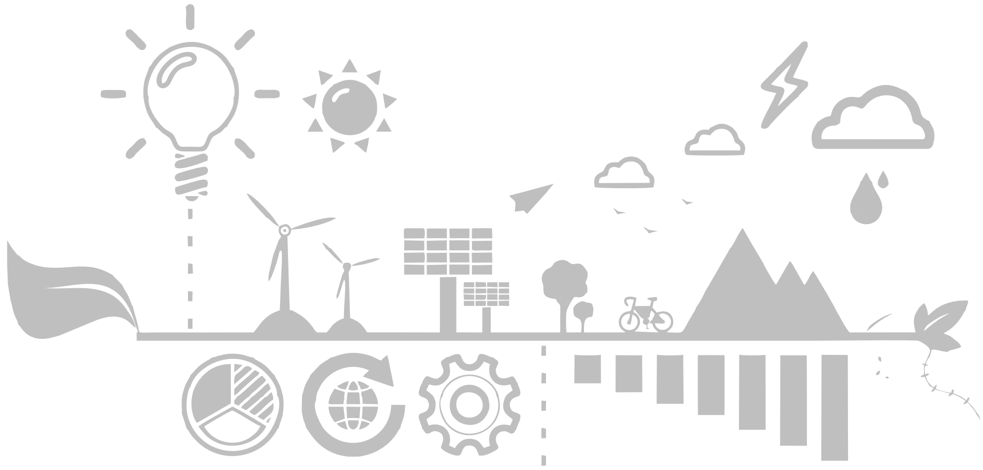
# Carbon Footprint Report

## Saivana Exports Private Limited

Financial Year
2019 - 2020



# CARBON FOOTPRINT ASSESSMENT OF SAIVANA EXPORTS BUSINESS UNITS IN DELHI NCR

**15th March 2021**

**Prepared for**
Saivana Exports Private Limited
D-9/2 OKHLA Industrial Area Phase 2
New Delhi-110020

**Prepared by**
Enen Green Services Private Limited
Sector 88
Faridabad, Haryana 121001

In 2018-19, M/s Saivana Exports Pvt. Ltd. published its 1st carbon footprinting report in accordance with the reporting framework of the GHG Protocol. Over the years, we have always strived to be a thought leader in the broad strategic planning for our footprint, thereby accomplishing various milestones. This year 2019-20 marks the culmination of our 2nd carbon footprint report legacy reflecting our accelerated performance achieved through development of a focused strategy and operational excellence. The key to our excellent performance is due to the incorporation of ingenious sustainable thinking attitude in all our operations.

Reporting as per GHG Protocol and ISO 14064 (2019)

## A Message from Managing Director of M/s Saivana Exports

*"We focus embed sustainability to optimise resource efficiency, reduce carbon footprint and follow ethical business practices."*

Our successful sustainability growth can be attributed to the unity among our talent, our vision and our values. A friendly and approachable work environment has encouraged innovative idea to originate and transform into actionable projects across all our plants. As Saivana Exports makes a mark in the global garment industry, we ensure that our performance inspires not only ourselves but also our peers.

We inspire innovation in manufacturing by setting targets and goals, testing new systems and improving existing processes. Our long-run approach ensures favourable business performance and enables us to set benchmarks in the industry.

Today, we cut down the use of harmful chemicals in our finishing units by 72%. Lot of chemicals were replaced by natural strain removers. We introduced 100% biodegradable disposable poly bags to all our buyers and nearly all of them are using them from Australia to America. 2019-2020 was the year when we saw majority of Saivana's buyers using Organic fabrics. We created a 100% Organic supply chain which has full traceability, from the yarn to the weaving to the dyeing and printing of the fabric.

