CARBON FOOTPRINT REPORT OF

M/s. K. K. JEWELS PVT. LTD.

Address: Plot No. 254-B, Diamond Park, Road No. 4, Surat Sachin SEZ, Surat, Gujarat.

CONDUCTED BY

Eco Envirotech Consultant & Engineers

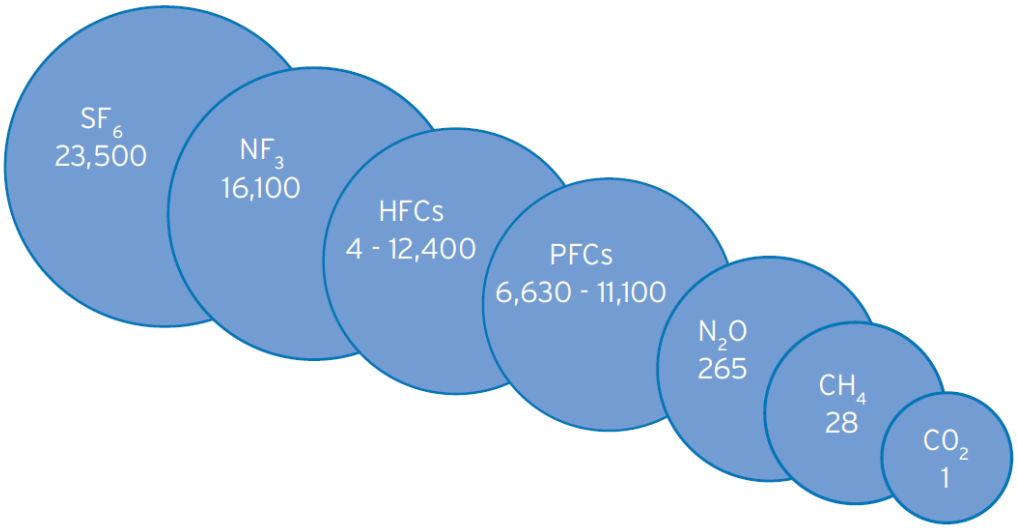
308, Third Floor, "Nathubhai Towers", Opp. Dhru Motors,
UdhnaMain Road, Udhna, Surat-394210, (Gujarat)

Phone: 9427580731, 9228221482,
Email: ecoenvirontech2010@gmail.com

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

Carbon Footprint refers to the potential climatic impact (Global Warming) of the Greenhouse Gases (GHG) emitted directly or indirectly due to an organization's activities. GHGs trap heat radiated from the sun in the atmosphere, warming the planet's surface. Many GHGs occur naturally in the atmosphere, but their increase in concentration from human activities has altered the earth's radiative balance. The GHG Protocol, Corporate Accounting and Reporting Standard coverstheaccounting and reporting of seven GHGs covered by the Kyoto Protocol: Carbon dioxide (CO2), Methane (CH_4) Nitrous oxide (N_2O) Hydrofluorocarbons (HFCs) Perfluorocarbons (PFCs), Sulphur hexafluoride (SF_6), Nitrogen trifluoride (NF_3). GHGs released into the atmosphere have different radiative effects depending on the unique qualities of the gas. The factor describing the radiative forcing impact of one unit of a given GHG relative to one unit of CO_2 is known as the Global Warming Potential (GWP). The GWP for all other GHGs refers to the amount of warming they cause compared to CO_2. For instance, the radiative forcing impact of one unit of methane (CH_4) is 28 times more powerful than one unit of CO_2.



The Global Warming Potential of IPCC recognized GHGs, AR5

A Carbon Footprint Disclosure of any organization is very important to understand such that its key emission sources can be identified and necessary mitigation measures can be adopted for carbon reduction. The organization has adopted a carbon reduction strategy to undertake this project.

The report indicates GHG emissions assessed for M/s. K. K. Jewels Pvt. Ltd. for the Year 2024 (Jan-Dec). The report highlights the current key emission sources of the company and setting up emission reduction targets for next Years. Several recognized national and international standards have been referred for the computation of the footprint of the organization.

