CORPORATE GREENHOUSE GAS REPORT FOR OPTEL GROUP 2024

CORPORATE GREENHOUSE GAS ASSESSMENT OF SCOPE 1 & SCOPE 2 EMISSIONS FOR THE FINANCIAL YEAR 2024

Report of Methodology, Results and Recommendations

July 2025

Authored by: Marit Rognan

Revision number: 1.0

OPTEL™

Traceability technologies for a better world

REVISION HISTORY

Rev	Date	Revision summary	Approved by
1.0	2025-07-25	Official report submission.	MSR and PC

PROJECT PARTICIPANTS

Analysis

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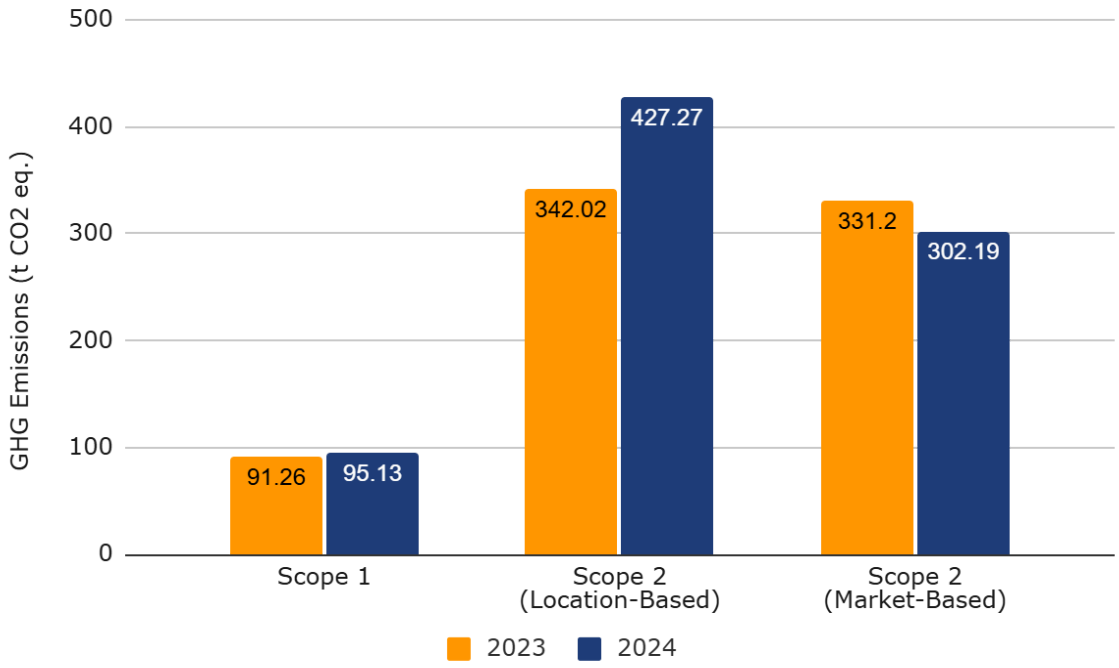
EXECUTIVE SUMMARY

This report outlines the corporate greenhouse gas (GHG) assessment for OPTEL Group's financial year 2024, covering Scope 1 direct emissions and Scope 2 indirect emissions from electricity generation. Scope 2 was estimated using two methods: location-based that uses the average energy mix of a region and market-base that uses declared shares of renewable energy. The latter approach shows a decrease of 5.95% of GHG emissions, which represents the decarbonization efforts to reduce Scope 2 impact. Still, the energy consumption from OPTEL Group's site in Goa, India, remains the largest contributor to the total GHG emissions calculated in 2024. The most significant Scope 1 contributors were air conditioning gas leakages at various sites and diesel generators used at the site in Goa.

Summary of GHG assessment (t CO_2 eq.) by emission scope.

GHG assessment type & emission scope	Location-based method (t CO_2 eq.)	Market-based method (t CO_2 eq.)
Scope 1	95.13	95.13
Scope 2	427.27	302.19
Total	**522.40**	**397.32**



Summary Scope 1 and Scope 2 GHG emissions over time.

ABBREVIATIONS

GHG	-	Greenhouse gas
CO_2	-	Carbon dioxide
CH_4	-	Methane
N_2O		Nitrous oxide
IPCC	-	Intergovernmental Panel for Climate Change
EF	-	Emission factor
HFC	-	Hydrofluorocarbon
t CO_2 eq.	-	Ton carbon dioxide equivalent
kg CO_2 eq.	-	Kilogram carbon dioxide equivalent
AC	-	Air conditioner
IE	-	Ireland
DE	-	Germany
IN	-	India
BR	-	Brazil

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1. INTRODUCTION

1.1 OPTEL Group

For 35 years, OPTEL Group ("OPTEL") has developed traceability technologies for industries including pharmaceuticals, metals and minerals, batteries, food and beverage, agrochemicals, and consumer packaged goods. From raw materials to consumer, OPTEL offers various solutions to ensure regulatory compliance and optimize supply chain performance. Optchain, the supply chain visibility platform, supports environmental, social and governance compliance and transparent product life cycles. TrackSafe provides manufacturing solutions with serialization, aggregation, and AI vision systems, while VerifyBrand focuses on downstream traceability, governmental compliance, and counterfeiting prevention. Trusted globally, OPTEL tracks billions of products annually for leading brands. Founded in 1989, OPTEL is a Certified B Corporation headquartered in Canada, with facilities in Germany, Ireland, India, and Brazil [1].

