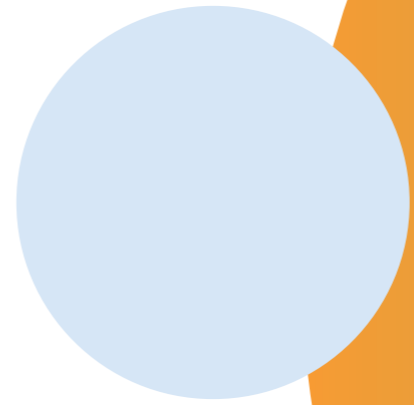


GHG Accounting Manual

Making new energy
choices possible

नयी सोच । नया जोश ।





GREENKO GHG Accounting Manual

Purpose of the document

The purpose of this manual is to provide detailed information on the standards, scope and calculation methodologies followed by Greenko group for accounting and reporting of the Greenhouse Gas (GHG) emissions throughout its value chain. This document also helps in calculating and managing the carbon footprint of Greenko.

The manual provides guidance to:

- Manage greenhouse gas emissions in accordance with the Greenhouse gas protocol.
- Ensure that greenhouse gas emissions are minimized by adopting best practices.

GHG Reporting Standards

The accepted GHG accounting standards and guidance enables the reporting of a true and fair account of Greenko's GHG emissions. GHG accounting in accordance with standardized approaches and principles allows Greenko to build an effective strategy to manage and reduce GHG emissions as well as enhance consistency and transparency in reporting.

Greenko calculates its GHG emissions in accordance with the following standards,

- ISO 14064 Greenhouse gases part 1: Specifications with guidance at the organization level for quantification and reporting of GHG emissions and removals.
- Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.

Overview of GHG Scopes and Emission Sources

The GHG Protocol Corporate Standard covers the accounting and reporting of the following six greenhouse gases covered by the Kyoto Protocol —

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF₆)

According to the GHG protocol, the direct and indirect GHG emissions are classified into three scopes.

Direct Emissions

Scope 1

GHG emissions from operations that are owned or controlled by the organisation are covered under scope 1.

Emission Sources

1. Generation of electricity, heat, or steam from combustion of fuels in stationary sources
2. Physical or chemical emission from manufacturing or processing of chemicals and other material
3. Combustion of fuel in company owned/controlled mobile sources for transportation of material, products, waste, and employees
4. Fugitive emissions from intentional or unintentional releases

Indirect Emissions

Scope 2

GHG emissions from the generation of purchased or acquired electricity, steam, heating, or cooling utilized by the company are covered under scope 2.

Scope 3

All indirect emissions (not included in scope 2) from the company's value chain, both upstream and downstream emissions are covered under Scope 3.

