This future has a future

Moeve Group ISO 14064-1:2018
carbon
footprint
report **2024**

Contents

01

Strategy

01. Strategy

Moeve continues this year 2025 with its inventory verification plan at the organizational level of Greenhouse Gas (GHG) emissions under the framework of ISO 14064- 1:2018 in line with its Positive Motion. The verification includes the emissions of the following GHGs: carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), hydrofluorocarbons (HFC) and hydrochlorofluorocarbons (HCFC).
The process of inventory verification has been carried out in Sustainability & Energy Transition Area with the accreditation of AENOR with a limited level of assurance and a threshold of maximum relative importance of 5%.

With this report:

- Under our strategy and commitment to reduce our CO_2 emissions, we adopt rigorous monitoring and volunteer audit of these emissions to enhance our transparency and rigor in communication of emissions.
- Positive Motion Strategy is accompanied by Sustainability Plan in Moeve. Our Sustainability Plan is Moeve's roadmap to promote positive impact and sustainability through our actions linked to environmental, social, and good governance (ESG) criteria, which transversally involve all areas of the company.

Sustainability plan | Moeve

Moeve has updated its policy framework, and a new climate action policy is available in www.moeveglobal.com

This Policy aims to establish a framework to articulate the Company's strategy and business model in a manner consistent with its commitment to carry out the necessary climate actions, aligned with the energy transition and a low-carbon economy.

Strategy 2030, towards the energy transition - Moeve

Our Commitments:

- **Establish, monitor, and validate by a third-party CO_2 emissions and abatement plan targets.**
- **Integrate climate change in the company strategy and in all businesses decision-making processes.**
- **Design carbon mitigation and adaptation plan considering the entire value chain.**
- **Keep climate-related objectives as a monetary reward parameter.**

02

Reporting top-ics

02. Reporting topics

2.1. Boundaries

Following emissions are reported under this report

- This report groups **direct GHG emissions** (CO_2, CH_4, N_2O and refrigerant gases) from the facilities, including combustion, process, fugitive emissions, and emissions from mobile sources. Emissions from facilities's wastewater treatment plants have also been included (Category 1).
- **Indirect emissions** by purchased steam and electricity of the facilities included in the scope of this verification (Category 2).
- Likewise, this 2024 report includes the **indirect emissions** of the **value chain** corresponding to scope 3 under the GHG Protocol Methodology and under ISO 14.064-1:2018 (Categories 3-6).

Greenhouse gas emissions sources have been identified and grouped in accordance with the ISO 14064-1:2018 standard. This standard lists six categories of emissions and differs somewhat from earlier categorization in line with the Greenhouse Gas Protocol's Scopes 1 through 3.

- **Category 1**: Direct GHG emissions and removals
- **Category 2:** Indirect GHG emissions from imported energy
- **Category 3:** Indirect GHG emissions from transportation
- **Category 4:** Indirect GHG emissions from products used by the organization
- **Category 5:** Indirect GHG emissions associated with the use of products from the organization
- **Category 6:** Indirect GHG emissions from other sources

This report, although drawn up in parallel, is developed within the framework of the principles established by Moeve regarding the quantification of GHG and the establishment of objectives to reduce GHG emissions.

Significance and Materiality

It is necessary to define and explain our own pre-determined criteria for the significance of indirect emissions, considering the intended use of the inventory.

Factors for consideration in assessing significance and materiality include:

- Magnitude or Size of the emissions
- Level of Influence on the emission source
- Difficulty in obtaining data
- Poor validity in available estimation approaches

Whilst all of the above would be considered in materiality assessments, the criteria that would mandate disclosure of emissions sources as significant is:

a) Where there is a single source with estimated emissions likely to be at least 1% of its category. In this case, that emissions source must be included.
b) Where the total of 'insignificant' sources has estimated emissions likely to be at least 5% of total emissions. In this case, enough of the 'insignificant' emissions must be included until the estimate of excluded emissions is below 5%.

2.2. Scope

Energy Parks

Our refining business is concentrated at two Energy Parks, located in Campo de Gibraltar (Cadiz) and Palos de la Frontera (Huelva), which we are adapting to produce renewable fuels such as biofuels and green hydrogen.

We transform crude oil into higher value-added products to meet society's needs for energy and basic materials. Our refining business accounts for 30% of total installed capacity in Spain.