Regards,
Rajat Sikka
Managing Director

Reducing our carbon footprint

# Table of Contents



**List of Tables**



**List of Figures**

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalents |
| DEFRA | Department for Environment, Food & Rural Affairs |
| GHG | Greenhouse gas |
| GJ | Gigajoule |
| GRI | Global Reporting Initiative |
| GWP | Global Warming Potential |
| HFC-23 | Hydrofluorocarbon |
| HFC-134a | Hydrofluorocarbon |
| ha | Hectare |
| IEA | International Energy Agency |
| IPCC | Intergovernmental Panel on Climate Change |
| kg | Kilogram |
| LOC | Local Organising Committee |
| n/a | Not applicable |
| $N_2O$ | Nitrous oxide |
| pkm | Passenger-kilometer |
| PMA | Participating Member Associations |
| $SF_6$ | Sulfur hexafluoride |
| t | tonne |
| WBSCDt | World Business Council for Sustainable Development |
| WRI | World Resources Institute |

## EXECUTIVE SUMMARY

Since 1994, Saivana Exports Private Limited is a premium export manufacturing house based in New Delhi, India. The company specializes in the production of very high fashion ladies and children garments and is today dealing with some of the top designers and fashion houses across the globe- especially from France, Italy, and the United States of America. In collaboration with the Enen Green Services Pvt. Ltd., Saivana exports have developed a sustainability strategy to minimize the negative climate impact and would like neutralize this negative impact through offsetting of these emissions from carbon credits or purchase of renewable power. The total greenhouse gas (GHG) emissions from 2019-2020 are estimated to be 1175.6 tonnes of carbon dioxide equivalents ($tCO_2e$) from all 5 units. Saivana's sustainability strategy is to also measure the GHG emissions of its own operations. The aim of this report is therefore to present the GHG accounting of Saivana's operations in 2019-20 and issuance of the estimation emissions from the third party. The GHG accounting and reporting procedure is based on the Greenhouse gas Protocol A Corporate Accounting and Reporting Standard – Revised Edition. System boundaries were set to follow the operational control approach and the included activities were mobile combustion, stationary emissions, refrigerant leakage, and electricity consumption.

The total emissions of Saivana's operations in 2019-20 were **1175.6 $tCO_2e$**, consisting of mainly Scope 2 emissions 988.7 tCO2e (82.69%) from electricity consumption in plants.

Table 1: Emissions Summary

| Plant | Scope 1 ($tCO_2e$) | Scope 2 ($tCO_2e$) |
|---|---|---|
| Plant 1: D-9/2 OKHLA PHASE 2 | 18.03 | 47.8 |
| Plant 2: D-6/6 OKHLA PHASE 2 | 22.57 | 163.7 |
| Plant 3: B-125 OKHLA PHASE 1 | 29.51 | 365.7 |
| Plant 4: B-6/1 OKHLA PHASE 2 | 10.15 | 146.3 |
| Plant 5: PLOT NO 166C FARIDABAD | 106.64 | 265.2 |
| Total | **189.9** | **988.7** |