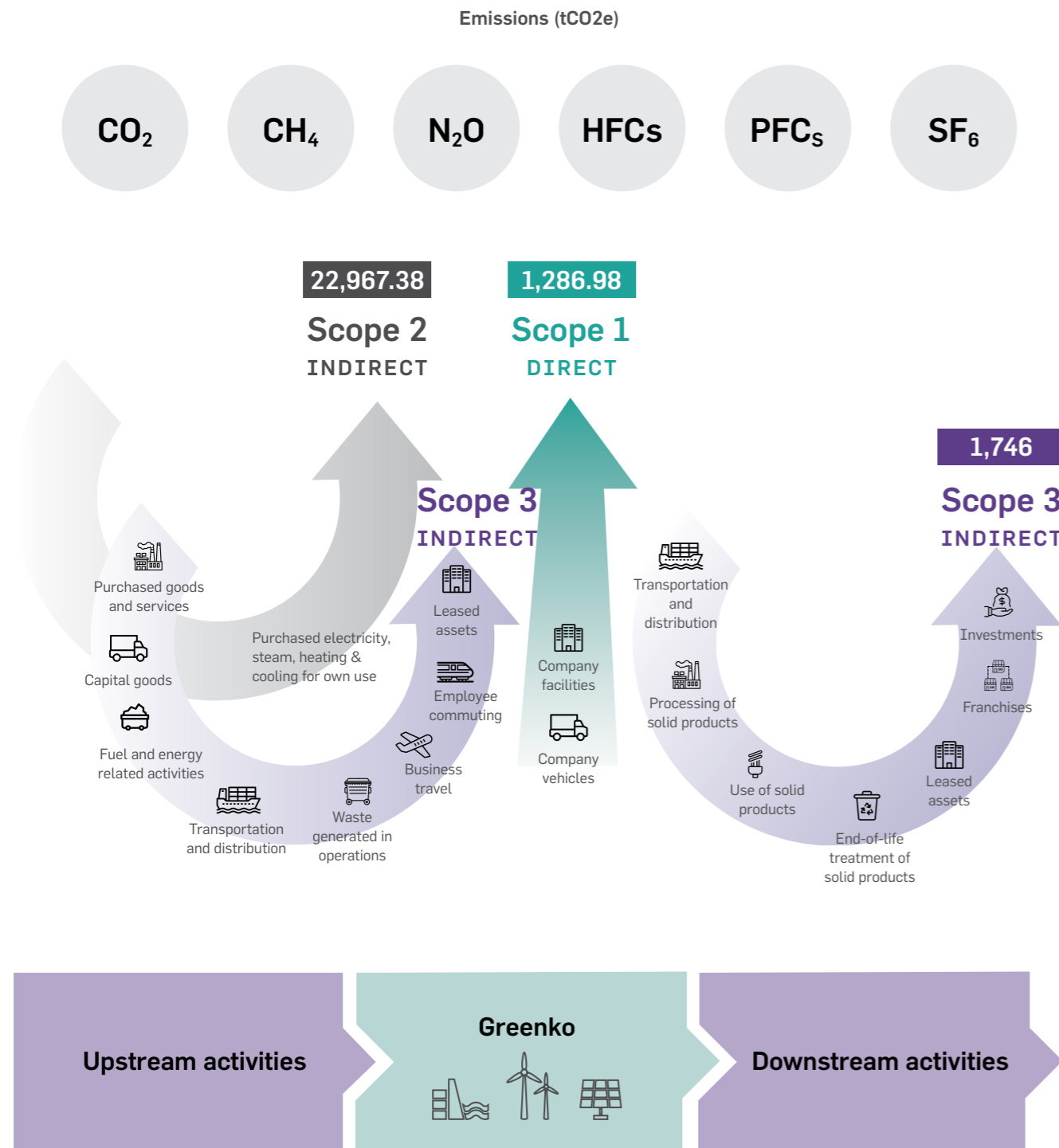
List of scope 3 categories

Upstream/Downstream	Scope 3 category
Upstream scope 3 emissions	1. Purchased goods and services
	2. Capital goods
	3. Fuel- and energy-related activities (not included in scope 1 or scope 2)
	4. Upstream transportation and distribution
	5. Waste generated in operations
	6. Business travel
	7. Employee commuting
	8. Upstream leased assets
Downstream scope 3 emissions	9. Downstream transportation and distribution
	10. Processing of sold products
	11. Use of sold products
	12. End-of-life treatment of sold products
	13. Downstream leased assets
	14. Franchises
	15. Investments



GREENKO
GHG Accounting Manual

Overview of GHG Protocol scopes and emissions across the value chain



GHG Accounting Methodology at Greenko

Greenko has developed a criterion for accounting and reporting its greenhouse gas emissions, in accordance with ISO 14064 and Greenhouse gas protocol. The group is disclosing its emission data through its Integrated Reporting process.

Greenko has adopted the following steps for GHG emission management,

1. Define the scope and boundary
2. Identify the GHG emission sources
3. Collect and Quantify GHG emissions

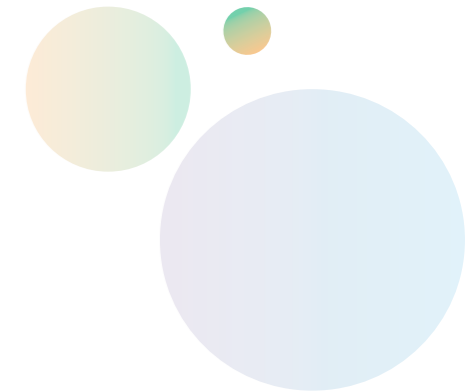
4. Set emission reduction objectives and prepare action plans
5. Involve employees and conduct trainings
6. Implement Emission reduction initiatives
7. Achieve carbon neutrality

Organizational Boundaries

Greenko calculates Scope 1 and 2 emissions covering all its offices, plants and projects within its operational control. Under scope 3, the GHG emissions related to Greenko's activities, but not within the company's

operational control, such as business travel and employee commuting are accounted for in the reporting year.

In addition, the group's GHG emission is accounted for the progress made during the most recent financial year and reported in the respective Integrated Report.