1.1 Sources of Greenhouse Gases

The primary sources of greenhouse gas emissions are… (1) Transportation: The transportation sector generates the largest share of greenhouse gas emissions. Greenhouse gas emissions from transportation primarily come from burning fossil fuel for our cars, trucks, ships, trains, and planes. Over 90% of the fuel used for transportation is petroleum based, which includes primarily petrol and diesel. (2) Electricity production: Electric power generates the second largest share of greenhouse gas emissions. Our electricity comes from burning fossil fuels, mostly coal and natural gas. (3) Industry: Greenhouse gasemissions from industry primarily come from burning fossil fuels for energy, as well as greenhouse gas emissions from certain chemical reactions necessary to produce goods from raw materials. (4) Commercial and Residential: Greenhouse gas emissions from businesses and homes arise primarily from fossil fuels burned for heat, the use of certain products that contain greenhouse gases, and the handling of waste. (4) Agriculture: Greenhouse gas emissions from agriculture come from livestock such as cows, agricultural soils, and rice production. (5) Land Use and Forestry: Land areas can act as a sink (absorbing CO from the atmosphere) or a source of greenhouse gas emissions. In the United States, since 1990, managed forests and other land is a net sink, i.e., they have absorbed more CO from the atmosphere than they emit.

1.2 Objectives of the Report

- **a.** Identify key emission sources of GHG at the company
- **b.** Compute Scope 1, Scope 2 and Scope 3 emissions for operations
- **c.** Analyze the results and provide cost effective & efficient measures for reducing the GHG emissions.

2. BACKGROUND

Currently, Global warming has become one of the most prominent issues faced by world community at local, national and global level. The most instant and obvious effect of global warming is the increase in temperatures around the world. GHG emissions are one of the primary causes of global warming. The valuable first step towards the emission reduction and understanding disaster risk, is quantifying the GHG emissions due to various human activities.

K. K. Jewels is in jewellery designing since 1951. The journey began from the Chandni Chowk (Delhi, India), has evolved into an unmatched legacy. Since 1951, KK Jewels has been synonymous with exceptional artistry and innovations, bringing to the for-front a stunning array of designs for its privileged clientele and has set a benchmark in jewellery trade.

2.1 Reporting Period

Reporting period for the report is 1st January 2024 to 31st December 2024.

3. Organizational Boundaries

To establish the organization's boundaries, the operational control approach has been chosen, as it most accurately reflects the organization's activities concerning the work centers that manage operational control. This approach also offers the greatest potential for minimizing greenhouse gas emissions.

Company manufacturing unit located at Plot No. 254-B, Diamond Park, Road No. 4, Surat Sachin SEZ, Surat, Gujarat. is accounted for GHG emission reporting. Various emission sources from this manufacturing facility are taken into account for reporting purposes.

4. Reporting Boundaries:

Emission Scope	Emission Type	Summary	Whether the Scope included in Report?
Scope 1	Direct GHG Emission	Emission from company owned Vehicles.	Included
Scope 2	Indirect GHG Emission by Purchase of electricity	Purchased Electricity	Included

Scope 3 indirect greenhouse gas (GHG) emissions that occur in a company's value chain, encompassing activities beyond its direct operations and those of its owned or controlled assets, such as upstream and downstream activities. Company is in process in recording indirect emission data.

	Categories	Emission Type	Summary	Whether the Scope included in Report ?
Scope 3	1: Purchased Goods and Services	**Indirect GHG Emission by Purchase of raw material.**	**Emission from raw material suppliers scope 1 & 2 emissions**	**Not Included**
	2: Capital Goods	**Indirect emissions from purchased Goods**	**Emissions from the production of capital goods purchased**	**Not Included**
	3: Fuel and Energy Related Activities	**Indirect emission from Fuel and energy-related activities other than Scope 1 & 2**	**Emissions related to the production of fuels and energy purchased& loss during T & D**	**Not Included**
	4: Upstream Transport and Distribution	**Indirect emission from Upstream Transport**	**Emission from Transportation and distribution of products purchased by Air**	**Not Included**
	5: Waste Generated in Operations	---	---	**Not Included**
	6: Business Travel	---	---	**Not Included**
	7:Employee Commuting	---	---	**Not Included**
	8: Upstream Leased Assets	---	---	**Not Included**
	9: Downstream Transport and Distribution	**Indirect emission from Downstream Transport and Distribution**	**Emissions from transportation and distribution of sold products via air & sea**	**Not Included**
	10: Processing of Sold Products	---	---	**Not Included**
	11: Use of Sold Products:	---	---	**Not Included**
	12: End-of-Life Treatment of Sold Products:	---	---	**Not Included**
	13: Downstream Leased Assets	---	---	**Not Included**
	14: Franchises	---	---	**Not Included**
	15: Investments	---	---	**Not Included**