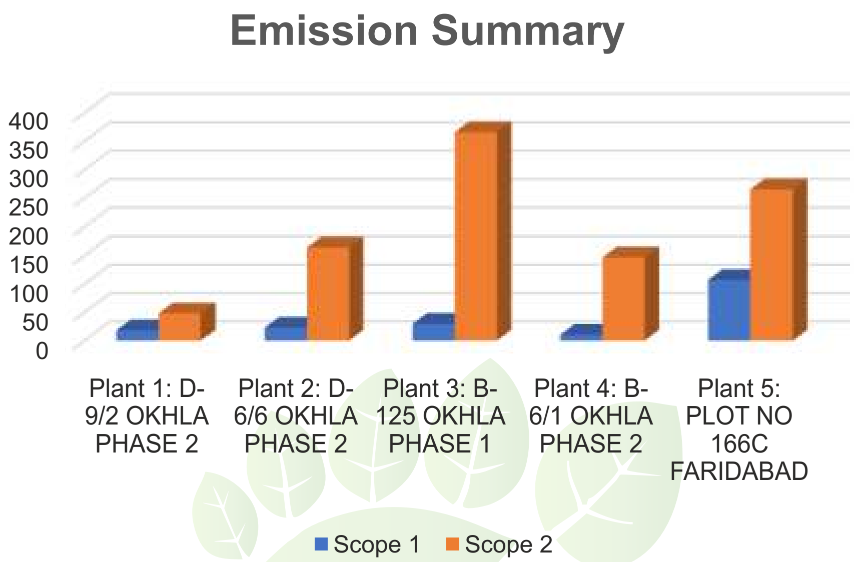



*Figure 1: Overall Summary of Scope 1 and Scope 2 Emissions*

## 1.INTRODUCTION

The Saivana Exports Private Limited founded in 1994 with its headquarter in Delhi, India, Saivana Exports Private Limited is a premium export manufacturing house based in New Delhi, India. The company specializes in the production of very high fashion ladies and children garments and is today dealing with some of the top designers and fashion houses across the globe- especially from France, Italy, and the United States of America. Together with the Enen Green Services Private Limited, Saivana has developed a sustainability strategy of 2019-20. Part of the strategy is to lessen the negative impact of the event. The total greenhouse gas emissions (GHGs) from 2019-20 are estimated to be **1175.6tonne** carbon dioxide equivalents ($tCO_2e$). Another part of Saivana's sustainability strategy is to understand the climate impact of its operations. The aim of this report is to present the GHG accounting of Saivana's operations in 2019-20 based on actual activity data sets. Furthermore, in order to get a full understanding of the Saivana's entire operations during the reporting period, the emissions for the years 2019-2020 are estimated and compare it with 2018-19 results. As compare to 2018-19 in 2019-20 emissions has been increased. In 2018-19 total emission from 5 units were 932.99 tCO2e whereas in 2019-20 it's 1175.6 tCO2e.

The report presents the system boundaries, methodology, data inventory and results of the GHG accounting 2019-20.

### 1.1.REPORTING PERIOD

The reporting period was set from 1 April 2019 to 31 March 2020.

### 1.2.SYSTEM BOUNDARIES

The foremost thing to do while preparing an inventory is to define organizational boundaries. Organizational boundaries can be chalked out by applying equity share and control approach depending on the scenario at the company (GHG Protocol, 2004). While reporting emissions with respect to the equity share approach, an establishment accounts for its share of greenhouse gas emissions from operations in accordance with its percent of equity in the operation (International Organization for Standardization, 2006).

Control approaches can further be sorted as financial control and operational control approaches. When a company gains profits by directing financial as well as operational policies then, the company is said to have financial control over an operation. On the other hand, if any firm or any of its sister companies has the authority to launch and execute operational policies then it is said to have operational control (International Organization for Standardization, 2006). A GHG inventory gives us an insight into the quantity of GHG's emitted by various sources and the time-series trends of the emissions, which is of extreme importance during the framing of mitigation strategies. Together with Saivana's accounts department, the organizational and operational boundaries presented below were determined.

### 1.3.ORGANIZATIONAL BOUNDARIES

To determine the organizational boundaries of GHG accounting two different approaches can be chosen (WRI and WBCSD, 2004). The reporting entity can choose to account for and report their GHG emissions according to either the equity share or the control approach. The operational control approach was chosen for the Saivana GHG accounting of 2019-2020. Under the control approach, a company accounts for 100% of the GHG emissions from operations over which it has control. The organizational boundaries are presented in Table 2. Saivana has operational control over all activities included in Saivana's administrative operations.

*Table 2: Organisational boundaries for the GHG accounting of Saivana 2019-2020*

| Unit | Location | Reporting Period |
|---|---|---|
| Plant 1 | Okhla Phase 2, New Delhi | 01/04/2019 - 31/03/2020 |
| Plant 2 | Okhla Phase 2, New Delhi | 01/04/2019 - 31/03/2020 |
| Plant 3 | Okhla Phase 1, New Delhi | 01/04/2019 - 31/03/2020 |
| Plant 4 | Okhla Phase 2, New Delhi | 01/04/2019 - 31/03/2020 |
| Plant 5 | Faridabad, Haryana | 01/04/2019 - 31/03/2020 |