1.2 Project objectives

This project is an internal initiative at OPTEL to assess its organisational carbon footprint across all sites. The main objective is to assess the organisation's Scope 1 direct emissions and Scope 2 indirect emissions for the financial year 2024 according to the reporting standard *GHG Protocol* [2]. It represents a continuation of 2023's efforts of quantifying OPTEL's total GHG emissions and addressing the main contributors through decarbonization strategies.

Scope 1 includes GHG emissions that are directly managed by the organisation. This includes stationary combustion, mobile combustion, fugitive emissions, and emissions from processes. Scope 2 emissions are the indirect GHG emissions from the generation of purchased energy in the form of electricity, steam, heat, or cooling. Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organisation. Scope 3 emissions were omitted in the current assessment.

The goal of this methodology report is to summarise the approach, the data collection and the results of the GHG assessment, as well as to elaborate recommendations to help OPTEL identify and further reduce its GHG emissions. Following reports will keep quantifying OPTEL's GHG emissions and detail a sustainability action plan.

2. METHODOLOGY

The GHG accounting and reporting procedure is based on the *The Greenhouse Gas Protocol: GHG Protocol: A Corporate Accounting and Reporting Standard* [2]. The standard was developed in a partnership between the World Resources Institute and the World Business Council for Sustainable Development.

The GHG accounting of this project was based on the principles of the *GHG Protocol*:

- **Relevance:** an appropriate inventory boundary that reflects the GHG emissions of the company and serves the decision-making needs of users;
- **Completeness:** accounting includes 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; and
- **Accuracy:** minimised uncertainty and avoided systematic over- or under-quantification of GHG emissions.

2.1 System Boundary

2.1.1 Organisational Boundary

This assessment covers sites under OPTEL's operational control. Table 1 shows the sites within OPTEL's organisational boundaries that are included in the assessment.

Table 1: List of OPTEL sites.

Continent	Site location	Site address
Asia	India	N6, Phase IV, Verna Industrial Estate, Verna, Goa 403722
Europe	Germany	Kapellenstraße 11, 85622 Feldkirchen, Germany
	Ireland	Hamilton House, Castletroy, Limerick, Ireland
North America	Canada	2680 Bd du Parc Technologique, Québec City, Quebec G1P 4S6, Canada
South America	Brazil	R. James Clerk Maxwel, 280 - Módulo 08 - Techno Park, Campinas - SP, 13069-380, Brazil

2.1.2 Operational boundaries

Under the *GHG Protocol*, emissions are divided into direct and indirect emissions. Direct emissions are those originating from sources owned or controlled by the reporting entity. Indirect emissions are generated as a consequence of the reporting entity's activities, but occur at sources owned or controlled by another entity. The direct and indirect emissions are divided into three scopes: Scope 1, Scope 2 and Scope 3. This report is limited to Scope 1 direct emissions and Scope 2 indirect emissions related to electricity generation.

Scope 2 emissions are calculated using both a location-based and market-based method for quantifying electricity emissions. The location-based approach takes into consideration the physical locations where they operate and the related average electricity grid-mix, while the market-based method accounts for the complexities and ramifications of purchasing decisions on the power mix. For example, an entity can purchase only renewable energy from an energy grid-mix also containing energy from fossil fuels. The location-based approach would take into account the average energy grid-mix, while the market-based approach allows to represent the procurement decision of sourcing from only renewable energy. For some regions, if the company under study does not have special electricity purchase agreements, there is no market-based result available due to a lack of emission factors for the residual market, or due to a lack of contractual instruments for electricity purchases in that region.

2.2 Life Cycle Inventory

The primary data collection for this study was carried out with the assistance of OPTEL's internal team. The sources of emissions, their category of source and the datasets used to model the impact of Scope 1 and Scope 2 emissions are shown in the following table 2 for each site.

Table 2a: LCI for Scope 1 and Scope 2 emissions.