Greenko's GHG emission sources

Emission sources of Scope 1,2 and 3

Scope 1

Greenko has three categories of Scope 1 emission sources – stationary, mobile and fugitive.

- Stationary emission includes the combustion of diesel for back-up electricity generation
- Mobile emission includes the combustion of fuel in company owned vehicles
- Fugitive emission includes the leakage of SF6 from circuit breakers

The Greenhouse gases corresponding to Greenko's operations, at present, are CO₂ and SF₆. The nature of Greenko's activities also has the potential of emitting CH₄ (storage) but currently it is not applicable.

Scope 2

Greenko's scope 2 emissions come from purchased electricity

Scope 3

Currently, under scope 3 emission, Greenko accounts for emissions generated from fuel combustion in vehicles not owned by the company for business travel and employee commute, for upstream business activity. Emission sources include,

- Employee business travel
 - Air travel (Domestic and international)
 - Road travel (Four-wheeler and bus)
 - Rail travel
- Employee commute
 - Two-wheeler
 - Four-wheeler
- Bus
- Metro

GREENKO
GHG Accounting Manual

Data collection and quantification

Greenko collects data from all its owned offices, plants and projects for the calculation of its GHG emissions. The group has assigned GHG representatives at each of its sites who are responsible for monitoring the emission sources of all three scopes on a continuous basis. The representative

periodically monitors systems for updating and validating emissions data, emission factors, boundary conditions of emission, GHG inventory preparation covering all three scopes of emission.

Greenko has designed and established standard data collection tools that are accessible to every site GHG representative.

Further, Greenko quantifies and prepares an annual GHG inventory report which contain the details of GHG emission under each scope.

Emission Factors

Scope 1

Stationary Combustion

Fuel Type	Units	Emission factor	Net Calorific Value	Source
Diesel (DG sets)	KL	74,100 Kg/TJ	43 TJ/Gg	IPCC

Mobile Combustion from company owned vehicles

Type of vehicle	Fuel Used	Data type	Emission factor	Unit	Source
Passenger Car	Diesel	Distance travelled (KM)	0.121	Kg CO2/Km	India GHG Program

Fugitive emission from leakage of circuit breakers

Fuel Type	Units	Global Warming Potential	Net Calorific Value	Source
SF6	Kg	23,900	20% of total installed stock	IPCC UNFCCC – GWP data

Scope 2

Indirect emission from electricity purchased

Scope 2	Emission Factor	Unit	Source
Purchased Electricity	0.82	tCO ₂ /MWh	CEA, 2018

- The emission factor is for a unified grid (All regional grids have been integrated as a single Indian Grid covering all the states in December 2013)
- In case of electricity consumption from captive power plants, the emission factor is determined on the basis of CO2 emissions from fuel combustion and electricity generated from a particular plant.

Scope 3

Indirect emission from business travel

Type of travel	Data Type	Emission factor	Unit	Source	
Air Travel	Distance Travelled (KM)	0.121	KgCO2/P-km	India GHG Program	
Rail Travel	Distance Travelled (KM)	0.007837	KgCO2/P-km	India GHG Program	
Road Travel	Bus	Distance Travelled (KM)	0.015161	KgCO2/P-km	India GHG Program
	Four-Wheeler (Diesel)	Distance Travelled (KM)	0.121	KgCO2/P-km	India GHG Program

Indirect emission from employee commute

Type of travel	Data Type	Emission factor	Unit	Source
Bus	Distance Travelled (KM)	0.015161	KgCO2/P-km	India GHG Program
Metro	Distance Travelled (KM)	0.0739	KgCO2/P-km	India GHG Program
Two-Wheeler (Motorcycle)	Distance Travelled (KM)	0.0325	KgCO2/P-km	India GHG Program
Four-Wheeler (Diesel)	Distance Travelled (KM)	0.121	KgCO2/P-km	India GHG Program

- Vehicle sharing, car-pooling etc. are not considered during data collection for employee commute and business travel

Looking Ahead

Greenko, in the pursuit of achieving its commitment to reporting a true and fair account of GHG emissions as well as to reduce emission intensity, it is planning

to expand its Scope 3 accounting to include more possible downstream and upstream categories for GHG emissions that should be included in the overall calculation. Secondly, in the coming years, an ambitious emission reduction

target, in line with the Paris Agreement and NET ZERO vision 2050, will be fixed covering both direct and indirect emissions, through a Science-Based Target process.



Greenko[™]

#1131/A, Sai Square Building,
Road No. 36, Jubilee Hills, Hyderabad- 500033
Telangana State, India