3.1 Scope of the report & emission sources

Scope 1:

Scope 1 greenhouse gas (GHG) emissions are direct emissions from sources an organization owns or controls, such as fuel combustion in boilers, furnaces, or vehicles, and fugitive emissions from equipment. Scope 1 further detailed into

Stationary Combustion: Emissions from burning fossil fuels for heat or power in company-owned or controlled boilers, furnaces, or other stationary sources.

Mobile Combustion: Emissions from company-owned or controlled vehicles, such as cars, trucks, and buses, that burn fossil fuels.

Fugitive Emissions: Unintentional releases of greenhouse gases, such as leaks from refrigeration or air conditioning equipment, or methane emissions from coal mines.

Scope 2: Purchased electricity: indirect emissions resulting from the consumption of purchased electricity

Scope 3: These emissions are indirect greenhouse gas emissions that occur in a company's value chain, encompassing both upstream and downstream activities, and are not directly owned or controlled by the company

Upstream emissionsrefer to greenhouse gas emissions indirectly generated by a company's value chain activities before the company's operations, such as emissions from the production of purchased goods and services, transportation of raw materials, and employee commuting& waste disposal.

Downstream emissions refer to the greenhouse gas emissions that occur after a company's product or service is sold and used, including transportation, processing, and usage by customers, franchises,investments, downstream Leased Assets, but not including the company's own operations.

Measuring scope 3 emissions helps us to understand the magnitude of our impact. We will continue to refine this data and then set goals tailored to the unique attributes of each scope 3 categories.

3.2 Benefits of scope reporting:

Understanding the emissions the business is responsible for and knowing how to measure, offset and, most importantly, reduce carbon emissions will provide your business with a proactive approach to align with mandatory regional climate regulations. To ensure your business is fulfilling all of the standards of your local and national governments, and prepared for growth in your value chain in the future, accurate reporting to stakeholders is key.

Companies that succeed in reporting all 3 scopes of emissions also have a competitive edge in carbon neutrality. There are also many other benefits of scope reporting for businesses:

- Maximized transparency throughout the supply chain for leaders, employees, and stakeholders.
- Recognizing the advancements towards net zero of key players in their industries.
- Identifying hindrances and overcoming them with valuable solutions.
- Improved consumer trust and loyalty.
- Outstanding environmental reputation and unique positioning in the market due to the ability to get GHG certifications and use eco-labeling.
- A better understanding of exposure to climate-related risks, enabling supply chains to be able to change the way they produce and with what they produce.
- Lower energy consumption and reduced resource costs.
- Ability to switch to more environmentally friendly processes and identify significant CO_2 reduction opportunities.
- Positive employee engagement, retention, and attraction of like-minded applicants.
- Recognition for early voluntary action.
- More interest from investors that lean towards green investments.

5. Methodology for GHG quantification

Scope 1:

Scope 1emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles).

Scope 2:

Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Although scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organization's GHG inventory because they are a result of the organization's energy use.

Scope 3:

Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain. Scope 3 emissions include all sources not within an organization's scope 1 and 2 boundary. The scope 3 emissions for one organization are the scope 1 and 2 emissions of another organization. Scope 3 emissions, also referred to as value chain emissions, often represent the majority of an organization's total GHG emissions.

Scope 3 emissions fall within 15 categories, though not every category will be relevant to all organizations. Scope 3 emission sources include emissions both upstream and downstream of the organization's activities.