Input or direct emission	Dataset name	Stream	Category	Amount	Unit	Scope
AC Gas leakage R410 A (Ireland)	IPCC 2021	Direct	Fugitive emissions	6.2	kg	1
AC Gas leakage R 32 (Ireland)	IPCC 2021	Direct	Fugitive emissions	2.3	kg	1
Electricity Scope 2 (Ireland)	market for electricity, medium voltage (IE)	Upstream	Purchased energy	26,500	kWh	2
AC Gas leakage R410 A (Germany)	IPCC 2021	Direct	Fugitive emissions	0	kg	1
Propane for forklift transportation	IPCC Emission factor database	Direct	Stationary Combustion	44	kg	1
Electricity Scope 2 (Feldkirchen, Germany)	market for electricity, medium voltage (DE)	Upstream	Purchased energy	35,864	kWh	2

Electricity Scope 2 (Schwaebisch Hall, Germany)	market for electricity, medium voltage (DE)	Upstream	Purchased energy	10,108	kWh	2
Purchased heat (Feldkirchen)	Emission intensity of district heating as reported by UBA. Retrieved from the Emissionsbilanz erneuerbarer Energietrager Report 2023 - table 60.	Upstream	Purchased energy	424.94	MWh	2
Purchased heat (Schwaebisch Hall)	Idem	Upstream	Purchased energy	3.53	MWh	2
AC Gas leakage R410 A (India)	IPCC 2021	Direct	Fugitive emissions	11	kg	1
Diesel used in generator (India)	IPCC Emission factor database	Direct	Stationary Combustion	5,000	l	1
Electricity Scope 2 (India)	market for electricity, medium voltage (IN-Western grid)	Upstream	Purchased energy	243,550	kWh	2
Electricity Scope 2 (Canada)	market for electricity, medium voltage (CA-QC)	Upstream	Purchased energy	1,344,554	kWh	2
Petrol Car (Canada)	Canadian National GHG Inventory Report, Light-duty Gasoline Trucks (LDGT) - Tier 2	Direct	Mobile Combustion	327.9	l	1
Diesel Car (Canada)	Canadian National GHG inventory-Light Duty Diesel Vehicle-Moderate Control	Direct	Mobile Combustion	0	l	1
AC Gas leakage R410 A (Brazil)	IPCC 2021	Direct	Fugitive emissions	3.5	kg	1
Electricity Scope 2 (Brazil)	market for electricity, medium voltage (BR-South-eastern/Mid-western grid)	Upstream	Purchased energy	80,282	kWh	2

Table 2b: LCI for Scope 1 and Scope 2 emissions (additional for market based approach).

Input or emission	Dataset name	Stream	Category	Amount	Unit	Scope
Electricity Scope 2 (Ireland)	electricity, medium voltage, residual mix (IE)	Upstream	Purchased energy	26,500	kWh	2
Electricity Scope 2 (Feldkirchen, Germany)	Supplier certificate (Entega Plus GmbH)	Upstream	Purchased energy	35,864	kWh	2
Electricity Scope 2 (Schwaebisch Hall, Germany)	Supplier certificate (OK Power)	Upstream	Purchased energy	10,108	kWh	2
Purchased heat (Feldkirchen)	Supplier certificate (refer to Appendix A1)	Upstream	Purchased energy	424.94	MWh	2
Purchased heat (Schwaebisch Hall)	Supplier certificate (refer to Appendix A2)	Upstream	Purchased energy	3.53	MWh	2

2.3 Scope 1 estimation

The characterization factors used for Scope 1 direct emissions calculations are described in Tables 2a and 2b. The characterization factors are taken from the IPCC Sixth Assessment Report [3-4]. These factors are used to convert quantities of gas into their damage category unit of measurement. In this carbon footprint project for example, the refrigerant gas R410 A in kilograms is converted into t CO_2 eq., which is the unit of measurement for carbon footprint.

2.4 Scope 2 estimation

The electricity emission factors were obtained from the ecoinvent electricity emission factor database v3.11 [5] and supplier certificates, where relevant, presented on Appendix A of this report. Emissions from purchased heating were estimated using national-average district heating emission factors and supplier certificates. Scope 2 emissions were estimated using two approaches : location-based approach and market-based approach.

2.5 Interpretation

The interpretation phase considers all phases to properly interpret the results in an appropriate way. The results and the contribution analysis are detailed in the following section. This allows OPTEL to identify the hotspots, which are the activities and sources of GHG emissions representing major contributions to the total. Then, the sections Uncertainties and limitations discuss the limits and context of the project.

3. RESULTS AND DISCUSSION

3.1 Overall emissions

The overall emissions were calculated in accordance with the *GHG Protocol*, and it was found that the total emissions at OPTEL for the financial year 2024 are 522.40 t CO_2 eq. and 397.32 t CO_2 eq., using the location-based method and market-based method respectively. Table 3 and 4 show the contribution of Scope 1 and Scope 2 emissions based on these two approaches.

Table 3: Contribution analysis using the location-based method.

Location-based study	Scope 1	Scope 2	Total	Units
GHG emissions	95,129.7	427,273.08	522,402.79	kg CO_2 eq.
GHG emissions	95.13	427.27	522.40	t CO_2 eq.