We are working to remain competitive in a context conditioned by the existence of surplus refining capacity in Europe, the competitiveness of new refineries located outside of Europe, the impact of the energy transition on demand for traditional products, increasingly rigorous environmental regulations, and technical specifications for products in terms of carbon emissions and the growing presence of biofuels.

Our Energy Parks are strategically located close to key shipping ports with significant production and storage capabilities and excellent logistics connections for catering to national and international demand for refined products.

The production in Energy Parks is characterized by high energy efficiency in its units. Our interest is to reduce energy consumption and thereby reduce GHG emissions, for which we have Energy Management Systems, certified under ISO 50001, that allow us to monitor and optimize these consumptions.

- Energy Park San Roque (Cádiz)

Since its implementation in 1967 in San Roque (Cádiz), a strategic area for exports, the Gibraltar-San Roque refinery has been configured as a highly integrated industry with the petrochemical complex.

- Energy Park La Rábida (Huelva)

La Rábida refinery came into operation in 1967 in Palos de la Frontera (Huelva). Its production plants and port facilities allow it to store and distribute a wide range of products for various industries and consumers.

- Santa Cruz de Tenerife refinery

The dismantling of the Santa Cruz de Tenerife refinery will pave the way for 'Santa Cruz Green 2030', a project destined to become one of the most ambitious industrial-to-urban site reconversions in Europe.

- Petrocan storage facilities

Petróleos de Canarias SA (Petrocan) is dedicated to the reception, storage, and supply of marine fuels in the ports of Santa Cruz de Tenerife and Las Palmas de Gran Canaria.

Mobility & New Commerce

- Service Stations

Moeve is expanding its range of energy and sales solutions for retail and professional customers and in its service stations network, which is the second largest in Spain and Portugal, along with a presence in Morocco and Mexico. On June 2024, we acquired 100% of Ballenoil, S.A., a company operating in the low-cost automotive fuel sector.

- Matosinhos bitumen factory

Moeve has made a significant effort to develop great technology in the world of bitumen, based on the quality of an excellent human team, with a deep knowledge of new technologies. This has allowed it to achieve a solid reputation based on experience and competence.

Innovation Center for Energy Transition

At our Innovation Centre, we work on these research projects at lab scale for our production centres and sales units, while also providing our customers, particularly in lubricants and specialties with technical assistance.

Commercial & Clean Energies

- Power Asset Management

This area supplies gas in the wholesale and retail markets and electricity to industrial customers and consumers in the tertiary sector.
The object of this verification are the cogeneration and combined cycle plants integrated in Energy Parks. The cogeneration allows the reduction of CO_2 emissions thanks to the generation of steam along with the production of electricity. This steam is imported by the Refining and Chemical facilities.
GHG emissions reported in this report correspond to the total shareholding of the facilities, under operational control.

- Renewable Energy

Biofuels unit called Moeve Bioenergía San Roque owns the facility for FAME production (Fatty Acid Methyl Ester), located in San Roque. It has been included in this scope since its incorporation to Moeve's portfolio in 2017. Biofuels are produced from raw material certified under Sustainability Standard of ISCC, offering a GHG reduction in the production process versus fossil fuels.
Additionally, on February 2024, we formalised a business agreement with APICAL for the production and marketing of 2G biofuel, incorporating Bio-Oils Huelva, S.L.U. and Bio Oils Waste, S.L.U., both at 55% stakes.

Renewable power facility in Cadiz, Alijar wind energy facility. Its power is 29MW and no direct emissions are allocated to it.

- Asphalt facilities

Moeve's current Asphalts Division has 5 moderns, strategically located factories on the Iberian Peninsula (Alcala de Henares, Alcudia, Valencia, Gijon y Tarragona), allowing it to supply the peninsular market and providing an excellent platform for exports. Once the bitumen has been produced in our Energy Parks it is distributed to the Asphalt Unit's factories for processing and subsequent delivery to the end customers. We manufacture and market bituminous emulsions, modified bitumen, and materials for industrial applications. The paving and waterproofing of surfaces sections have developed in parallel.

- Lubes facilities

Lubricants Division has 2 strategically located factories on the Iberian Peninsula (San Roque and Paterna), allowing it to supply the peninsular market.
We sell more sustainable lubricants with our Fuel Economy, Hybrid and Biodegradable ranges. At Moeve, we are experts in lubrication, and we are always working to offer you the product that best suits your needs. From products for cars, motorcycles, trucks, or vessels to lubricants for machinery, installations, and production systems.