### 1.4 IMPORTANCE OF GHG PROJECTS FOR COMPANIES

Forming a GHG inventory and reducing it emissions will eventually increase the market value of a company. Apart from this, having a GHG emission reduction strategy will bring tangible returns to the organization owing to the cost savings from energy efficiency and reduction in the usage of fuel (Council for Sustainable Development, 2011). Moreover, incorporating an environment friendly approach in the business will boost a company's image (Mildawati, Agustia and Soewarno, 2018) with both consumers and its stakeholders and help fetch good deals for the company. Since these days even investors have become conscious and are keener on investing in companies addressing the issue of climate change. A study suggests that goods with an eco- friendly branding have a larger customer bank (Feucht and Zander, 2017). So investing in carbon emission reduction is a win-win situation for a company.

According to the Greenhouse gas Protocol (GHG Protocol) emissions are divided into direct and indirect emissions (WRI and WBCSD, 2004). Direct emissions are emissions originating from owned or controlled sources by the reporting entity. Indirect emissions are generated as a consequence of the reporting entity's activities, yet they occur at sources owned or controlled by another entity. The direct and indirect emissions are divided into three Scopes:

- Scope 1: All direct greenhouse gas emissions, such as emissions from combustion in owned or controlled boilers and vehicles.
- Scope 2: Indirect greenhouse gas emissions from the generation of purchased electricity, heat or steam consumed by the company.
- Scope 3: Other indirect emissions, such as emissions from the extraction and production of purchased materials and fuels, vehicles not owned or controlled by the reporting entity, outsourced activities and waste disposal.

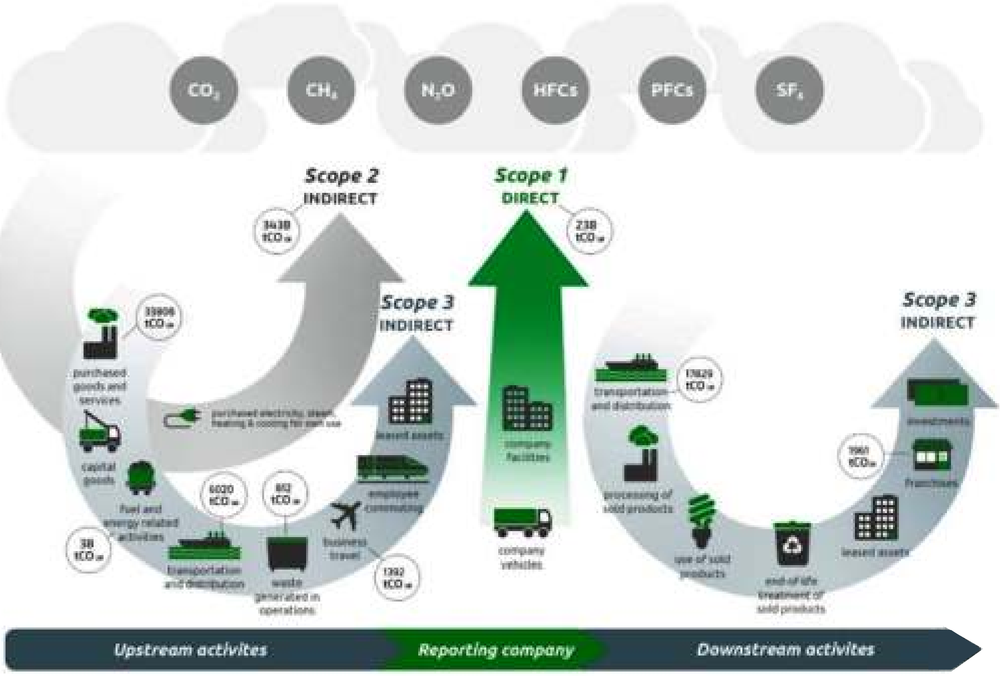



*Figure 2: Scope 1, 2 and 3 Emission Sources*

Companies shall separately account for and report on emissions from Scope 1 and 2. Scope 3 is an optional reporting category (WRI and WBCSD, 2004).