Table 4: Contribution analysis using the market-based method.

Market-based study	Scope 1	Scope 2	Total	Units
GHG emissions	95,129.7	302,187.5	397,317.2	kg CO_2 eq.
GHG emissions	95.13	302.19	397.32	t CO_2 eq.

3.2 Scope 1 emissions

The quantities of direct emissions from various sources and their respective contribution to the overall carbon footprint were estimated using the data collected from internal teams at OPTEL based on their affiliated sites. Table 5 compiles the Scope 1 emissions by each of the contributors in terms of kg CO_2 eq. for the respective site.

Table 5: LCIA for Scope 1 emissions.

Contributor	Impact (kg CO_2 eq.)
Refrigerant R410A (Brazil)	7,894.25
Refrigerant R410A (India)	24,810.50
Diesel, generator (India)	13,350.00
Fork lift truck (Germany)	113.23
Diesel car (Germany)	8,066.61
Petrol car (Germany)	11,235.79
Gasoline car (Canada)	759.92
Natural gas (Canada)	13,142.02
Refrigerant R410A (Ireland)	13,984.10
Refrigerant R32 (Ireland)	1,773.30

Further, a contribution analysis was carried out as shown in Figure 1. The most significant contributors are refrigerant emissions in India (26.1%), followed by refrigerant emissions in Ireland (14.7 and 1.9%), and natural gas in Canada.

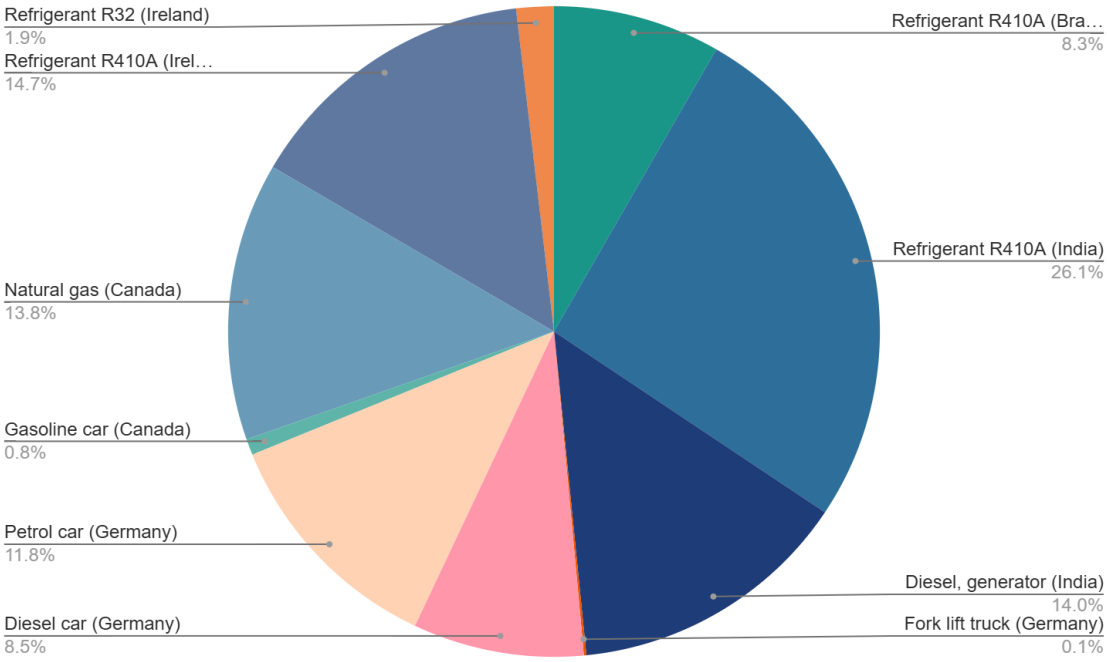

Figure 1: Scope 1 contribution analysis.

3.3 Scope 2 emissions

The Scope 2 emissions were quantified using both location-based as well as the market-based approach. Tables 6 and 7 describe the Scope 2 contributors in terms of kg CO_2 eq. for location-based study and market-based study respectively. The values are the same for both approaches for all sites except the sites in Ireland (IE) and Germany (DE), due to the availability of emission factors for residual markets and supplier certificates for purchased heat and electricity. These certificates are documented in the section Appendix A. Further, a contribution analysis was carried out as shown in figures 2 and 3. It was found that the electricity in India contributed to 64.08% and 90.6% using the location-based and market-based approaches respectively.

Figures 2 and 3 detail the other major contributors. Using the location based approach were purchased heat (Feldkirchen) (26.45%), electricity Scope 2-(Germany) (3.74%), electricity Scope 2-(Ireland) (2.05%) and electricity Scope 2-(Brazil) (1.75%). The electricity (Scope 2) in Germany contributed to 0 % using the market-based approach according to the values provided by the electricity supplier that is generated using renewable energy.