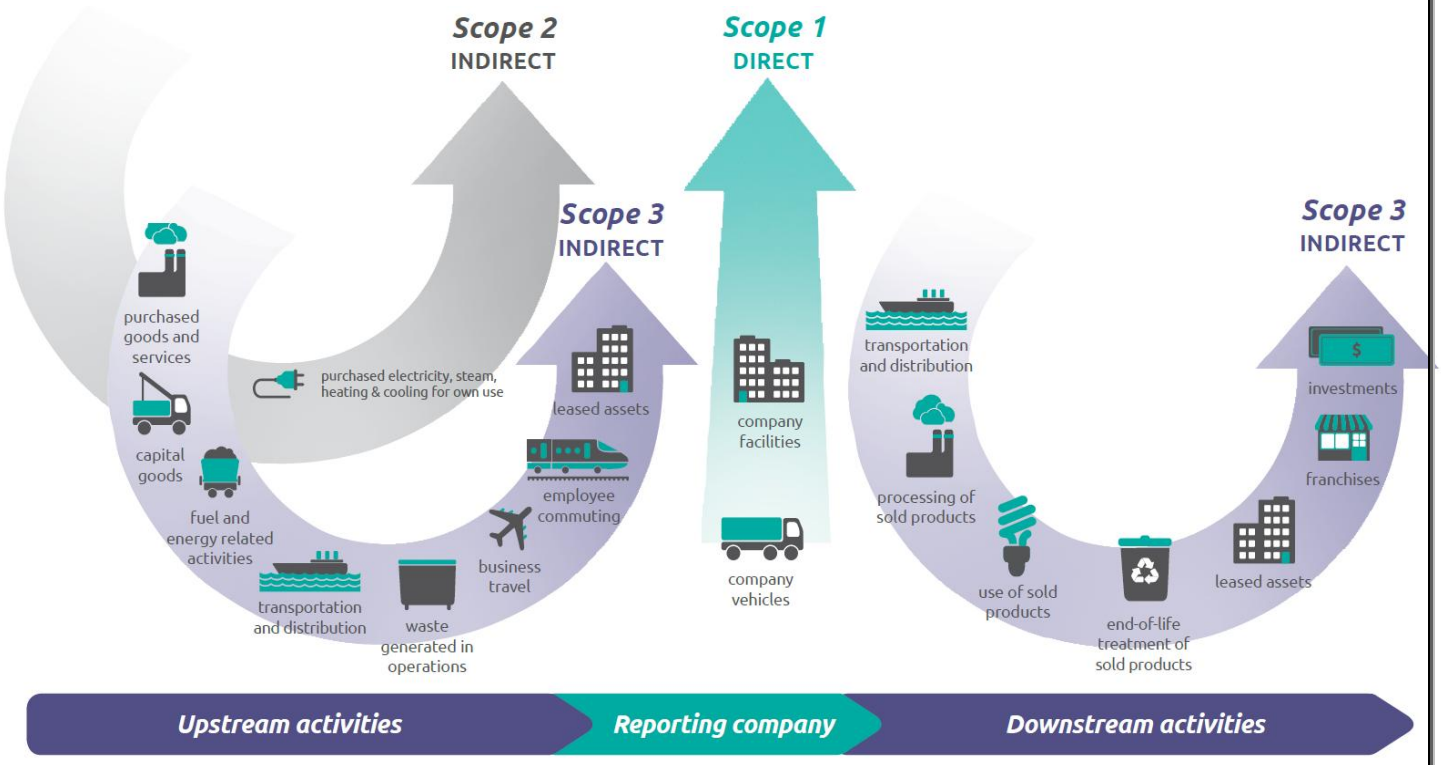
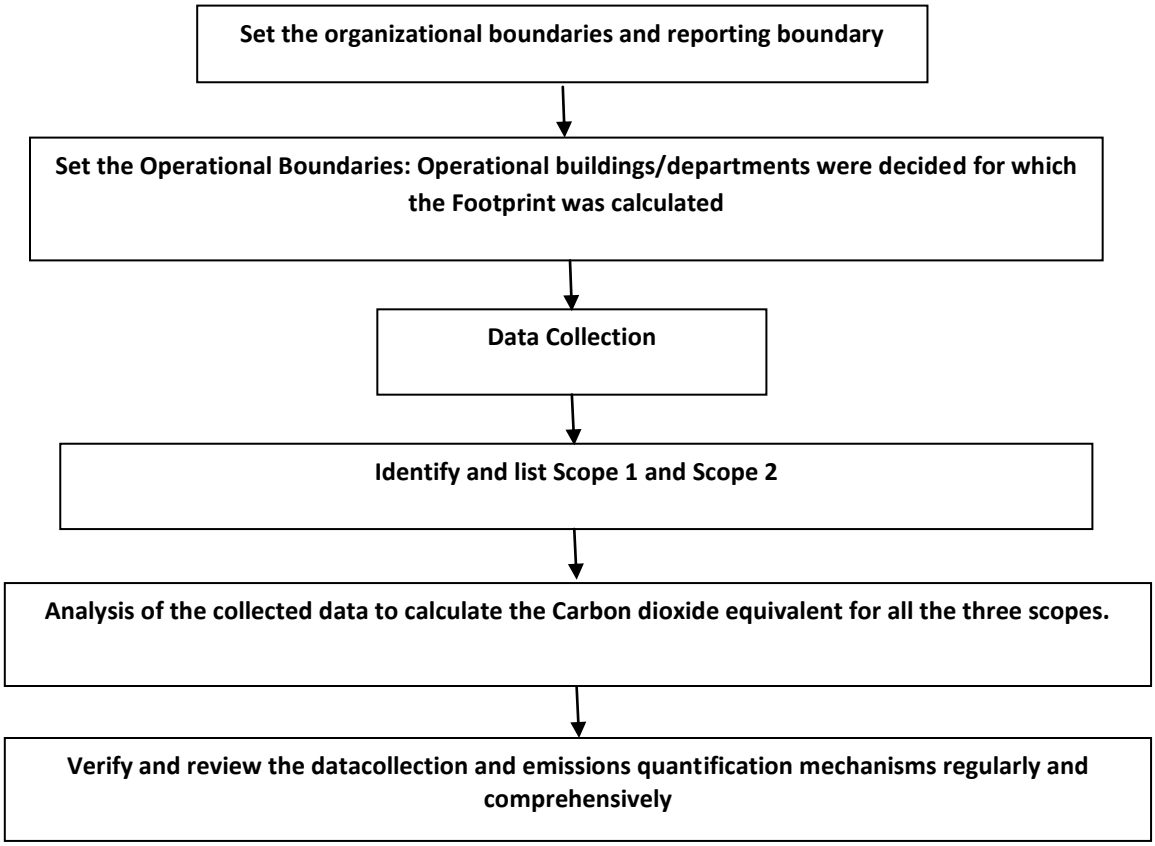


