Green House Gases Inventory Report FY 2024-25 for NESL – Head Office	
Company name	**NESL**
Description of the company	Office
Report Title	GHG Inventory Report FY 2024-25
Report Number & Date	NESL/GHG-Inventory/Apr 25
The reporting period covered	1st April 2024 to 31st March 2025
Base year	FY 2024-25
Level of External Assurance	**REASONABLE**
Physical Location	**Office Address** Plot No-15, Infinium Digispace, CP Block, Sector V, Bidhannagar, Kolkata, West Bengal 700091
Co-ordinated and prepared by	**Ms. Anindya Mitra** Associate Vice President

List of Figures

List of Tables

1.0 Preface

Climate change is perhaps the world's most pressing concern today, with ramifications for both human and environmental systems and the potential for large changes in resource consumption, production, and economic activity. As a result, worldwide, regional, national, and local measures to control Greenhouse Gas concentrations in the Earth's atmosphere are being devised and implemented. Such GHG projects rely on GHG emission and/or removal quantification, monitoring, reporting, and verification.

Climate change efforts are being undertaken by industry and governments worldwide. Climate change has been acknowledged as one of the most significant concerns confronting nations, governments, businesses, and individuals in the next decades.

ISO 14064-1:2018 is an international specification that provides organizational advice for the measurement and reporting of Green House Gas Emissions and Removals. We at NESL – head office have successfully quantified Green House Gas (GHG) Inventory and its removal every year for our head officeactivities in accordance with ISO 14064-1: 2018 criteria. The total GHG emissions of NESL –head office for financial year 2024-25 (April 2024 – March 2025) is 71.54 tCO2e.

Our GHG assessment and removal initiative has been a voluntary initiative to combat climate change throughGHG inventory. We began measuring GHG emissions in 2022, and verification will be performed by a competent 3rd party auditor.

The following objectives were included in the preparation of the GHG inventory report in accordance with ISO14064-1: 2018: -

- Strengthen the environmental integrity of GHG quantification.
- Increase the objectivity, consistency, and transparency of GHG quantification, monitoring, and reporting, as well as the quality of GHG projects involving emission removal and reduction.
- Make it easier to track the results and advancements in GHG emission reduction and/or GHG removal.
- This GHG inventory report highlights GHG emissions for FY 2024-25 in tons of CO2 equivalent andcompares them to the prior year, as well as providing information on GHG inventory.

By opting for energy conservation, process improvement measures, NESL has significantly reduced their GHG emissions in alignment to theircommitment with carbon reduction targets.

1.1 Message from the Director of NESL

At NESL, being socially responsible and wanting to make a difference to the world we live in has been one of our core values. As a socially and environmentally responsible organization, we are fully committed to creating a positive impact for all our stakeholders.

Sustainability is a long-term challenge that will necessitate decades of perseverance. NESL is committed to pursuing strategies that will have long-term impacts on communities and will result in a balance between sustainability and overall corporate success.

Through our corporate social responsibility (CSR) programs, environmental initiatives, and ethical corporate governance, we have been on a continuing environmental, social, and governance (ESG) journey for some time. While we are proud of the progress we have accomplished so far, we also realize that there is still a longway to go before we can guarantee a better and more promising future for our future generations.

As we highlight the strides we are making as a company, this GHG Inventory report and our ESG vision are astep toward reaffirming our commitment. This will serve as our guide and serve to hold us responsible for following through on our ESG commitments. We have aligned and committed our GHG emission reduction with SBTi (Science Based Target initiatives).

This report also highlights our ongoing commitment to the environment and sustainability. As we move forward,we intend to continue to add value by expanding on these efforts, contributing to major global issues, and laying the groundwork for a more inclusive and sustainable future.

Amar Chatterjee

Whole time Director of NESL

2.0 Introduction

Due to the concentration of Greenhouse Gases rising as a result of various anthropogenic activities, global climate change poses a major threat to the earth's atmosphere. Rapid industrialization boosts GHG emissionsinto the atmosphere, which in turn cause climate change. One of the biggest issues that will face countries, governments, companies, and citizens in the coming decades is climate change. The utilization of resources,production, and economic activity could all change significantly as a result of climate change, which has ramifications for both natural and human systems. Initiatives are being created and put into action on a global,regional, national, and local level to reduce the levels of greenhouse gases (GHG) in the Earth's atmosphere.Such GHG programs rely on the measurement, monitoring, reporting, and verification of GHG emissions and/or reductions, which might be done within the framework of ISO 14064.

In terms of reporting greenhouse gas (GHG) emissions and removals, ISO 14064-1 establishes organizational-level concepts and procedures for quantification. It serves as a tool for limiting and reducing greenhouse gases (GHGs) and comprises requirements for the design, creation, administration, reporting, and verification of an organization's GHG inventory.

Taking everything into account, controlling GHG emissions at the micro level is an effective way to mitigate climate change. With regard to the impact of global/climate change, nations throughout the world are becoming more conscious of the risks involved, and governments and other organizations are implementing preventative steps through proper policy interventions as well as established aims and objectives. Companies began to monitor, quantify, and report their GHG emissions.

NESL assessed GHG emissions across its business operations and created a GHG inventory report. The GHG report includes NESL's objectives, strategies, and GHG inventory.

The GHG report is developed in accordance with ISO 14064-1.2018 criteria and contains information on the NESL GHG inventory for the financial year 2024-25. NESL is responsible for all GHG calculations in the report, as well as the completeness and quality of the data provided.

2.1 Intended Users (Clause No. 5.1 of ISO 14064 -1:2018)

This report is intended for investors, company management, employees, customers, regulators, federations, and other interested parties. The GHG report was created to assist intended users in voluntarily monitoring NESL's head office operations' greenhouse gas emissions. This report is only for voluntary GHG reporting and does not represent or form part of any mandatory GHG reporting framework or scheme. NESL reserves all distribution rights for this report. NESL has taken all reasonable precautions to ensure that the facts stated in this report are true and accurate in all aspects as of the date of preparation and according to the information and data available within the organization.

Measuring GHG emissions is the first step towards managing them. This report offers crucial quantitative data on the GHG emissions generated by NESL's operations in head office. As measurement leads to management, this report assists organizations in improving the environmental impacts of GHG quantificationand removal, which further aids in reducing GHG emissions.