The included activities are stationary, mobile, refrigerant refill and electricity consumption in project boundary. Fire extinguisher emissions excluded as no fire extinguisher have been used within the assessment period 2019-20. Food and beverages at special events were excluded, due to the lack of reliable data and its low impact on the total emissions (0.1%). No Refrigerant leakage has been identified during assessment period 2019-20. Refrigerant has high global warming potential of refrigerant gases and to ensure GHG accounting according to the GHG Protocol.

The overlap between organizational and operational boundaries are presented in Table 2. Where not applicable (n/a) has been applied the activities were excluded based on the decision process in Table 3. Scope 3 emission not included in the assessment period 2019-20.

*Table 3: The overlap of organizational and operational boundaries and the origin of the data for Saivana's GHG accounting 2019-2020*

| Scope | Activities | Plant 1 | Plant 2 | Plant 3 | Plant 4 | Plant 5 |
|---|---|---|---|---|---|---|
| Scope 1 | Stationary Combustion | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Mobile Source | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Refrigerant Leakage | ✗ | ✗ | ✗ | ✗ | ✗ |
| Scope 2 | Electricity | ✓ | ✓ | ✓ | ✓ | ✓ |

## 2. METHODOLOGY

The GHG accounting and reporting procedure is based on the GHG Protocol A Corporate Accounting and Reporting Standard – Revised Edition, the most widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions. It was developed in a partnership between The World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBSCD) in 2004.

The GHG accounting was based on the GHG Protocol's principles of

- Relevance: An appropriate inventory boundary that reflects the GHG emissions of the company and serves the decision-making needs of users.
- Completeness: Accounting all emission sources within the chosen inventory boundary. Any specific exclusion is disclosed and specified.
- Consistency: Meaningful comparison of information over time and transparently documented changes to the data.
- Transparency: Data inventory sufficiency and clarity, where relevant issues are addressed in a coherent manner.
- Accuracy: Minimized uncertainty and avoided systematic over or under quantification of greenhouse gas emissions.

### 2.1 Emission Factor

The emissions are calculated based on GHG protocol and ISO14064. Publicly available data (local / international) and internal assumptions are used for estimating $CO_2$ emission. The assumptions / references are provided as follows:

*Table 4: Emission factors adopted in Project Activity*

| Sr. no. | Particular | Value | Unit | Reference |
|---|---|---|---|---|
| 1 | Diesel NCV | 43 | TJ/Gg | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf |
| 2 | Diesel Emission Factor | 74.1 | tCO2/TJ | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf |
| 3 | Density of Diesel | 0.83 | Kg/litre | http://webserver.dmt.upm.es/~isidoro/bk3/c15/Fuel%20properties.pdf |
| 4 | Gasoline NCV | 44.3 | TJ/Gg | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf |
| 5 | Gasoline Emission Factor | 69.3 | tCO2/TJ | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf |
| 6 | Density of Gasoline | 0.72 | Kg/litre | https://www.engineeringtoolbox.com/fuels-densities-specific-volumes-d_166.html |

| Sr. no. | Particular | Value | Unit | Reference |
|---|---|---|---|---|
| 7 | Natural gas NCV | 48 | TJ/Gg | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf |
| 8 | Natural gas Emission factor | 64.2 | tCO2/TJ | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf |
| 9 | Density of Natural gas | 0.9 | Kg/m3 | https://www.unitrove.com/engineering/gas-technology/compressed-natural-gas |
| 10 | Electricity | 0.92 | kg $Co_{2e}$/ kWh | Co2 Baseline database for Indian Power Sector User Guide Version 15.0 July 2020 https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver15.pdf |
| 11 | Climate Zone | | | https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf |

## 3. RESULTS

In this chapter, the results of the 2019-20 GHG accounting estimation are presented

### 3.1. REPORTING PERIOD 2019-20

The total GHG emissions from Saivana's operations are 1175.6 $tCO_2e$, divided into Scope 1 and 2 emissions (Table 5). Saivana is planning to procure renewable project carbon credits to off-set this emission.