Figure above shows the 15 distinct reporting categories in scope 3 and also shows how scope 3 relates to scope 1 (direct emissions from owned or controlled sources) and scope 2 (indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company). Scope 3 includes all other indirect emissions that occur in a company's value chain. The 15 categories in scope 3 are intended to provide companies with a systematic framework to measure, manage, and reduce emissions across a corporate value chain. The categories are designed to be mutually exclusive to avoid a company double counting emissions among categories.

Calculation of GHG emissions from the unit of activity data requires emission factors for various Greenhouse Gases (specifically CO_2, CH_4, N_2O and HFCs). These factors enable GHG emissions to be estimated from a unit of available activity data (e.g. Kg of fuel consumed, Kg of product produced etc.). These are multiplied with their respective conversion factors to be expressed in terms of kg CO_2 equivalent ($kgCO_2e$). These emission factors were researched and extracted from various national and

international standards. Compilation of all the latest required factors was done in the Agile Carbon Footprint Toolkit which is used in the computation of the carbon footprint.



6. DATA COLLECTION

5.1. Scope 1: Direct GHGemission

- Emission from Mobile combustion from company owned cars uses petrol as a fuel.

5.2. Scope 2 Electricity Indirect GHGemissions

Scope 2 accounts for the GHG emissions from the generation of purchased electricity consumed by the organization.

5.3. Scope 3 Other Indirect GHG emissions

It includes emissions from outsourced activities i.e. from the activities of members of the organization but occurred at sources owned/controlled by another organization.

The primary data considered& refers to the most recent annual administration period, data is not older than 1 years. Also covers at least 12 calendar months to avoid seasonal changes. Data based on measurements of actual and site-specific internal production data. Measured/calculated and internally verified.