2.2 Standards / Guidelines Used

This report was created in compliance with the principles and guidelines outlined in ISO 14064: 2018 and theGHG protocol for measuring and reporting GHG emissions and removals. ISO 14064-1 clarifies and standardizes the quantifying, monitoring, reporting, and validating or verifying of GHG emissions and removals to enable sustainable development through a low-carbon economy. ISO 14064-1:2018 specifies the conceptsand procedures for creating, managing, and reporting organizational-level GHG inventories. It specifies the standards for setting GHG emission and removal boundaries, quantifying an organization's GHG emissions and removals, and identifying specific steps to improve GHG management.

3.0 Company Profile (Clause No. 3.4 of ISO 14064-1:2018)

The erstwhile Engineering Services Division (ESD) of Nicco Corporation Limited, Nicco Engineering Services Limited is a formidable member of the 7-decade-old Nicco Group. NESL is a Specialty Maintenance Company of repute, equipped with best in class technology. NESL is one of the most trusted names in the industry having a nationwide network of 6 branches and 60 site offices. For the last three decades NESL has been making plants across India run more efficiently by minimizing their downtime with versatile range of services which include online leak sealing, online safety valve testing, Belzona polymeric know-how, metal stitching, Fleet fusion welding and onsite machining. Specialty Maintenance Services are extended to all the core sectors of engineering like thermal and nuclear power, petrochemical, refineries, steel, paper, marine, oil and gas, fertilizer etc.

We are certified for below management systems to showcase our excellence in quality and sustainability.

- ISO 9001:2015 Certified (Quality Management System)
- ISO 14001: 2015 Certified (Environmental Management System)
- ISO 45001:2018 certified (Occupational Health & Safety Management System)

4.0 Scope and Objectives of GHG Accounting (Clause No. 9.2 of ISO14064-1:2018)

A short background about ISO 14064 standards is as below.

Climate change arising from anthropogenic activity has been identified as one of the greatest challenges facing the world and will continue to affect business and citizens over future decades. Climate change has implications for both human and natural systems and could lead to significant impacts on resource availability,economic activity, and human wellbeing. In response, international, regional, national, and local initiatives arebeing developed and implemented by public and private sectors to mitigate greenhouse gas (GHG) concentrations in the Earth's atmosphere, as well as to facilitate adaptation to climate change.

There is a need for an effective and progressive response to the urgent threat of climate change based on the best available scientific knowledge. ISO produces documents that support the transformation of scientific knowledge into tools that will help address climate change. GHG initiatives on mitigation rely on the quantification, monitoring, reporting and verification of GHG emissions and/or removals.

The ISO 14060 family provides clarity and consistency for quantifying, monitoring, reporting, and validating or verifying GHG emissions and removals to support sustainable development through a low carbon economy and to benefit organizations, project proponents and interested parties worldwide.

Specifically, the use of the ISO 14060 family:

— enhances the environmental integrity of GHG quantification.

— enhances the credibility, consistency, and transparency of GHG quantification, monitoring, reporting, verification, and validation.

— facilitates the development and implementation of GHG management strategies and plans.

— facilitates the development and implementation of mitigation actions through emission reductions or removal enhancements.

— facilitates the ability to track performance and progress in the reduction of GHG emissions and/or increasein GHG removals.

Applications of the ISO 14060 family include:

— corporate decisions, such as identifying emission reduction opportunities and increasing profitability by reducing energy consumption.

— risks and opportunities management, such as climate-related risks, including financial, regulatory, supply chain, product and customer, litigation, reputational risks, and its opportunity for business (e.g., new market, new business model).

— voluntary initiatives, such as participation in voluntary GHG registries or sustainability reporting initiatives.

— GHG markets, such as the buying and selling of GHG allowances or credits.

— regulatory/government GHG programs, such as credit for early action, agreements, or national and local reporting initiatives.

ISO 14064-1 standard details principles and requirements for designing, developing, managing, and reportingorganization-level GHG inventories. It includes requirements for determining GHG emission and removal boundaries, quantifying an organization's GHG emissions and removals, and identifying specific company

actions or activities aimed at improving GHG management. It also includes requirements and guidance on inventory quality management, reporting, internal auditing, and the organization's responsibilities in verification activities.

ISO 14064-2 details principles and requirements for determining baselines, and monitoring, quantifying, and reporting of project emissions. It focuses on GHG projects or project-based activities specifically designed to reduce GHG emissions and/or enhance GHG removals. It provides the basis for GHG projects to be verified and validated.

ISO14064-3 details requirements for verifying GHG statements related to GHG inventories, GHG projects, and carbon footprints of products. It describes the process for verification or validation, including verification or validation planning, assessment procedures, and the evaluation of organizational, project and product GHGstatements.

ISO 14065 defines requirements for bodies that validate and verify GHG statements. Its requirements cover impartiality, competence, communication, validation and verification processes, appeals, complaints and the management system of validation and verification bodies. It can be used as a basis for accreditation and other forms of recognition in relation to the impartiality, competence and consistency of validation and verification bodies.

ISO 14066 specifies competence requirements for validation teams and verification teams. It includes principles and specifies competence requirements based on the tasks that validation teams or verification teams have to be able to perform.

ISO 14067 defines the principles, requirements, and guidelines for the quantification of the carbon footprint ofproducts. The aim of ISO 14067 is to quantify GHG emissions associated with the life cycle stages of a product,beginning with resource extraction and raw material sourcing, and extending through the production, use andend-of-life phases of the product.

ISO/TR 14069 assists users in the application of this document, providing guidelines and examples for improving transparency in the quantification of emissions and their reporting. It does not provide additional guidance ISO 14064-1.

Figure 1 illustrates the relationship among the ISO 14060 family of GHG standards