- Aviation facilities

There are different storing and distribution facilities included in the reporting scope grouped as SIS, CMD and CAV.
SIS. The "intoplane" service consists of the onboard supply of the fuel aircraft needed for flight operations. In order to ensure that engines do not fail during flight, the quality and quantity of fuel is of paramount importance.
Taking into account the characteristics of this type of fuel, the operation must be carried out with due respect for safety and the environment.
Currently, the main fuel used by most aircraft is kerosene, with its different specifications, depending on civil or military use and geographical area: USA or Europe. Aviation gasoline is also used on a small scale for light aircrafts.

CAV and **CMD** facilities in Canary Islands are also dedicated to the supply of the fuel aircraft needed for flight operation in the airport facilities.

- Atlas, Diesel centers and Fishing poles

We also include other facilities such as Atlas, a distribution center for diesel and gasoline in Ceuta and Melilla; and diesel centers and fishing poles located throughout Spain to provide diesel and marine gasoil to different costumers.

Chemicals

Moeve's petrochemical activity is developed in a dynamic of maximum integration with Refining. In this way, products of high added value are manufactured, which are converted into raw materials for other industries and with multiple final applications: detergents, synthetic fibers, pharmaceutical products, among others.

The manufacture of basic petrochemical products is carried out at the Gibraltar - San Roque and La Rábida Energy Park in Moeve, which can produce more than 1 million tonnes per year of these derivatives. After the distillation of crude oil, the processing units of the refineries obtain raw materials (benzene, toluene, and xylene) for other processes, as well as intermediate and final products, such as solvents, propylene, and sulphur. Moeve Química, after the processing of these products, dis-tributes and commercializes the final products worldwide.

- Moeve Chemicals Puente Mayorga

Puente Mayorga Plant, which is located in San Roque (Cádiz), produces linear alkylbenzene (LAB), sulphonic acid (LABSA) for the production of detergents, n-paraffin, dearomatized solvents and heavy alkylates as rolling oils in various industries.

- Moeve Chemicals Palos de la Frontera

Palos de la Frontera Plant is located in Palos de la Frontera (Huelva) and processes benzene and propylene to produce cumene, phenol, acetone and alphamethylstyrene. Phenol and acetone are used in the manufacture of resins, high-tech plastics, synthetic fibers, pharmaceuticals, and a long list of final applications.

- Moeve Chemicals Shanghai

Shanghai Plant is located in Lot C4 of Shanghai Chemical Industry Park (SCIP). It processes benzene and propylene to produce cumene, phenol, acetone and cumene. Phenol and acetone are used in the manufacture of resins, high-tech plastics, synthetic fibers, pharmaceuticals, and a long list of final applications.

- Moeve Chimie Bécancour

Bécancour Plant is located in the Bécancour Industrial and Port Park in southern Quebec. Linear alkylbenzene (LAB) is produced there, compound used in the manufacture of biodegradable detergents as well as other secondary products of commercial and industrial utility. The alkylation of benzene with olefins for the production of LAB also implies the production of heavy alkylate bottoms made up mainly of dialkylbenzenes, mainly used as refrigerant additives and for the production of highly hydrophobic surfactants.

- Moeve Química Brasil

Deten Química Plant is located in Polo Petroquímico de Camaçari (Bahía). Linear alkylbenzene (LAB) is produced there, compound used in the manufacture of biodegradable detergents as well as other secondary products of commercial and industrial utility. The sulphonation of the LAB leads to the formation of the corresponding sulphonic acid (LABSA).