Table 6: Scope 2 emissions (Location-based study).

Contributor	Impact (kg CO_2 eq)
Electricity (Ireland)	8,764.1
Purchased electricity (site Feldkirchen)	12,453.5
Purchased electricity (site Schwäbisch Hall)	3,509.9
Purchased heating (site Feldkirchen)	113,034.0
Purchased heating (site Schwäbisch Hall)	939.5
Electric vehicle (Germany)	1,640.7
Electricity (Canada)	5,657.1
Electricity (Brazil)	7,475.0
Electricity (India)	273,799.1

Table 7: Scope 2 emissions (Market-based study).

Contributor	Impact (kg CO_2 eq.)
Electricity (Ireland)	11,880.7
Purchased electricity (site Feldkirchen)	0.0
Purchased electricity (site Schwäbisch Hall)	0.0
Purchased heating (site Feldkirchen)	0.4
Purchased heating (site Schwäbisch Hall)	0.0
Electric vehicle (Germany)	3,395.3
Electricity (Canada)	5,636.9
Electricity (Brazil)	7,475.0
Electricity (India)	273,799.1

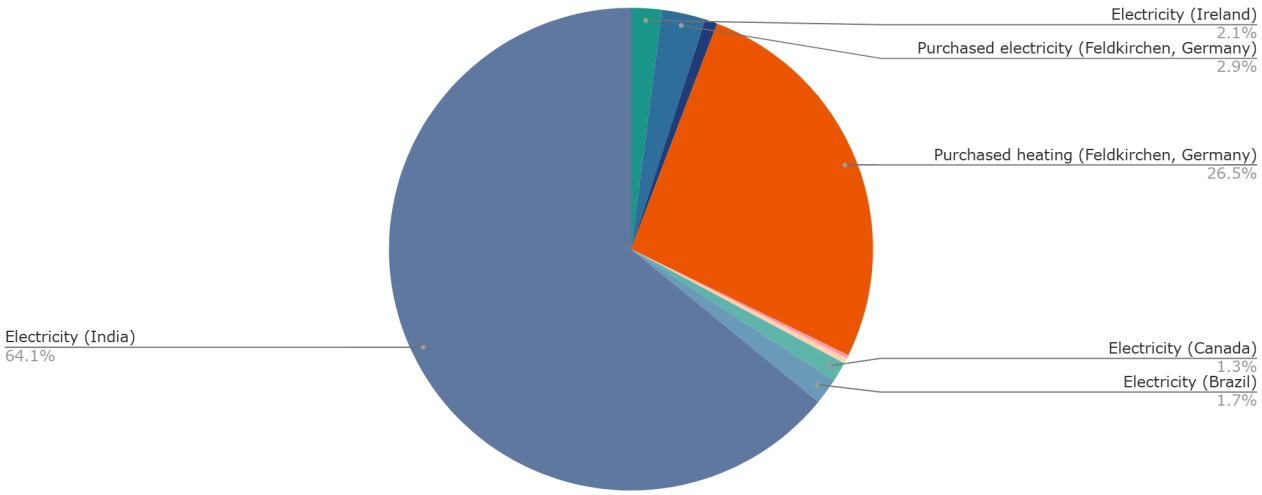

Figure 2: Scope 2 contribution analysis (Location based study).

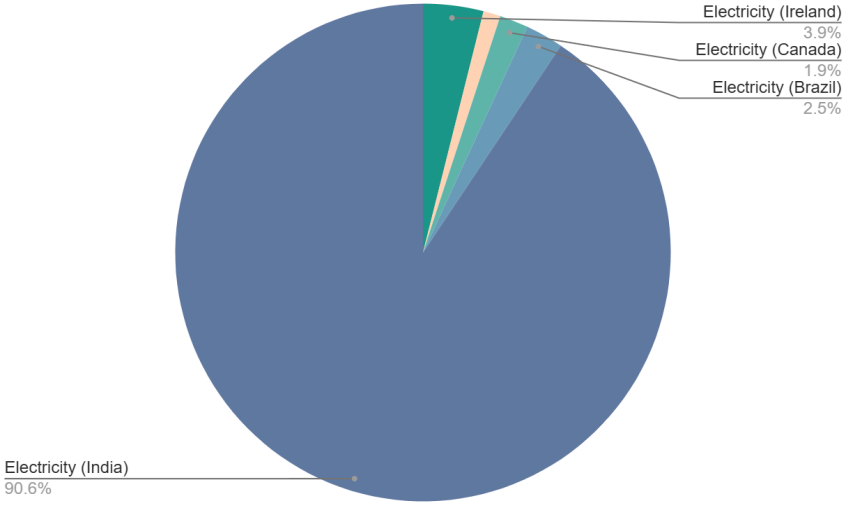

Figure 3: Scope 2 contribution analysis (market-based study).