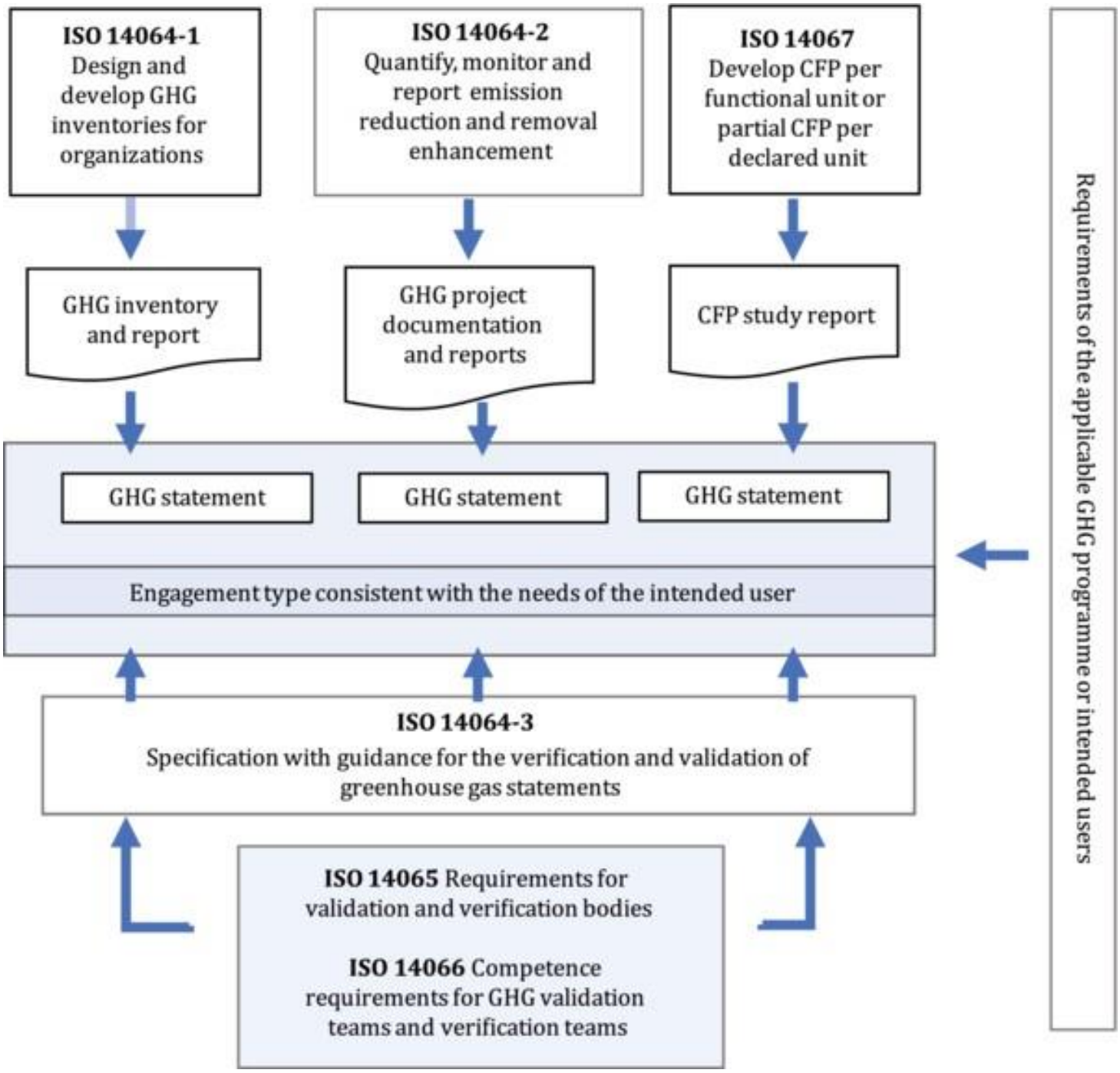


Figure 1: Relationship among the ISO 14060 family of GHG standards (Source: ISO 14064-1 Standards)

4.1 Scope of GHG inventory & GHG report at NESL

NESL, as a responsible organization, created and implemented a GHG inventory Management System in accordance with ISO 14064-1:2018 in order to control its GHG emissions and removals. NESL created a

GHG inventory to measure, manage, and report its GHG emissions, as well as to identify opportunities for reduction. The scope of NESL's GHG inventory and GHG report is restricted to the organizational and operational boundaries stated in this report.

The primary purpose of this report is to account for Green House Gas (GHG) emissions and reductions from routine activities for the previous financial year, i.e., April 2023 – March 2024.

4.2 GHG Assertion Statement of NESL(Clause No. 5.2.4 of ISO 14064-1:2018)

NESL has quantified its GHG emission according to ISO 14064-1:2018 for the FY 2024-25 and intends to disclose the same to intended users through this GHG report

Table 1: GHG Inventory category

Sl.	GHG Inventory Category	Source	Quantity in Ton-CO_2 e
1.	Direct GHG emissions (Scope 1 as per GHG Protocol)	DG Set (Diesel)	0.68
2.	Indirect GHG emissions from importedsources (Scope 2 as per GHG Protocol)	Purchased Electricity	43.43
3.	Scope 3: GHG emission from employee daily commute and material transport	1.Employee commute 2. Material transport	1. 11.47 2. 15.96

4.3 GHG Policy, Vision & Strategy of NESL (Clause No. 9.2 of ISO 14064-1:2018)

NESL plans to demonstrate its commitment to minimizing environmental effect by assessing its GHG emissions and taking the required steps to further reduce its GHG emissions. NESL has raised awarenessof the issue of environmental sustainability within the company at all levels.

We have created and implemented Environmental, Health, and Safety rules for our office, demonstrating NESL's dedication to environmental / natural resource conservation and occupational safety for all employees and contractors.

In accordance with the organization's "Environmental, Health, and Safety Policy," NESL has adopted the following statement as a GHG Policy.

4.3.1 GHG Policy Statement

NESL is dedicated to:

- Reducing GHG emissions and their negative impact on climate; and
- Optimizing energy use to minimize business impact.
- Encourage the usage of renewable energy.
- Quantify and report GHG emissions and reductions in accordance with ISO 14064 (Part I): 2018 andGHG Protocol.

4.3.2 GHG Implementation Strategy

NESL shall

- Find creative ways to execute key activities with minimal, minimum, or reducing GHG emissions.
- Establish and implement effective energy saving, preventative maintenance, and continuous improvement initiatives.
- Incorporate energy efficiency into existing equipment and facilities, as well as in the criteria for selectingand purchasing new equipment and vehicles.
- Reduce operating costs by stressing passive systems and energy efficiency as design features.
- Quantify GHG emissions and removal in accordance with ISO 14064 (Part I): 2018 specifications and guidelines, with evaluation through qualified external verifiers

4.4 Principles of ISO 14064-1

4.4.1 General

The application of principles is fundamental to ensure that GHG-related information is a true and fair account.The principles are the basis for, and will guide the application of, the requirements in this document.

4.4.2 Relevance

Select the GHG sources, GHG sinks, GHG reservoirs, data, and methodologies appropriate to the needs of the intended user.

4.4.3 Completeness

Include all relevant GHG emissions and removals.