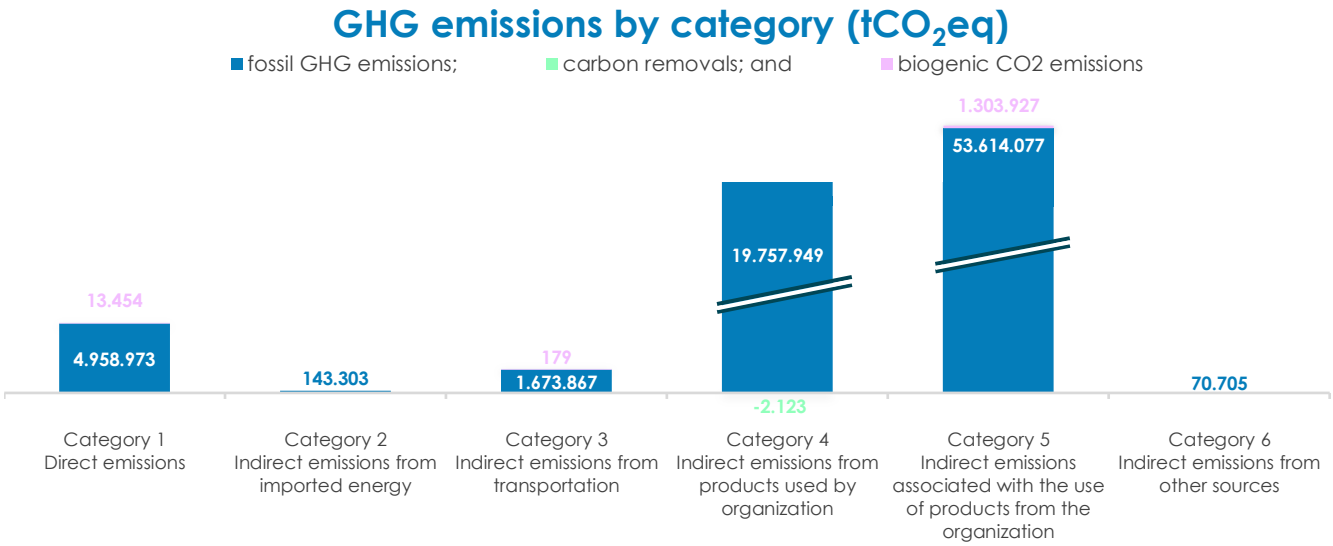
03

Data and methodology

03. Data and methodology

3.1. Emission data

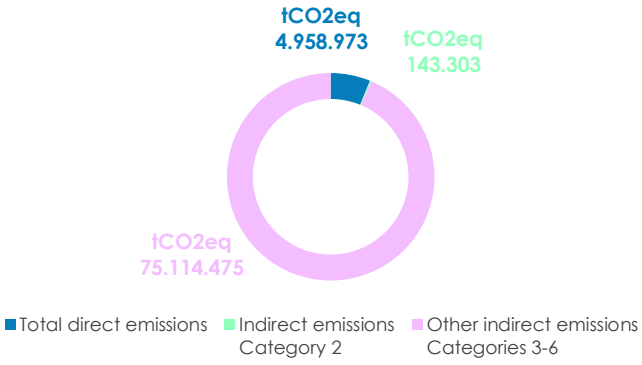
The general distribution of emissions among the above mentioned ISO 14064-1:2018 for the year 2024 categories is shown in the following graph, according to the materiality criteria.



Where,

- **Total fossil GHG emissions account to 80,216,752 tonnes of CO_{2eq}.** This sum of emissions includes -2,123 tonnes of CO_{2eq} due to carbon removals and excludes the biogenic emissions which accounts to 1,317,560 tonnes of CO_{2eq}.
- It is seen that **Category 5 contributes to the most emissions**, specifically the emissions from the use of sold energy products. This is followed by Category 4 and 1.
- Indirect emissions corresponding to Category 2, emissions from purchased energy is shown in the graph as **market-approach calculation**. This category accounts to 308,013 tonnes of CO_{2eq} under location-approach calculation.

Now, the percentage distribution graphs for carbon footprint by scope show that **indirect emissions account for the largest percentage** of emissions calculated.



The breakdown of **direct emissions** is shown in the following table where the equivalent tonnes of GHG are broken down according to the contribution of each emission source and business unit.