Company is in the process of Scope 3 emissions reporting & will likely focus on identifying and measuring indirect emissions across its value chain, engaging suppliers to reduce emissions, and potentially setting targets and strategies for decarbonization. By understanding Scope 3 emissions, companies can identify areas where they can reduce their environmental impact across their value chain

6. DATA ANALYSIS: CALCULATIONS AND RESULTS

Secondary or background data concern processes outside the operational control of the company. The source of secondary data must be specified in the report. The extent to which secondary data is used should be specified in relation to all Scope 2 and Scope 3 GHG emissions by CO_2.

The extent to which data is used should be specified in relation to all Scope 1 and Scope 2 GHG emissions by CO_2. All Scope 1 & Scope 2 GHG emission measures are made under Guidance and standards of USEPA, IPCC, TERI, IEA & CEA India.

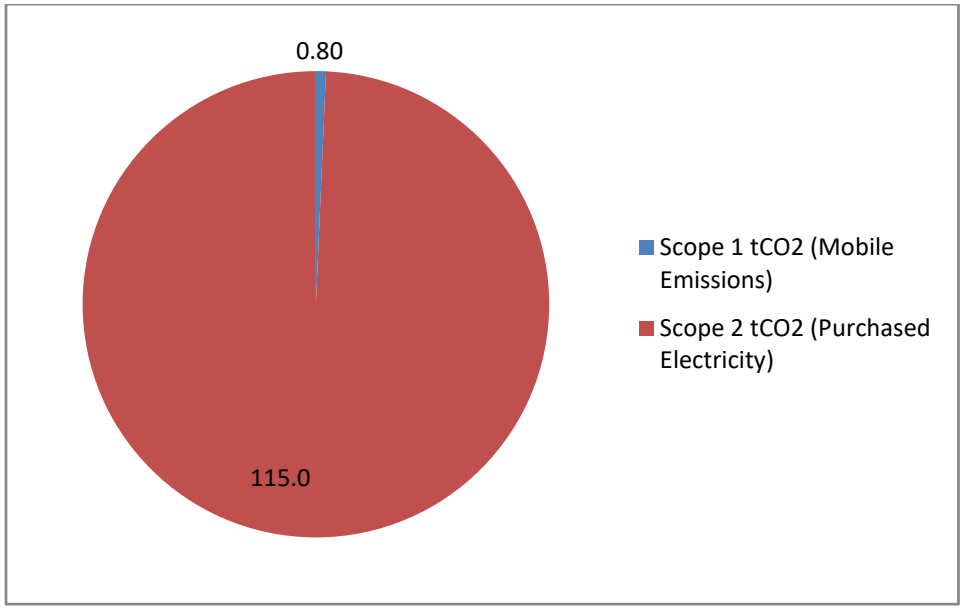
The scope wise estimation is analyzed as follows

Sr. No.	Scopes and categories	Metric tons CO_2e	Percentage of scope 3 emissions
1	**Scope 1:** Direct emissions from owned/controlled operations	0.8	---
2	**Scope 2:** Indirect emissions from the use of purchased electricity, steam, heating, and cooling	115	---
	Upstream **Scope 3** emissions		
3	Purchased goods and services	---	---
4	Capital goods	---	---
5	Fuel- and energy-related activities (not included in scope 1 or scope 2)	---	---
6	Upstream transportation and distribution	---	---
7	Waste generated in operations	---	---
8	Business travel	---	---
9	Employee commuting	---	---
10	Upstream leased assets	---	---
	Downstream **Scope 3** emissions		
11	Downstream transportation and distribution	---	---
12	Processing of sold products	---	---
13	Use of sold products	---	---
14	End-of-life treatment of sold products	---	---
15	Downstream leased assets	Not Applicable	---
16	Franchises	Not Applicable	---
17	Investments	---	---