*Table 5: Results by the scope*

| Scope | $tCO_2e$ | % of the total |
|---|---|---|
| Scope 1: Direct GHG emissions | 186.9 | 15.9% |
| Scope 2: Indirect GHG emissions from purchased electricity | 988.7 | 84.1% |
| **Total** | **1175.6** | **100%** |

In Table 6, the indicators for Saivana's operations according to the Global Reporting Initiative's reporting framework GRI standards are presented (GRI, 2016).

*Table 6: Key figures according to the GRI Standard*

| GRI Standard | | Results |
|---|---|---|
| 302-1 | Energy Consumption within the organization (MWh) | 1074.67 |
| 305-1 | Direct Greenhouse gas emissions (Scope 1) ($tCO_2e$) | 186.9 |
| 305-2 | Indirect Greenhouse gas emissions (Scope 2) ($tCO_2e$) | 988.7 |

The GHG accounting per scope and emission source for 2019-20 is shown in Table 7.

*Table 7: Results by emission source and scope 2019-20*

| Activities | $tCO_2e$ | % of total |
|---|---|---|
| **Scope 1** | **186.9** | **15.9%** |
| Stationary Combustion | 169.02 | 90.43% |
| Diesel | 87.68 | |
| PNG | 81.34 | |
| Mobile Source | 17.89 | 9.57% |
| Gasoline | 6.07 | |
| Diesel | 3.19 | |
| CNG | 8.63 | |
| **Scope2** | **988.7** | **84.1%** |
| Electricity | 988.7 | **100%** |
| Grid | 988.7 | |
| Renewable | 0 | |

### 3.2 COMPARISON OF RESULTS 2018-19 AND 2019-20

Since 2018-19, the total emissions have increased by 262.7 $tCO_2e$(Figure 3). The largest increase of emissions in 2019-20 compared with 2018-19 is mainly because of an increase in electricity and diesel consumption. Simultaneously, refrigerant leakage has been decreased between the years.

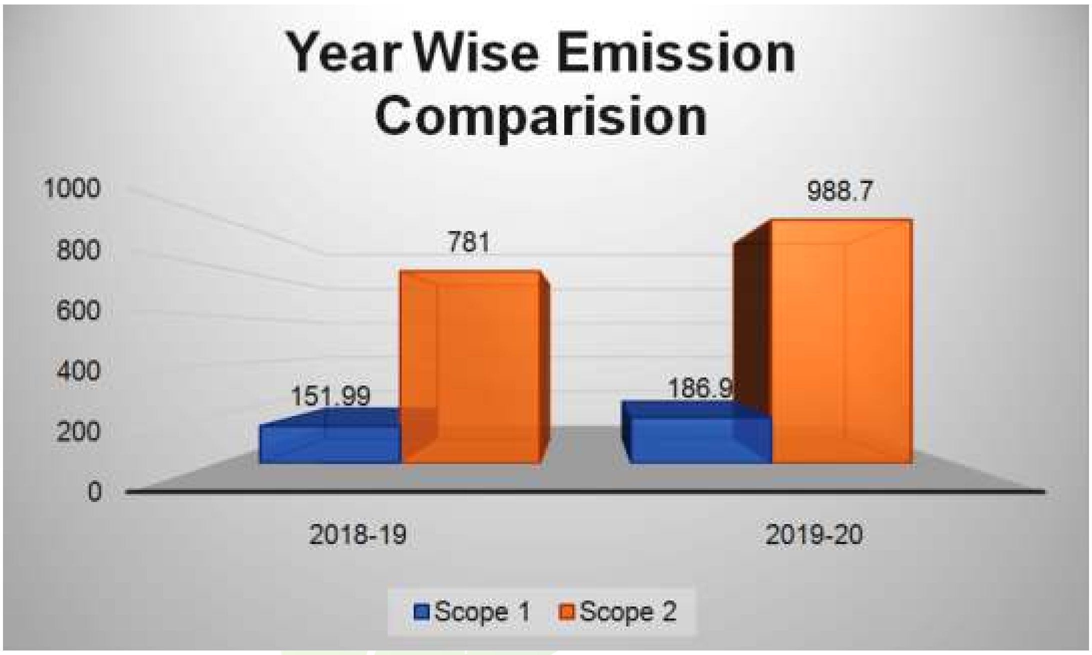



*Figure 3: Year Wise Scope 1 and Scope 2 Emissions Comparison*

## 4. SUMMARY

In summary, the total emissions of Saivana's operations in 2019-20 were 1175.6 $tCO_2e$, consisting of mainly Scope 2 emissions from electricity consumption which is 84.1%. (Figure 4).