4.4.4 Consistency

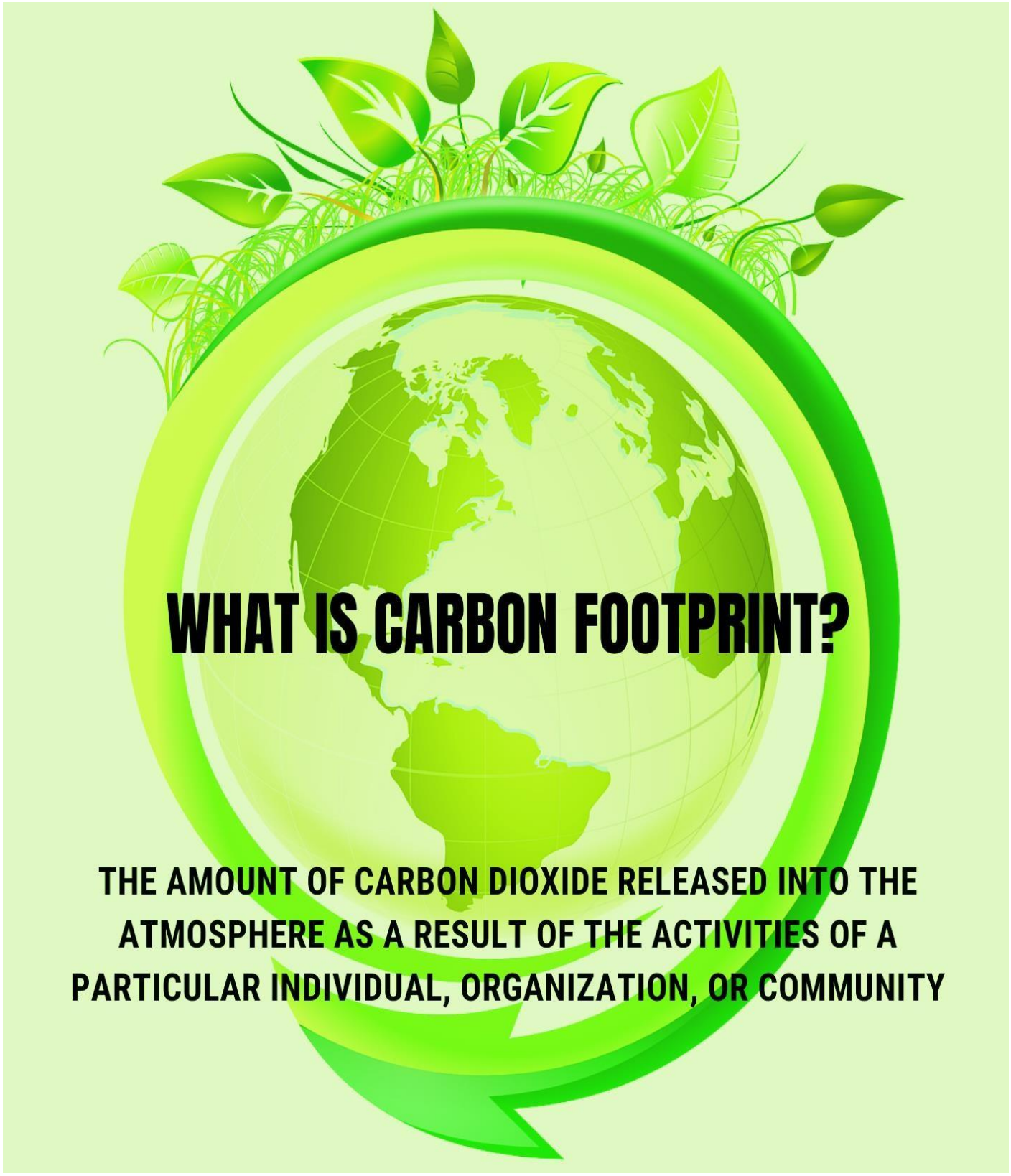
Enable meaningful comparisons in GHG-related information.

4.4.5 Accuracy

Reduce bias and uncertainties as far as is practical.

4.4.6 Transparency

Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions withreasonable confidence.


WHAT IS CARBON FOOTPRINT?
THE AMOUNT OF CARBON DIOXIDE RELEASED INTO THE ATMOSPHERE AS A RESULT OF THE ACTIVITIES OF A PARTICULAR INDIVIDUAL, ORGANIZATION, OR COMMUNITY

5.0 GHG Inventory boundaries: (Clause No. 5 of ISO 14064-1:2018)

5.1 Organizational boundaries (Clause No. 5.1 of ISO 14064-1:2018)

NESL has established the scope and boundaries for quantifying its GHG emissions and removal. The details of sites covered by the qualification are included in this report's section 3 "Company Profile."

The quantification of GHG emissions and removal is carried out for NESL's facilities in head office, over which it has both financial and operational control. NESL has used the "Operational Control" approach to define organizational boundaries and reduce GHG emissions from its facilities. NESL's GHGemission sources are located within its office, which serves as organizational boundaries for GHG quantification.

5.2 Reporting Boundaries (Clause No. 5.2 of ISO 14064-1:2018)

5.2.1 Established Reporting Boundaries (Clause No. 5.2.1 of ISO 14064-1:2018)

NESL has established and documented its reporting boundaries for the purpose of the GHG emission and removal quantification and is included in this report's section 3 "Company Profile."

Company has established & documented its operational boundaries and the identified GHG emissions and identification of opportunities for removals associated with the company operations are categorized as below

- Direct GHG emissions
- Indirect GHG emissions from imported sources

The categories of emission mentioned above are considered as significant emission. The quantification detailsare included in section 4.2 GHG Assertion Statement of NESL.

5.2.2 Direct GHG Emissions (Clause No. 5.2.2 of ISO 14064-1:2018)

Direct GHG emissions (Scope 1 as per GHG Protocol) are the GHG emissions from company owned or operated assets such as equipment or processes are included in this category. Therefore, all emissions happening from company owned vehicles, DG sets and other sources come under a direct GHG emission at NESL. All the emissions are calculated on the actual basis. The Direct GHG sources at NESL are as follows according to their operational boundaries

5.0.1 Indirect GHG Emissions (Clause No. 5.2.3 of ISO 14064-1:2018)

The indirect GHG emissions include Indirect GHG emissions from imported energy (Scope 2 as per GHG Protocol) only. We don’t have enough data to measure other indirect emissions.

5.0.2 GHG Inventory Categories (Clause No. 5.2.4 of ISO 14064-1:2018)

Indirect GHG Emissions from Imported Energy

There are separate meters to measure electricity consumption in the office.