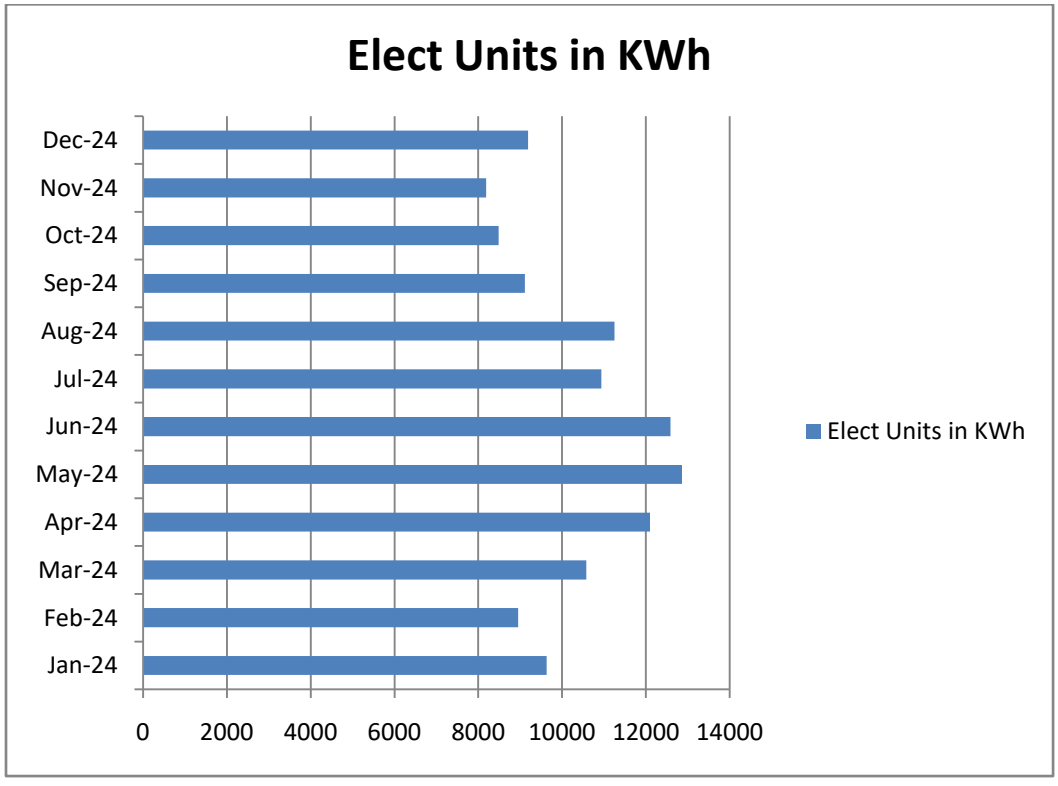
In Financial year 2024, Total Carbon Footprint of M/s. K. K. Jewels Pvt. Ltd. was computed to be 115.8 tons of CO_2 for the identified GHG emission sources. The major source of emissions came from Scope 2 which is 115 tCO_2.

6.1 Scope 1 & Scope 2 GHGemissions

As indicated above, the GHG emissions are contributed by **Scope 1** Company owned Vehicle for transportation is 0.8 tCO_2. **Scope 2** Indirect emissions from the use of purchased electricity are 115 tCO_2.



6.2 Scope 2 GHG emissions



Bar Graph showing monthly GHG emissions due to electricity consumption under Scope 2

These are the emissions due to the electricity consumption by the firm. The total emissions from Scope 2 were estimated to be 115 tCO_2 for the reporting year 2024.

6.3 Scope 3 GHG Emissions

The Scope 3 emissions for M/s. K. K. Jewels Pvt. Ltd. were not computed in year 2024.

7. CONCLUSION AND DISCUSSION

The present study computes the carbon footprint of M/s. K. K. Jewels Pvt. Ltd. for the Reporting Year 2024. It is a pioneer step undertaken by the company to report and reduce its carbon emissions. The study presents the Scope 1 & Scope 2 emissions of the scope location. It highlights the top areas of emissions outside & from within the reporting company

Emissions are reported on a calendar year 2024 (1 January to 31 December). Emissions are reported in carbon dioxide equivalents (tCO_2e), which standardizes the climate effects of different GHGs by using global warming potential (GWP) values. M/s. K. K. Jewels Pvt. Ltd. is actively taking steps to include more indirect greenhouse gas emissions sources throughout their entire value chain, including emissions from suppliers, transportation, product usage by customers, and waste disposal, which are not directly controlled by the company itself.