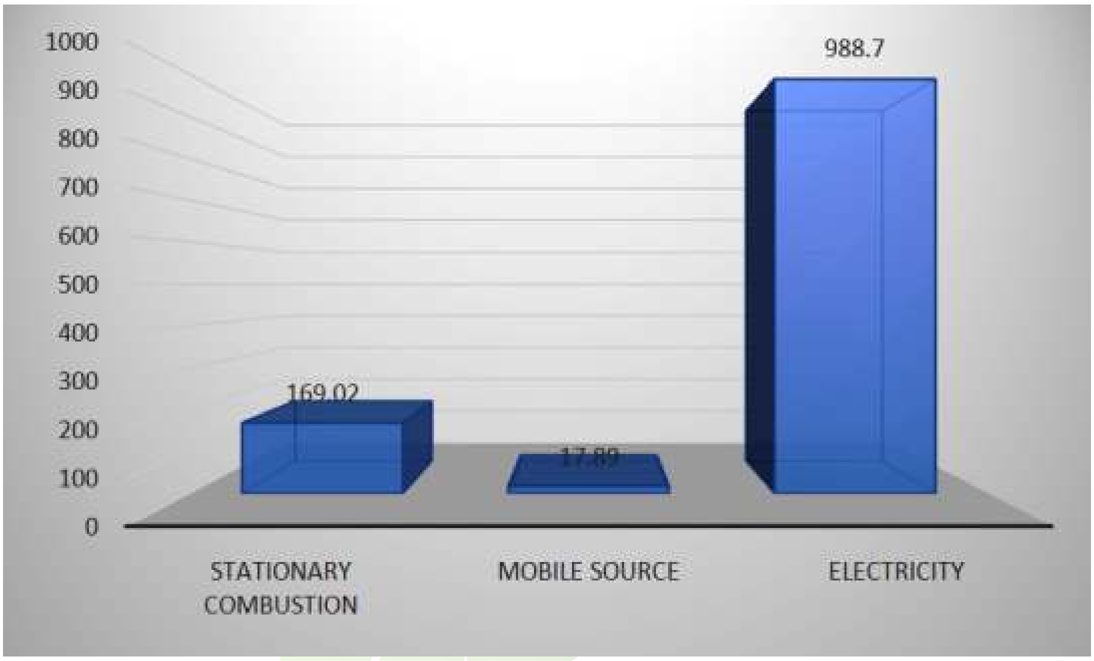



*Figure 4: The total GHG emissions of SAIVANA's operations in 2019-20*

## 5. EMISSION REDUCTION MEASURES

For reduction of Emission Reduction Saivana's can take the following measures:

1. Saivana can off-set scope 1 and scope 2 emissions from the purchase of carbon project credits and renewable power.
2. Saivana can reduce electricity consumption from the following options:
    - Replacement of old tube lights with latest energy-efficient LEDs with same lumens
    - Retrofitting of electricity and diesel boilers with biomass-based boilers
    - Retrofitting of old water pumps