5.0.3 GHG Quantification Exclusions (Clause No. 9.3.1 of ISO 14064-1:2018)

Table 3: GHG Quantification Exclusions

Sl.	Exclusion	Reason for Exclusion
1	Indirect emissions from all categories except import energy (Scope 3as per GHG Protocol)	We don't have enough data to measure other indirect emissions. NESL is initiating steps to identify, collect and measure other indirectemissions in the coming years.

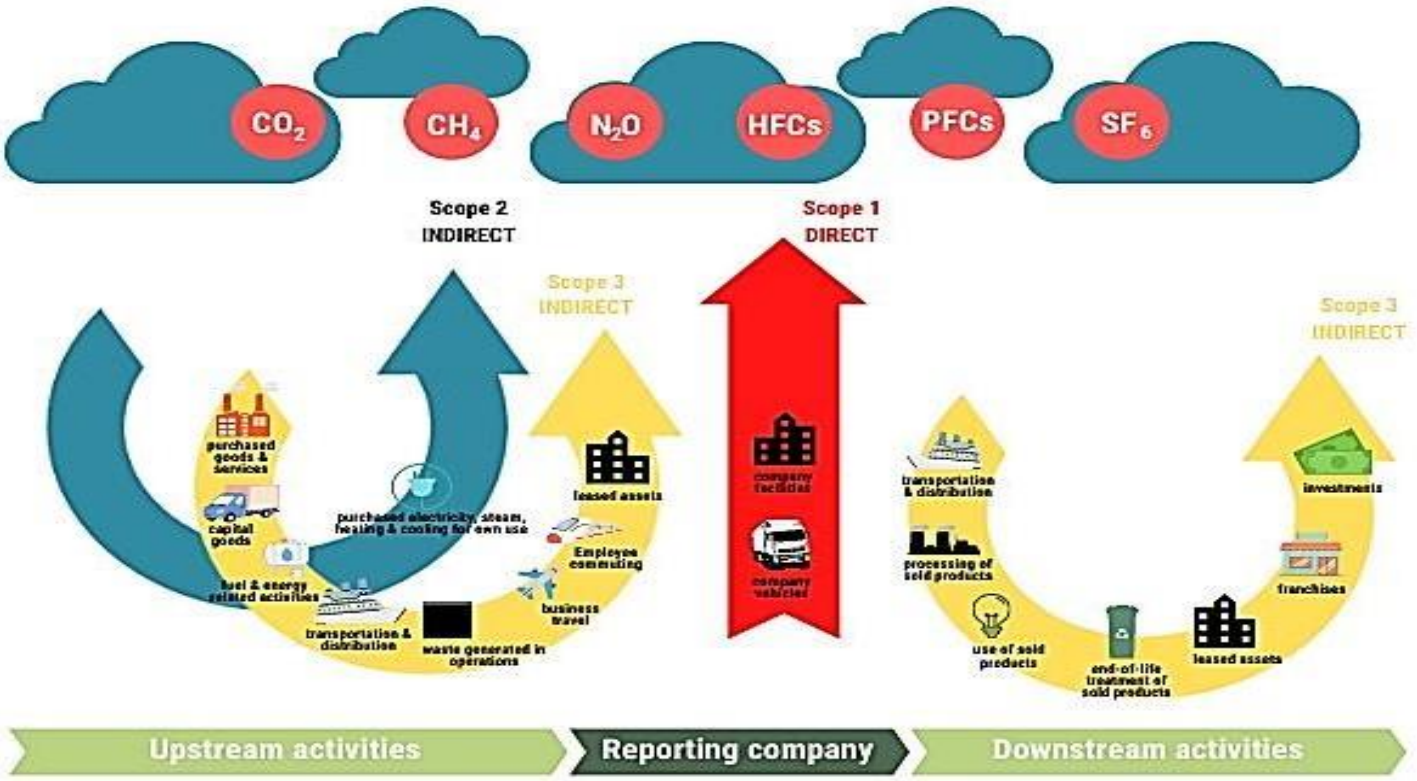


Figure 2: Direct & Indirect Emissions

6.0 Quantification of GHG Emissions and Removals (Clause No.6.0 of ISO 14064-1:2018)

NESL had used following procedures for GHG inventory calculations, and it includes followingkey aspects.

- Identification of GHG sources and Sinks.
- Selection of GHG Quantification methodology.
- Selection and collection of GHG activity data.
- Selection and development of GHG emissions or removal factors.
- Calculation of GHG emissions or removals.

6.1 Identification of GHG sources and Sinks (Clause No. 6.1 of ISO 14064-1:2018)

NESL has identified the sources of GHG inside the boundaries and has maintained the database up to date using an information management system for GHG databases. NESL regularly examines the GHG sources as part of the internal audit procedure. At NESL, adequate data collection (hard copies/soft copies as available) and archiving procedures are used to implement the processes for identifying, recording, maintaining, and reviewing GHG sources and sinks. NESL had identified the sources of GHG emissions and sinks in section 5 as per the categories of 5.2.2 & 5.2.3

6.2 Selection of GHG Quantification Approach (Clause No. 6.2 of ISO 14064-1:2018)

6.2.1 GHG Quantification Methodology

NESL chose and applied quantification approach that reasonably minimizes uncertainty in order to assess GHG emissions and identify potential reductions. The great majority of NESLGHG emission sources (mobile and stationary) use fossil fuels like Diesel and purchased electricity. GHG activity data multiplied by GHG emission or removal factors is the chosen methodology for GHG quantification to reduce uncertainty and enhance consistency andaccuracy.

The quantification of GHG Emission methodology based on the following equation:

GHG Emission/Removal = GHG Activity Data X GHG Emission/Removal Factor X Conversion Factor

As per the GHG emission/ removal factors, the company has selected the CO2e factor, in order to quantify the Green House Gases Emissions.

6.2.2 Selection and collection of GHG activity data (Clause No. 6.2.2 of ISO 14064-1:2018)

Data Collection:

GHG activity data are used to quantify GHG emissions and identifying possibilities of removals, the NESL selects and collects GHG activity data consistent with the requirements of the selected quantification methodology.

Activity Data (GHG Emissions / identifying possibilities of Removals) were collected at office levelby responsible person(s) and collated at one place by the project coordinator. Activity data at office level collected on a regular basis and calculation is being done on yearly basis. The quantificationof GHG is done in the GHG Management System.