3.4 Discussion on 2023 goals

In alignment with OPTEL's last organisational carbon accounting for the year 2023, the results of 2024 are evaluated against the targets originally set. Two specific goals were defined for Scope 1 direct emissions and Scope 2 indirect emissions. Overall, OPTEL's environmental performance has improved, particularly with respect to Scope 2 under the market-based approach. This approach is preferred because it reflects the actual source of energy from a grid-mix procured by the organisation, capturing the impact of renewable energy initiatives more accurately than the location-based method, which uses regional averages.

Goal 1: 10% Reduction in Scope 1 and Scope 2 emissions per employee by 2026

In 2024, OPTEL achieved a 42.67% reduction in Scope 1 and Scope 2 emissions per employee compared to 2023, which surpasses the target of a 10% reduction by 2026. This change is primarily due to a decrease in the number of employees, from 657 in 2023 to 449 in 2024. While the result is favorable, it should be interpreted with caution, as structural reductions in emissions are more meaningful than those resulting from organisational changes. Still, the performance of Goal 2 shows also an improvement in operations.

Goal 2: Carbon neutrality for Scope 1 and Scope 2 across global operations by 2028

The total Scope 1 and Scope 2 emissions under the market-based method decreased from 422.46 t CO_2 eq. in 2023 to 397.32 t CO_2 eq. in 2024, reflecting a 5.95% reduction. This downward trend indicates progress toward the 2028 neutrality goal. However, it is important to highlight that the emissions inventory changed between 2023 and 2024, with sources added or removed. Despite this, the reduction is encouraging and indicates that initiatives influencing energy procurement are having an effect. Continued focus on low-carbon energy sourcing, reduction of direct emissions (particularly refrigerant losses and diesel usage), and eventual offsetting of residual emissions will be necessary to reach full carbon neutrality.

Scope 3 goals

Two additional goals outlined in the 2023 reference report have not been addressed in the 2024 exercise:

- Achieve a 40% reduction in indirect Scope 3 emissions from sourcing activities by 2033.
- Propose a Scope 3 carbon neutrality roadmap aligned with the Science Based Targets Initiative.

As of 2024, these goals remain unaddressed. No Scope 3 emissions inventory was conducted this year, and no action plans were developed in support of these objectives. Future assessments should prioritize the inclusion of Scope 3 data and strategic planning to ensure progress towards long-term climate objectives.

4. UNCERTAINTIES AND LIMITATIONS OF THE STUDY

The electricity emission factors (both grid and residual mix) used for Scope 2 are taken from ecoinvent database v3.11, published in 2024, and based on the IPCC 2021 methodology, published in 2023, indicating high temporal representativeness. These residual mix emission factors are available only for the US and European countries to differentiate between location-based and market-based studies. The fuels used for stationary and mobile combustion were taken from the global IPCC emission factors that are generic in nature and the rest were from the respective national inventory reports and databases like the Department for Environment, Food and Rural Affairs from the United Kingdom.

Several uncertainties are inherent in the activity data for Scope 1 and Scope 2 emissions. For fuel usage, discrepancies may arise from estimation methods, variations in fuel quality, and measurement inaccuracies of fuel gauges or meters. Electricity bill readings may not perfectly align with the reporting period, and allocation of shared building electricity consumption can introduce errors. AC gas leakage estimates rely on assumptions, equipment age, and maintenance records; precise leakage rates are often difficult to determine, leading to potential under or overestimation.

5. RECOMMENDATIONS TO OPTEL SITE MANAGEMENT

To ensure we meet our goals, concrete actions will be required, such as transitioning to renewable energy, reducing refrigerant leaks, and replacing diesel generators. These measures will be further detailed in the action plan to be published in 2026. Still, these recommendations represent the type of initiatives to be prioritized.

- The electricity consumption can be reduced by looking for renewable energy from electricity providers, using efficient systems and by an appropriate consumption of energy, especially at the site in Goa.
- The AC gas leakages can be reduced by using efficient AC appliances/instruments and regular maintenance, as well as switching to refrigerants with lower global warming potential.
- The diesel generator at the Indian site can be replaced with natural gas generators, renewable energy generators, battery energy storage systems or other energy sources that have relatively less emissions.
- Purchased heat in Germany should be reduced due to its high carbon intensity in the location-based approach.

6. CONCLUSIONS

A corporate GHG assessment has been carried out internally for OPTEL Group. The study was conducted using both physical and financial data collected from various internal team members for its five sites. The study helped in identifying emission hotspots for the financial year 2024. Based on the identified hotspots, recommendations were provided. Appropriate strategic actions, reduced consumption and annual monitoring of emissions can help OPTEL Group reduce its overall organisational carbon footprint.