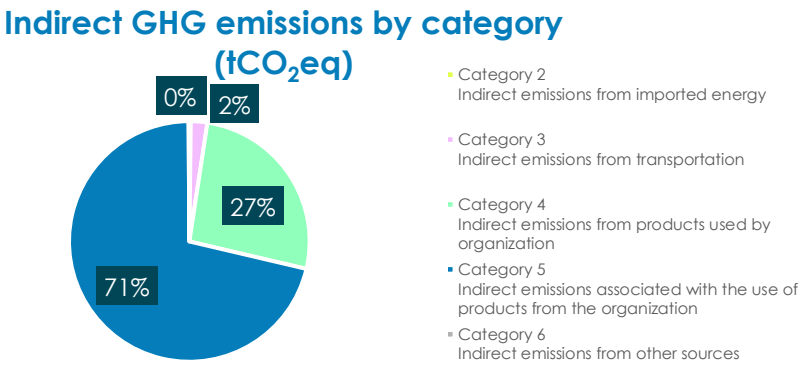
Planta	Direct emissions per source, GHG tonnes	Total CO_2e emissions	CO_2	CH_4 as CO_2e	N_2O as CO_2e	Refrigerant gases as CO_2e
Energy Parks	Combustion stationary sources	1,887,830	1,886,214	435	1,181	
	Flaring	108,263	108,192	32	39	
	Process emissions	688,262	686,751	509	1,002	
	Combustion mobile sources	199	197	0	2	
	Wastewater treatment facilities	4,932		3,499	1,433	
	Gas post-meter leakage	39,589	14	39,575	0	
	Fugitive refrigerant	1,678				1,678
	Where, total fossil GHG emissions; and	**2,727,741**	**2,678,357**	**44,049**	**3,656**	**1,678**
	biogenic CO_2 emissions	**3,012**	**3,012**			
Moeve Chemicals	Combustion stationary sources	689,842	685,904	379	3,559	
	Flaring	5,130	5,129	1	1	
	Process emissions	3,221	3,221	0	0	
	Combustion mobile sources	42	42	0	0	
	Wastewater treatment facilities	880		698	183	
	Gas post-meter leakage	48,304	17	48,286		
	Fugitive refrigerant	1,661				1,661
	Where, total fossil GHG emissions; and	**738,840**	**684,073**	**49,363**	**3,743**	**1,661**
	biogenic CO_2 emissions	**10,241**	**10,241**			
Power Assets	Combustion stationary sources	1,353,101	1,341,031	2,741	9,330	
	Gas post-meter leakage	107,703	39	107,664	0	
	Where, total fossil GHG emissions	**1,460,804**	**1,341,069**	**110,405**	**9,330**	**0**
Other Commercial & Clean Energies	Combustion stationary sources	22,610	22,491	14	105	
	Combustion mobile sources	2,825	2,796	1	28	
	Wastewater treatment facilities	460		460	0	
	Gas post-meter leakage	1,428	1	1,428	0	
	Fugitive refrigerant	4	0	0	0	4
	Where, total fossil GHG emissions; and	**27,138**	**25,097**	**1,903**	**133**	**4**
	biogenic CO_2 emissions	**190**	**190**			
Mobility & New Commerce	Combustion stationary sources	3,849	3,832	4	14	
	Combustion mobile sources	198	196	0	1	
	Gas post-meter leakage	130	0	130	0	
	Where, total fossil GHG emissions; and	**4,165**	**4,016**	**134**	**15**	**0**
	biogenic CO_2 emissions	**12**	**12**			
TPS	Combustion stationary sources	265	263	0	1	
	Gas post-meter leakage	21	0	21	0	
	Where, total fossil GHG emissions	**286**	**263**	**21**	**1**	**0**

Indirect emissions associated with Categories 2-6 are summarized in the following table, differentiating between location- based and market-based methods

Category		GHG emissions (tCO_2eq)	
		market approach	location approach
Category 2 Indirect emissions from imported energy	fossil GHG emissions;	143,303	308,013
	carbon removals; and		
	biogenic CO_2 emissions		
	Total	**143,303**	**308,013**
Category 3 Indirect emissions from transportation	fossil GHG emissions;	1,673,867	1,673,867
	carbon removals; and		
	biogenic CO_2 emissions	179	179
	Total	**1,673,867**	**1,673,867**
Category 4 Indirect emissions from products used by organization	fossil GHG emissions;	19,757,949	19,757,949
	carbon removals; and	-2,123	-2,123
	biogenic CO_2 emissions		
	Total	**19,755,826**	**19,755,826**
Category 5 Indirect emissions associated with the use of products from the organization	fossil GHG emissions;	53,614,077	53,614,077
	carbon removals; and		
	biogenic CO_2 emissions	1,303,927	1,303,927
	Total	**53,614,077**	**53,614,077**
Category 6 Indirect emissions from other sources	fossil GHG emissions;	70,705	53,494
	carbon removals; and		
	biogenic CO_2 emissions		
	Total	**70,705**	**53,494**
Total	**fossil GHG emissions and carbon removals**	**75,257,778**	**75,405,277**
	biogenic CO_2 emissions	**1,304,106**	**1,304,106**

1. Total GHG emissions consider fossil GHG emissions and carbon removals

Within the section of **indirect emissions**, the following graph shows the distribution of indirect emissions from Category 2 to Category 6. As previously indicated, the results of emissions associated with electricity have been carried out according to the market-approach methodology.