GHG Management System and Data Quality Control

NESL has established and maintained GHG information management system that

- Ensures conformance with the principles of standards of ISO-14064-1 requirements
- Ensures consistency with the intended use of the GHG inventory
- Provides routine and consistent checks to ensure accuracy and completeness of the GHG inventory, Identify and addresses errors and omissions
- Documents and archives relevant GHG inventory records including information management activities, All the data of GHG emissions and possibilities identification of removals are maintained and recorded in controlled documents and management information systems and data coming mainly from Logbooks, invoices from the suppliers and bills.

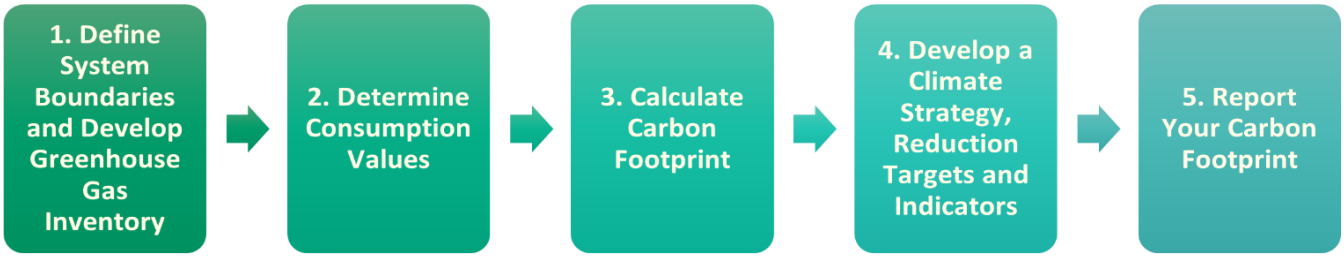


Figure 3: Steps to measure GHG Inventory

Table 4: Selection and Collection of GHG Activity Data

Sl.	GHG Source Type	Activity Data	Source	Frequency of Collection
1	Vehicles	Fuel Consumption	Fuel receipt / Logbook/Internal MISdata	Continuous
2	DG Sets	Diesel Consumption	Fuel receipt / Logbook/Internal MISdata	Continuous
3	Purchased Electricity	Electricity Consumption	Monthly bills from TNEB	Continuous

6.2.3 Selection and development of GHG emissions or removal factors (Clause No. 6.2.3of ISO 14064-1:2018)

According to the UNFCCC, an emission factor is defined as the average emission rate of a specific GHG for a given source, relative to units of activity. GHG emission factor is required to compute GHG emissions from various sources and plays a vital part in GHG inventory. GHG emission or removal factor is defined as a linking activity data to GHG emissions or removals in ISO-14064-1 clause 2.7.

GHG emissions/removals factors in the NESL are calculated by taking the following into account:

a) Are derived from a recognized source,

b) Are appropriate for the GHG source or sink in question,

c) Are current at the time of quantification,

d) Take quantification uncertainty into account and are calculated in a way that yields accurateand reproducible results.

e) Are consistent with the GHG inventory's intended use.

The following fossil fuels and energy sources are used by various GHG emission sources.

• Petrol and diesel fuel.

• Grid electricity from electricity board.

6.3 Calculation of GHG emissions or removals (Clause No. 6.3 of ISO 14064-1:2018)

GHG calculation/accounting done as per the guidelines mentioned in ISO 14064-1 standards, in accordance with the quantification Methodology selected. As per the clause 6.3 of ISO 14064-1 2018 requirement for calculation of GHG emissions and removals, GHG activity data are used to quantify GHG emissions, GHG emissions shall be calculated by multiplying GHG activity data by GHG emission or removal factors. The GHG calculations are done in an MS excel sheet

Table 5: Calculation of GHG Emissions

Sl.	GHG Inventory Category	Source	Quantity in Ton-CO_2 e
1.	Direct GHG emissions (Scope 1 as per GHG Protocol)	DG Set (Diesel)	0.68
2.	Indirect GHG emissions from importedsources (Scope 2 as per GHG Protocol)	Purchased Electricity	43.43
3.	Scope 3: GHG emission from employee daily commute and material transport	1.Employee commute 2. Material transport	1. 11.47 2. 15.96

GHG EMISSION ANALYSIS (Clause No. 6.3 of ISO 14064-1:2018)

Category wise GHG emission Emissions at NESL Contribution of Category wiseGHG

Total GHG Emissions (FY 2024-25)

Table 6: Total GHG Emissions FY 2024-25

Scope	Ton Co2e/annum (round off to nearest digit)
Scope 1 Emission (Ton Co2e/annum)	0.68
Scope 2 Emission (Ton Co2e/annum)	43.43
Scope 3 Emission (Ton Co2e/annum)	**27.43**
Total Emissions (Scope 1 + Scope 2 + Scope 3) (Co2e/annum)	71.54 tCo2e/annum

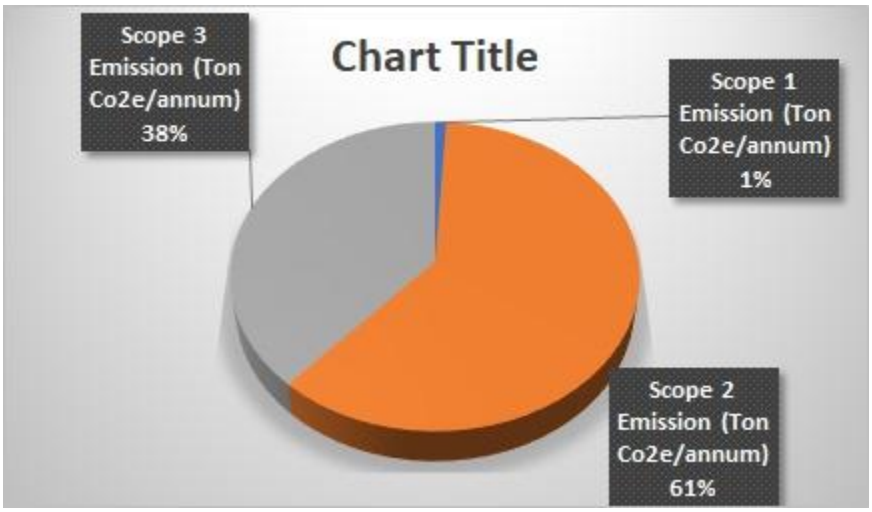


Figure 4: Total GHG Emissions FY 2024-25

Direct Emissions FY 2024-25

Table 7: Direct Emissions FY 2024-25

Source of Emission Scope 1	Scope 1 Emission (t-CO2)
DG set	**0.68**

Indirect Emissions FY 2024-25

Emissions through purchased electricity: 43.43 **tC02e**

The energyconsumption of NESL through conventional energy sources are as below

Electricity imported from grid (KWH)	**51094.18**

Scope 3 Emissions FY 2024-25

Emissions through employee daily commute and material transport: 27.43 **tC02e**

The carbon emission of NESL through employee daily commute and material transport are as below

Employee daily commute	**11.47 t-CO2e**
Material transport	**15.96 t-CO2e**

YoY Reduction in Scope 1,Scope 2 & Scope 3 Emission Levels

As FY2022-23 is the 1st year of GHG emission reduction initiative in NESL, we take this year as the base year of GHG reduction initiative. Reduction objective has been taken for FY 2023-24 and will be reviewed at the end of the current financial year.