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APPENDIX A: CERTIFICATES

A1: Certificate from the purchased heat provider at the German site: Feldkirchen

BESCHEINIGUNG

über die energetische Bewertung nach
FW 309 Teile 1 und 7

Wärme-Versorgungssystem
Fernwärme AFK Geothermie, Ascheim
Betreiber
AFK Geothermie GmbH, Am Claim 2, 85609 Aschheim

Der Gutachter bescheinigt dem Versorgungsnetz
folgende Kennzahlen:

Primärenergiefaktor:	
fP nach § 22 Absatz 2, GEG 2020	**0,43**
Berechnet nach FW 309-1:2021	
fP nach § 22 Absatz 3, GEG 2020	**0,43**
nach Kappung und EE-Bonus	(nach GEG zu verwenden)
Emissionsfaktor CO_2-Äquivalent:	
fCO_2eq. nach Anlage 9 Nr. 1c, GEG 2020	**96 g/kWh**
Berechnet nach FW 309-1:2021	

Datenbasis: Istdaten 01.10.2017-30.09.2020

Diese Bescheinigung ist gültig bis zum 13.08.2031

Ausgestellt am 13.08.2021 von

AGFW-Gutachter Nr. FW609-179
Dipl.-Kfm. (Univ)
Dipl.-Ing. (FH)
Michael Schwarz

BISR
Beratende Ingenieure
Michael Schwarz &
Martin Reuter GbR

A2: Certificate from the purchased heat provider at the German site: Schwaebisch Hall

green CERT

Energetische Bewertung der Fernwärme
des Wärmeversorgungssystems

Netzverbund Schwäbisch Hall
74523 Schwäbisch Hall

Auftraggeber
Stadtwerke Schwäbisch Hall GmbH
An der Limpurgbrücke 1
74523 Schwäbisch Hall

Diese Bescheinigung ist nach den Vorgaben des AGFW-Arbeitsblattes FW 309 Teil 7 Stand 05/2021 erstellt. Für das Wärmeversorgungssystem - Netzverbund Schwäbisch Hall - der Stadtwerke Schwäbisch Hall GmbH können folgende Kennzahlen bescheinigt werden:

Primärenergiefaktor AGFW FW 309-1:2021	**$f_p = 0{,}00$**
Primärenergiefaktor nach Kappung (§ 22 Absatz 3 GEG)	**$f_{p,rw} = 0{,}24$**
CO_2-Emissionsfaktor AGFW FW 309-1:2021 (Anlage 9 GEG)	**$f_{CO2eq} = 0{,}00$ g/kWh**

Die Berechnung erfolgte auf Basis von Planungsdaten. Diese Bescheinigung ist gültig bis zum 5. August 2028, sofern keine Änderung der Anlagenkonfiguration oder des Energieträgermixes erfolgt, welche den Primärenergie- beziehungsweise Emissionsfaktor wesentlich erhöht oder verringert.

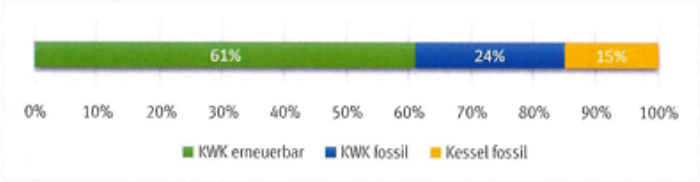
Dettingen an der Erms, den 5. August 2021

Dipl.-Ing. Peter Vaßen VDI
Geschäftsführer, Umweltgutachter
greencert. Umweltgutachter GmbH
Kappishäuser Straße 72

Matthias Hildebrand
zugelassener Gutachter nach FW609
Energie Baden-Württemberg AG
Durlacher Allee 93

Bescheinigung

über die energetische Bewertung nach FW 309 Teile 5 & 7



	MWh	Deckungs-anteil *DA*	Pflicht-anteil *PA*	Erfüllungs-grad *EG*
Wärmenetzeinspeisung gesamt	**155.852**			
aus Kraft-Wärme-Kopplung:	132.422	85%		
hiervon aus fossilen Brennstoffen				
hiervon aus Erdgas	37.030	24%	50%	48%
hiervon aus Kohle			50%	
hiervon aus Heizöl			50%	
hiervon aus fester/flüssiger Biomasse			50%	
hiervon aus Biogas/Biomethan	95.392	61%	30%	204%
aus sonstigen Wärmeerzeugern:				
aus Biomassekesseln			50%	
Abwärme			50%	
Solarstrahlung			15%	
Tiefengeothermie			50%	
aus Erdgaskesseln	23.430	15%		
aus Heizölkesseln				
insgesamt aus erneuerbaren Energien	95.392	**61%**		
Erfüllungsgrad der Fernwärme EG_{FW}				**252%**

Name des Wärmenetzbetreibers	Stadtwerke Schwäbisch Hall GmbH
Name des Wärmenetzes	Schwäbisch Hall
Verantwortlicher Betriebsleiter	Steffen Hofmann
E-Mail	steffen.hofmann@stadtwerke-hall.de
Zeitraum der Datenbasis	Planungsdaten
Diese Bescheinigung ist gültig bis	5. August 2028