3.2. Methodology

Category 1. Direct emissions

- Combustion emissions in stationary sources

  In European facilities under compliance, CO_2 is reported according to Monitoring, reporting and verification of EU ETS (Emission Trading Scheme) emissions methodology. Other non-EU facilities subject to carbon trading schemes to calculate CO_2 emissions.

  For those that facilities that carbon markets are not applied, national inventory emission factors are used to calculate CO_2 emissions using activity data from invoices and/or internal registers.

  In most cases, CH_4 and N_2O according to EU-PRTR Concawe methodology and CH_4 and N_2O as CO_2eq according to IPPC AR6 Global Warming Potentials.

- Flaring emissions in facilities

  In facilities under complience CO_2 according to carbon trading schemes.

- Process emissions in facilities

  CO_2 according to Methodology European Reporting under EU ETS. Activity data are reported following the EU Methodology regulation.

- Combustion emissions in mobile sources

  Internal registers for Activity data, majority coming from supplier service, and national inventory emission factors for considered GHG.

  Activity data are reported according to direct measurement of diesel consumption in the facility.

  Renewable content is according to product certificate, and it has been shown separately in the graphs as biogenic emissions.

- Gas post-meter leakage.

  Activity data reported according to the same methodologies as those de-scribed for combustion emissions at stationary sources and gas leakage at industrial plants emission factors from 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

- Fugitive emissions of refrigerant gases.

  GHG according to IPPC AR6 GWPs (100-years). Activity data reported under refill and maintenance evidence.

Category 2. Indirect emissions from imported energy

Associated emissions to purchased electricity and steam in facilities under scope. Activity data are reported under carbon markets verified data or invoices. Emission factor of indirect emissions due to steam come from operational data.

Emission factors for electricity generation are determined based on market-based and location-based criteria, as outlined in the electricity labelling provided by each country.

Category 3. Indirect GHG emissions from transportation

3.1. Subcategory Indirect emissions by transport and distribution upstream

The quantification methodology used for calculating emissions is based on raw materials activity data and emission factors from Ecoinvent database. We have also included a refinement in the methodology for the calculations regarding intermediate and final products.
It accounts for **957,567 tonnes of CO_{2eq}**.

3.2. Subcategory Indirect emissions by transport and distribution downstream

The quantification methodology used for calculating emissions is based on the sold products activity data and emission factors from Ecoinvent database.

Fossil GHG emissions in this subcategory account for **704,110 tonnes of CO_{2eq}**. Biogenic GHG emissions in this subcategory account for **126 tonnes of CO_{2eq}**.

3.3. Subcategory Indirect emissions caused by employees commuting to work

The quantification methodology used for calculating emissions is based on activity data from commuting survey (2022) and emission factors from DEFRA database.

Fossil GHG emissions in this subcategory account for **8,077 tonnes of CO_{2eq}**, but due to the materiality criteria they have been considered **non-significant**. Biogenic GHG emissions in this subcategory account for **53 tonnes of CO_{2eq}**.

3.4. Subcategory Indirect emissions caused by business travel

The quantification methodology used for calculating emissions is based on activity data from travel agencies reports and emission factors from DEFRA database.

It accounts for **4,114 tonnes of CO_{2eq}**, but due to the materiality criteria it has been considered **non-significant**.

Category 4. Indirect GHG emissions from products used

4.1. Subcategory Indirect emissions from purchased goods and services

The quantification methodology is based on the same basis as the upstream transport subcategory, with crude oil, chemical products, additives and renewable raw materials being purchased products. Additionally, as a result of a project performed to calculate emissions related to the external services provided by different suppliers, we have achieved an improvement in the scope of this category.

It accounts for **19,192,254 tonnes of CO_{2eq}**

4.2. Subcategory Indirect emissions from purchased energy

As upstream emissions of purchased fuels and electricity and transmissions and distribution losses

The quantification methodology used for calculating emissions is based on diesel, electricity and steam consumption activity data and emission factors from DEFRA database.