Table 8: YoY Reduction in Scope 1, Scope 2 & Scope 3 Emission Levels

YoY Reduction in Scope 1, Scope 2 & Scope 3 Emission Levels				
Year	Scope 1 emissions Co2e	Scope 2 emissions Co2e/Employee	Scope 3 emissions Co2e/Employee	Total emissionsCo2e
2023 April to March 2024	0.87	39.93	26.56	67.36
2024 April to March 2025	0.68	43.43	27.43	71.54

6.4 Base Year GHG Inventory (Clause No. 6.4.1 of ISO 14064-1:2018)

The first step toward effective GHG management and performance improvement is the identification, selection, and creation of a GHG inventory. As a result, it is critical to lay the groundwork and monitor progress toward management objectives. The base year is a year that corresponds to a set of GHG emissions data that represents the organization's typical operation.The emission quantities associated with the base year inventory serve as the baseline against which subsequent/future inventories are compared. For comparative purposes, or to meet GHG program requirements or other intended uses of the GHG inventory, the organization must establish a historical base year for GHG emissions and removals.

6.4.1 Selection and establishment of base year (Clause No. 6.4.2 of ISO 14064-1:2018)

While selection and establishment of base year, the organization considered the following points

a) Quantified base-year GHG emissions and removals using data representative of theorganization’s Activity, typically single-year data, a multi-year average or a rolling average,

b) Selected a base year for which verifiable GHG emissions or removals data are available,

c) Explained the selection of the base year, and

d) Developed a GHG inventory for the base year consistent with the provisions of this part of ISO 14064.

NESL had started quantifying GHG emissions from its organizational as well as operational boundaries from the FY 2022-23, by considering all above points. For FY 2024-25 and subsequent years, NESL developed the GHG procedures, and the report was prepared by considering therequirements.

NESL's emission for the FY 2024-25 was 71.54 tC02e.

6.4.2 Review of Base Year GHG Inventory (Clause No. 6.4.2 of ISO 14064-1:2018)

GHG protocol explains in "A Corporate Accounting and Reporting Standard" that the companies often undergo significant structural changes such as acquisitions, divestments, and mergers. These changes will alter a company's emission profile. For consistent tracking of GHG emission/ removals in the organization the base year emissions need to be recalculated to meet the standards.

NESL will consider below to revise our base year:

a) Changes to operational boundaries,

b) The ownership and control of GHG sources or sinks transferred into or out of organizationalboundaries, and

c) Changes to GHG quantification methodologies that result in significant changes to quantifiedGHG emissions or removals.

NESL is an organization engaged in service industry. In the pursuit of growth, NESL's structure and operations may change. Hence, to ensure meaningful comparisons of GHG emissions over the time it is necessary that the NESL changes / adjustments to the base yearinventory according to the following changes. Such changes are as

• Structure/ Organizations business change including acquisitions that result in 10% or greaterchange in overall emissions

• Source ownership and control changes (changes in operational control over the GHG sources)

• If there is change in quantification methodology or data improvements and that result in 5% or greater change in overall emissions this will be considered for recalculation.

7.0 Mitigation Activities: (Clause No. 7 of ISO 14064-1:2018)

7.1GHG Emission reduction and removal enhancement initiatives (Clause No. 7.1of ISO 14064-1:2018)

NESL has planned various GHG reduction initiatives as follows through energy conservation initiatives. Since NESL office is at rented place, these initiatives to be discussed with the site owner to get his consensus.

- ✓ Phase wise AC Upgradation & Chiller Replacement.
- ✓ Replacement of Old UPS with modular type UPS.
- ✓ Operational Excellence and employee participation.
- ✓ Training to employees on Energy conservation
- ✓ Replacement of CFL with LED lights.
- ✓ Occupancy sensors.

- ✓ Shift from on premise storage to Cloud
- ✓ Use of renewable energy initiative (If possible)

7.2 GHG Emission reduction and removal enhancement Projects (Clause No. 7.2of ISO 14064-1:2018)

Figure 7: GHG Emission Reduction and Removal Enhancement Projects

7.3 GHG Emission Reduction or Removal Enhancement Targets (Clause No. 7.2of ISO 14064-1:2018)

NESL has set targets to reduce the GHG emissions to become Carbon Neutrality by 2050. The details of the projects and associated targets are currently in identification stage.

8.0 GHG Inventory Quality Management (Clause No. 8 of ISO 14064-1:2018)

8.1 GHG information Management System (Clause No. 8.1 of ISO 14064-1:2018)

NESL has established and maintained the GHG information management system proceduresthat

- Ensures conformity with principles of this document.
- Ensures consistency with the intended use of GHG inventory
- Provides routine and consistent checks to ensure accuracy and completeness of the GHGinventory
- Identifies and addresses errors and omissions
- Documents and archives relevant GHG inventory records, including information managementactivities and GWPs

NESL's GHG information management procedures have documented its consideration of thefollowing.

• Identification and review of the responsibility and authority of those responsible for GHGinventory development.

• Identification, implementation, and review of appropriate training for members of the inventorydevelopment team.

• Identification and review of organizational boundaries

• Identification and review of GHG sources and sinks

• Selection and review of quantification approaches including data used for quantification andGHG quantification models that are consistent with intended use of the GHG inventory.

• Review of application of quantification approaches to ensure consistency across multiplefacilities/countries etc.

• Use, maintenance, and calibration of measurement equipment wherever required.

• Development and maintenance of robust data collection system

• Regular accuracy checks

• Periodic internal audits and technical reviews the technical review shall be performed once insix months to review the GHG inventory &Progress of actions directed for GHG reduction.