## Independent Assurance Statement

### Scope and Approach

VKU Certification Private Limited (VKU Certification) (Corporate Identity Number U93090MP2020PTC050903) was engaged by Saivana Exports Private Limited (hereafter referred as Saivana) (Corporate Identity Number U51909DL2005PTC138747) to undertake an independent assurance to its Carbon Footprint Report ('Report') for the financial year 2019-20. Saivana in association with Enen Green Services Pvt. Ltd. Has developed the Report based on the GHG protocol and ISO 14064 (2019). Our assurance engagement was planned and carried out in February 2021 for the Financial year ending 31st March 2020. We planned and performed our work using AccountAbility's AA1000 Assurance Standard version 3 (AA1000 V3), international best practices, including International Standard on Assurance Engagements 3000 (ISAE 3000) Revised Version. In doing so, we evaluated the qualitative and quantitative disclosures presented in the Report using ISO 14064 Standard, together with Saivana's protocols for how the data is measured, recorded, and reported. The performance data in the agreed scope of work included the qualitative and quantitative information on Scope 1 and Scope 2 emissions disclosed in the Report prepared by Enen Green on behalf of Saivana, based on ISO 14064, for the activities undertaken by the Saivana over the reporting period 1st April 2019 to 31st March 2020.

### Respective Responsibilities

The Report content and its presentation are the sole responsibility of the management of Saivana. Saivana is responsible for ensuring the maintenance and integrity of the reported and referenced disclosures. In performing our assurance work, our responsibility is to the management of Saivana; however, our statement represents our independent opinion and is intended to inform the outcome of our assurance to the stakeholders of Saivana provides a range of other services to Enen Green, none of which constitute a conflict of interest with this assurance work. VKU Certification was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. VKU Certification assurance engagements established on the assumptions that the information provided by Saivana, Enen Green to us as part of our review have given in good faith and free from any misstatements. Any reliance a third party may place on the Report is entirely at its own risk.

### Summary of Key Assurance Procedure

A multi-disciplinary team of sustainability and assurance experts performed work at Saivana's Corporate Office at Delhi and visited all 5 operational business units. Our assurance processes involved performing procedures to obtain evidence about the reliability of specified performance information. The nature, timing, and extent of procedures selected formed on our professional judgment, including the assessment of the high material relevanceto Saivana's business, and its key stakeholders. We undertook the following activities;

- Assessment of Saivana's reporting procedures for emissions reporting regarding their consistency with thereporting criteria;
- Verified emission disclosures related to emissions and claims made in the Report, and assessed the robustnessof the data management system, data accuracy, information flow and controls for the reported initiatives;
- Understanding the appropriateness of various assumptions, estimations, and thresholds used by Saivana fordata analysis
- Discussions with the key personnel responsible for data compilation
- Performed sample-based checks of the processes for generating, gathering, and managing the quantitativeinformation included in the Report based on selected standard.

Appropriate documentary evidence was obtained to support our conclusions on the information and data verified.Where such documentary evidence is not possible to collect on account of confidentiality of information, our teamverified the same at Saivana's business units.

**Observations and Opinion**

On the basis of the verification undertaken, nothing has come to the attention that causes us to believe that theReport does not properly describe Saivana's adherence to the criteria of reporting, disclosures on emissions, related management approach and chosen topic-specific disclosures from the GHG protocol. The following data was withinthe scope of the verification (below shows the post-audit results):
**Scope 1** – Stationary Combustion, Mobile Source and Refrigerant leakage- **186.9 tCO2e**
**Scope 2**- Purchased electricity – **988.7 tCO2e**

**Total: 1175.6 tCO2e**

**For and behalf of VKU Certification Private Limited**
**Indore, India**
**1st March 2021**

**Dr. Vikas Kumar Aharwal**
**Founder and Director**
**AA1000 Licensed Assurance Provider 000-305**

Aa1000
Licensed Assurance Provider
000-305

## ANNEX 1: PHOTOLOG OF M/S SAIVANA BUSINESS UNITS

Metering Bus Bar

Designing Machine

**All of the business units were found equipped with suitable firefighting equipment**

Electric Boiler, most of the facilities of Saivana Exports is using electric boiler


DG Set for Electricity Back-up

Saiana

Reporting Partner

**Enen Green Services Private Ltd.**
Sector 88,
Faridabad, Haryana-121001.

**Tel:** +91 9953935506
**Email:** ed@enengspl.com
tgf@enengspl.com
**Website:** http://www.enengspl.com/

"Towards Green Future"