It accounts for **495,991 tonnes of CO_{2eq}**.

4.3. Subcategory Indirect emissions from third-party disposal and treatment of waste generated in operations

The quantification methodology used for calculating emissions is based on official declaration of managed wastes, internal register or/and water discharged to third party treatment plant as activity data and emission factors from DEFRA database.

It accounts for **67,581 tonnes of CO_{2eq}**.

Category 5. Indirect GHG emissions from use of products

5.1. Subcategory Indirect emissions from the use of sold products

The quantification methodology used for calculating emissions is based on sold energy products as activity data and national emissions inventory for emission factors. The methodology has been refined to more accurately distinguish between fossil and biogenic emissions, better reflecting the global addition of biofuel to our energy sales. Additionally, calorific values have been updated using reputable sources.

Fossil GHG emissions in this subcategory account for **53,368,731 tonnes of CO_{2eq}**. Biogenic GHG emissions in this subcategory account for **1,303,927 tonnes of CO_{2eq}**.

5.2. Subcategory Indirect emissions from the processing of products sold

The quantification methodology used for calculating emissions is based on chemical products sold as activity data.

For the processing of chemicals, the emission factors used are the actual processing ratios provided by our clients. However, this subcategory only includes sales for which we have client emission factors. Consequently, it is estimated that about 7% of chemical sales are covered in this report due to the lack of access to this data. Action plans to address this are currently in development.

It accounts for **245,346 tonnes of CO_{2eq}**.

Category 6. Indirect GHG emissions from other sources

6.1. Subcategory Indirect emissions from the upstream leased assets.

Involving emissions in Moeve's headquarters in Madrid.

The quantification methodology used for calculating emissions is based on natural gas and electricity invoices as activity data and national emissions inventory and electricity labeling for emission factors.

It accounts for **277 tonnes of CO_{2eq}** under market-based approach and for **977 tonnes of CO_{2eq}** under location-based approach.

6.2. Subcategory Indirect emissions from the operation of franchises.

Involving franchises in Service Station network

The quantification methodology used for calculating emissions is based on the number of service stations in Spain, Portugal, Morocco and Mexico as activity data and electricity labeling emission factors.

It accounts for **35,863 tonnes of CO_{2eq}**.

6.3. Subcategory Indirect emissions from investments.

Involving emissions in ASESA bitumen facility *(50% share Moeve)*.

The quantification methodology used for calculating emissions is based on natural gas, diesel and torches activity data verified under ETS methodology and the emission factors by Concawe and IPCC AR6 for CO_{2eq}.

It accounts for **34,565 tonnes of CO_{2eq}**.

3.3. Exclusions and uncertainty

Exclusions

In 2024 exercise no exclusions in emissions reporting.

Uncertainty

Uncertainty in the emissions is a combination of the uncertainties in the activity data, the different primary data per emissions, and the emission factors.

Next, data for elementary flows is qualitatively evaluated, taking into account considerations such as precision, integrity, representativeness and coherence, among others. For this, a scale (A – D) is established in which A corresponds to verified data and D would be estimates.

Data for elementary flows	Data quality	Explanation
Category 1. Direct emissions		
Activity data	**A**	Most emissions under regulated system
Emission factors	**A**	Most emissions under regulated system
Category 2. Indirect emissions from imported energy		
Activity data	**A**	Invoices
Emission factors	**A**	Electricity labeling of electricity trading companies
Category 3. Indirect GHG emissions from transportation		
Activity data	**B**	Internal records and travel agencies report
Emission factors	**B**	Database
Category 4. Indirect GHG emissions from products used		
Activity data	**A**	Regulated systems and financial planning
Emission factors	**B**	Database and own Product Carbon Footprints (PCF)
Category 5. Indirect GHG emissions from use of products		
Activity data	**B**	Financial planning
Emission factors	**A**	Clients EFs
Category 6. Indirect GHG emissions from other sources		
Activity data	**A**	Invoices
Emission factors	**A**	National Inventory EFs and electricity labeling

3.4. Base year

Last year, Moeve introduced a new certificate that consolidates all its business units, initially setting 2023 as the base year for this report.

However, as outlined in ***section 3.2***, fossil emissions have increased significantly in Category 4 (Purchased Products) compared to the base year. This is largely due to the update of the Ecoinvent database from version 3.8 to 3.10, which requires us to recalculate the baseline for this category and adopt 2024 as the new base year.

We recommend consulting ecoinvent's Knowledge Base for Ecoinvent Version 3.10, particularly the Fuels section, where the main changes are detailed.

In addition, we have made adjustments to the scope of the GHG inventory compared to last year. The Exploration & Production (E&P) business unit has been excluded following the divestment of LATAM assets, as well as GASIB from the Commercial & Clean Energies unit for the same reason. This further supports the decision to establish 2024 as the new base year.

04

Reduction and removal

04. Reduction and removal

4.1. Emissions reduction action

In 2024, we made significant progress in reducing emissions across the Moeve Group, particularly through the consumption of renewable fuels and biogas from the co-processing of vegetable oils and used cooking oils at our energy parks. The transition to renewable electricity has also advanced, with our Moeve Chemicals Shanghai plant reaching 60% of total electricity consumption from renewables, alongside increased adoption in our facilities in Spain. Additionally, and related to renewable electricity consumption, in the Service Stations operated by our company, 7% of electricity consumption comes from photovoltaic solar panels and in the case of our Innovation Center for Energy Transition, the electricity consumption from this source has been 9%.

Moeve Chemicals has also participated in decarbonization initiatives to reduce its scope 3 emissions by signing agreements so that the supply transportation of chemical products from Moeve will be carried out using 100% renewable diesel (HVO) for some clients.

The impacts of these actions can be observed both in terms of biogenic emissions and zero emissions (market approach) in ***Data and methodology*** section.

In addition, we have implemented a range of energy efficiency actions to further enhance sustainability and emission reductions. The emissions abatement potential of these projects is according to the documentation submitted for investment approval.

Energy Park La Rábida (Huelva)

	Action	Abatement potential (tCO_2/yr)	COD	Reduction 2024 (tCO_2/yr)
01	Optimizing light diesel Reflux pump-around operations to minimize air cooler usage	1415	July	707,5
02	Replacing pump turbine with electric motor to save steam	1400	September	467
03	Preheating water for steam savings	263	June	153

Energy Park San Roque (Cádiz)

	Action	Abatement potential (tCO_2/yr)	COD	Reduction 2024 (tCO_2/yr)
04	Enhancing furnace efficiency by utilizing flue gas exit temperature	5340	October	1335
05	Sending clean flue gases to the boiler by installing underflow filter	2063	April	1547

Moeve Chemicals Palos de la Frontera (Huelva)

	Action	Abatement potential (tCO_2/yr)	COD	Reduction 2024 (tCO_2/yr)
06	Achieving energy integration by utilizing heat from cumene product to preheat feed into oxidation	2698*	March	2248*
07	Installing an advanced air preheater in line 3 furnace	1864	February	1709
08	Preheating raw phenol feed using energy from phenol product output	1005	September	335

*Value from post-expenditure analysis

Moeve Chemicals Shanghai

	Action	Abatement potential (tCO_2/yr)	COD	Reduction 2024 (tCO_2/yr)
09	Optimizing reflux flow, bottom temperature, and condensate valves for stable tar column operation	5918	March	4932
10	Replacing medium pressure steam with low pressure steam in the flare torch to save MPS	2654	March	2212
11	Implementing APC technology to optimize the cumene plant, improve stability	1787	January	1340
12	Increasing CHP concentration to save energy in the phenol unit	1255	July	1255
13	Generating 800,000 kWh of green electricity annually from a 797.7 kW photovoltaic project	336	September	168

4.2. Emissions removal actions

During 2024-year Moeve implemented some removal actions affecting indirect emissions in value chain.

4.2.1. Renewable raw material carbon absorption

The absorption of carbon by renewable materials during their growth phase is accounted for when these materials are utilized for chemical production without any associated combustion. During this year, kernel oils (CPKO and PKO) have been processed in Chemical facilities to produce sustainable linear alkylbenzenes (NextLab portfolio).

2,123 tonnes of CO_{2eq} have been removed due to the renewable raw materials processed in 2024, helping our clients to achieve their challenging targets dedicated to reducing climate change impact. These emissions have been considered **carbon removals in Category 4** Indirect GHG from products used, and subcategory purchased products.