Schwäbisch Hall, 10.08.2021
Ort, Datum

Stadtwerke Schwäbisch Hall GmbH
An der Limpurgbrücke 1
74523 Schwäbisch Hall

Unterschrift des Wärmenetzbetreibers

Die Berechnung der Zusammensetzung der Wärme wurde von der ***greencert.*** *Umweltgutachter GmbH durchgeführt.*

Dettingen an der Erms, den 5. August 2021
Ort, Datum

Dipl.Ing. Peter Vaßen VDI
Geschäftsführer, Umweltgutachter

Berechnung bestätigt durch:

Matthias Hildebrand
zugelassender Gutachter nach FW609

A3: Renewable energy certificates from the electricity suppliers at the German site.

EnergieVision

Verein zur Förderung von Nachhaltigkeit und Markttransparenz in der Energiewirtschaft getragen von
Öko-Institut e.V.

ZERTIFIKAT FÜR ÖKOSTROM

Das Ökostrom-Produkt	ENTEGA Naturpur Strom / Ökostrom-Produktfamilie / e-ben Ökostrom / ENTEGA NaturPur-Produktfamilie / Simply Green / individuelle Kundentarife / individuelle Geschäftskunden
der	ENTEGA Plus GmbH, Frankfurter Str. 100, 64293 Darmstadt

ist mit dem Gütesiegel

OK POWER

zertifiziert

und fördert damit in besonderem Maße die Energiewende.
Das Zertifikat gilt für den Zeitraum vom **01.01.2023** bis zum **31.12.2023**
für eine Strommenge von **1.300.000.000** Kilowattstunden.

Das Ökostrom-Produkt ENTEGA Naturpur Strom / Ökostrom-Produktfamilie / e-ben Ökostrom / ENTEGA NaturPur-Produktfamilie / Simply Green / individuelle Kundentarife / individuelle Geschäftskunden erfüllt folgende Qualitätskriterien des ok-power-Siegels:

- Die Kunden des Ökostromproduktes erhalten 100 % Strom aus erneuerbaren Energien.
- Gemäß dem Kriterium der Neuanlagenförderung erfolgt die Unterstützung der Energiewende, indem der Ausbau der erneuerbaren Kraftwerke beschleunigt und mind. ein Drittel der verkauften Strommenge in neu gebauten Kraftwerken erzeugt wird
- Gemäß dem Kriterium „Initiierung und Betrieb" erfolgt die Förderung der Energiewende dadurch, dass sich der Anbieter des Ökostromproduktes zu einem ambitionierten Ausbau der erneuerbaren Energien verpflichtet hat und diesen umsetzt.
- Der Anbieter ist nicht an Atomkraft-, Braunkohle- sowie neuen Steinkohlekraftwerken beteiligt.
- Der Tarif wird zu fairen und verbraucherfreundlichen Vertragsbedingungen angeboten.

Freiburg, den 04.04.2023

Thomas Rahner
Vorstand des EnergieVision e.V.

Dominik Seebach
Vorstand des EnergieVision e.V.

www.ok-power.de

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ZERTIFIKAT*

CO2-VERMEIDUNG DURCH ÖKOSTROM

Optel Group GmbH

Kapellenstr. 11, 85622 Feldkirchen

hat sich für Ökostrom der ENTEGA Plus GmbH entschieden.

Die dem Stromverbrauch entsprechende zu erwartende Jahresmenge von voraussichtlich 51.691 kWh wird in deutschen Wasserkraftwerken erzeugt und in das Stromversorgungsnetz der allgemeinen Versorgung eingespeist.

Der TÜV Rheinland bestätigt in einem jährlichen Konformitätsnachweis des Tarifs ENTEGA NATURpur Ökostrom - Wasserkraft, dass die bezogene Energie aus den benannten regenerativen Quellen stammen und ihr Stromverbrauch im Herkunftsnachweisregister des Umweltbundesamtes dem Tarif zugeordnet wurde.

Durch den Bezug von ENTEGA Ökostrom vermeidet Optel Group GmbH jährlich die Entstehung von voraussichtlich 17 Tonnen des klimaschädlichen Gases Kohlenstoffdioxid (CO2) und leistet damit einen wertvollen Beitrag zum Klimaschutz. Die Berechnung erfolgte auf Basis der Stromkennzeichnung Stand November 2023.

Die Vertragslaufzeit für den Ökostrombezug ist vom 01.01.2025 bis 31.12.2025.

Darmstadt, der 06.12.2024

Frank Gey
Vorsitzender der Geschäftsführung
ENTEGA Plus GmbH

Antje Winter
Geschäftsführerin
ENTEGA Plus GmbH

Zertifiziert und regelmäßig überprüft durch:

EINFACH KLIMAFREUNDLICH FÜR ALLE.