8.1.1 Periodic review of opportunities to improve information management system

For developing GHG information management procedure for GHG inventory at NESL, a coreteam from Admin Team of each country has been formed among the NESL associates at various level across each location along with their responsibilities.

Training provided to core members on the importance of GHG inventory as a green/ environment initiative carried out by NESL along with ISO 14064-1 standard / specification including introduction to climate change, impacts of GHG emission on environment, role of organization inGHG emission reduction. Also training provided to core team members on identification of GHG sources as well as operational and organizational boundaries. GHG activity data collection and achieving procedures developed after discussion with team members.

The GHG inventory information/quality management has developed at NESL. All GHG activitydata collected and reported is accurate and it is ensured through regular multi check points suchas internal audits, technical reviews. Data collected is monitored and checked at its origination wherever possible. Most of the data such as electric consumption data, fuel consumption data, fire extinguisher refilling data etc. it is collected from financial receipts such as electricity bills, AMCs, from internal MIS system. There are separate collection sheets specially developed to collect primary data. All these collection sheets are available with project coordinator and with responsible person.

8.2 Document Retention and Record Keeping (Clause No. 8.2 of ISO 14064- 1:2018)

NESL has established and maintained procedures for document retention and record keeping.At NESL, the records are maintained in MIS system/ electronic formats/hard copies. We avoidhard copies as we plan to become "Paperless Office". The records and documents are availablewith concerned person and project coordinator.

Project coordinator details are mentioned in the report. This GHG report is a special type of document & shall be retained for 3 years.

8.3 Assessing Uncertainty (Clause No. 8.3 of ISO 14064-1:2018)

NESL has completed and documented an uncertainty assessment for GHG missions andidentification of opportunities removals including the uncertainty associated with the emissionsand removal factors and the capturing of the data. According to NESL, there are two areaswhere uncertainty exists. They are as follows:

1. **Purchased Electricity**: The uncertainty exists for the emission factors used may not accurately represent the emissions associated with generation of electricity consumed by the NESL. Grid emission factors used in GHG quantification are taken from the IGES Listof Grid Emission Factors. Grid Emission Factor refers to CO2 emission factor (tCO2/MWh) whichwill be associated with each unit of electricity provided by an electricity system. It is a parameter todetermine the baseline emissions for CDM projects in the renewable energy sector (hydro, wind, solar PV, and geothermal power, etc.) and waste heat/gas recovery sector.

2. **GHG Activity Data**: GHG activity data collection and retrieving data from system mayhave human errors and uncertainty exists for this section. Almost 61% of GHG emission occurs due to electricity consumption at NESL. To calculate this emission, electricity

   data consumption has been collected from monthly electricity bills provided by the Electricity board. All values mentioned in the electricity bills are highly accurate as it has commercial value. Hence uncertainty in the accuracy of the data and the collection procedure is very minimal.

Quality control and assurance was conducted through internal checking and review of the inventory. The following table summarizes the uncertainty possibilities at each stage of GHG quantification process. The standard uncertainty has been referred from IPCC guidelines on National Greenhouse Gas Accounting, 2006.

GHG emission factor calculation is based on DEFRA Greenhouse gas reporting: conversion factors 2021. These emission conversion factors are for use by UK and international organizations to report on 2021 greenhouse gas emissions. The emission factor is based ondefault values. Actual values may vary. Hence the emission factor has inbuilt variation and uncertainty.

8.4 Materiality

Materiality is defined as a concept that individual, or aggregation of errors, omissions and misinterpretations may affect the GHG assertion and could influence the intended user's decisions. The materiality threshold is set at 5%. NESL shall ensure that any omission of dataor GHG sources, any misinterpretations should not affect the GHG inventory by more than 5%.

Materiality defines the level at which discrepancies in the GHG Assertion or any underlying supporting information precludes the issuances of a limited level of assurance.

The verification team is responsible for determining if qualitative discrepancies could adversely affect the GHG Assertion and subsequently influence the decision(s) of the Intended User, in which case the discrepancy (i.e.) are deemed to be material

9.0 GHG Report (Clause No. 9.0 of ISO 14064-1:2018)

NESL has prepared a GHG report to facilitate GHG inventory verification, participation in a GHG program, or to inform external or internal users. GHG reports are complete, consistent, accurate, relevant, and transparent. NESL has determined the content, structure, public availability, and methods of dissemination of GHG reports, based on requirements of the applicable GHG program, internal reporting needs and the needs of intended users of the report.

NESL has made the GHG Reports to facilitate GHG inventory external verification. NESL has made the report by considering all requirements of Clause no 9.3 of ISO 14064-1:2018 requirements.

9.1 GHG report: (Clause No. 9.1 of ISO 14064-1:2018)

GHG report, consistent with the intended uses of the GHG inventory, to facilitate GHG inventory verification. GHG statement has been independently (qualified external assessor) verified, the verification statement shall be made available to intended users.

9.2 Planning the GHG report: (Clause No. 9.2 of ISO 14064-1:2018)

NESL has considered and documented the following in planning its GHG report:

a) Purpose and objectives of the report in the context of the NESL's GHG policies, strategies,or Programs and applicable GHG programs. (Refer section 4.3)

b) Intended use and intended users of the report (Refer section 2.1)

c) Overall and specific responsibilities for preparing and producing the report. (Refer Section 8.1)

d) Frequency of the report – Once in a year

e) Period for which the report is valid – Report will valid up to next verification audit.

f) Report format –controlled soft copy available on company portal.

g) Data and information to be included in the report. (Refer section 6.3)

9.3 GHG Report Contents (Clause No. 9.3 of ISO 14064-1:2018)

NESL has developed their GHG report by considering the clauses of 9.3.1 & 9.3.2 ofISO 14064-1:2018 standard requirements.

10.0 Organizational Role in Verification Activity (Clause No. 10.0 of ISO 14064-1:2018)

NESL has decided to conduct independent external verification of its GHGinventory, for the year 2023-24 & 2024-25 through qualified and competent external auditor.

11.0 References

The references for various values taken for GHG emissions factor calculation are:

1. ISO 14064-1: 2018, Greenhouse gases – Part 1: Specification with guidance at the organizationlevel for quantification and reporting of greenhouse gas emissions and removals Greenhouse gases – Part 3: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
2. http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html
3. http://www.ghgprotocol.org/calculation-ves/all-tools
4. http://www.wri.org/
5. http://www.wbcsd.org/home.aspx
6. http://unfccc.int/2860.php
7. https://co2.myclimate.org/en/event_calculators/new
8. DEFRA: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting