YEAR 13, NR. 1

17 NOVEMBER 2022 REF.NR.: 22.R.1101

# **Carbon Footprint Analysis First half 2022**

# PIPELIFE ()

#### Contents

Management statement

Organization

Reporting organization

Responsible person

Organizational boundaries

ISO 14064 statement

Verification statement

Carbon Footprint Analysis

Basis of analysis

Measurement results and explanation

Reported period

Scope 1: Direct CO<sub>2</sub> -emissions

Statement of CO<sub>2</sub> sources and sinks omitted

CO<sub>2</sub> emissions from burning biomass

Scope 2: Indirect CO<sub>2</sub>-emissions

Indirect CO<sub>2</sub> emissions from purchased energy

Influence measurement inaccuracies and uncertainties

Scope 3: Other indirect CO<sub>2</sub>-emissions

CO<sub>2</sub> compensation

Progress against reference year

Historical base year

Adjustments to historical base year

Normalization measurements

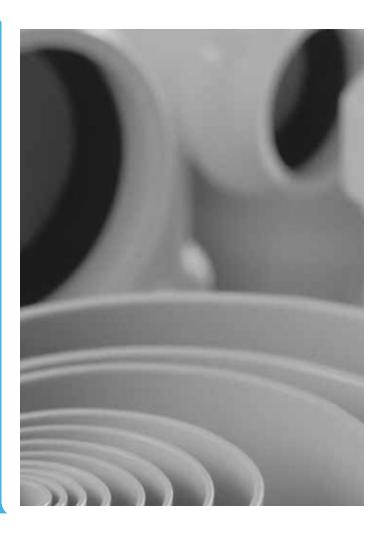
Calculation Models

**Quantification Methods** 

Explanation for changes in the quantification methods

Reduction targets

Annex 1 CO<sub>2</sub>-emissions 2022 H1 scope 1, 2 and 3





Aart Jan van der Meijden
Managing Director Pipelife Nederland B.V.





#### **Carbon Footprint**

## **Management statement**

In the last years it has become clear that energy resources are not inexhaustible and that the usage affects our environment. We see it as our duty to deal with our environment in a sustainable way. In addition to creating good and sustainable products, we also take into account our environment and our employees, while a motivated organization is the key to sustainable success.

We are convinced that we find the right balance between People, Planet and Profit with a good CSR policy. Therefore we are working for many years according to this policy. For example, we have established our Carbon Footprint and we are busy to realize our reduction targets in the area of energy consumption and  $CO_2$  emissions. We are also very active in recycling and reducing the material consumption in our products. Also by an active Health, Safety, Environmental and Energy policy we are improving our work environment.

Sustainability is a joint effort of our employees, customers, business partners, suppliers and other stakeholders. Together with these partners, we are convinced that we can shape our policy in the future and continuing to play a leading role within our industry.

Aart Jan van der Meijden

Managing Director
Pipelife Nederland B.V.



#### ISO 14064 statement

With this, Pipelife Nederland B.V. states that this report for the "CO<sub>2</sub>-bewust" certificate is prepared in accordance with the guidelines of NEN-ISO 14064, version May 2018.

#### Verification statement

With this, Pipelife Nederland B.V. states that this report has not yet been verified but at request of interested parties can be verified by approved bodies and further states:

- the inventory had been designed according to the needs and requirements from the ISO 14064-1, the GHG Protocol, the CO<sub>2</sub>-prestatieladder Manual 3.1
- said CO<sub>2</sub> inventory has no material misstatements, derogatory to the materiality requirement of 5%.

#### Carbon Footprint

## **Organization**

#### Reporting organization

Pipelife Nederland B.V. is located in Enkhuizen. Pipelife Nederland B.V. is part of Pipelife International GmbH, an international manufacturer of plastic piping systems and fittings and one of the market leaders in Europe. Pipelife was established in 1947, today one of the oldest plastic pipe producers worldwide. Products include sewage, inhouse: electro, water, gas, drainage, cable pipes and eco systems.

Pipelife Nederland has approximately 310 employees spread over seven locations: headquarters, production sites and wharehouses.

Pipelife International GmbH was taken over by Wienerberger in 2012 (ceramic industry) and is now a 100% company of the Wienerberger Group. Pipelife International GmbH is located in 26 countries, with headquarters in Vienna, Austria. 3,200 employees worldwide are working on 26 production sites.

Summary of the activities:

Development, production and sales of plastic pipe systems.

#### Responsible person

The person statutorily responsible for the reporting organization is mr. A.J. van der Meijden, Managing Director Pipelife Nederland B.V.

#### Organizational boundaries

The organizational boundaries of Pipelife Nederland B.V. are determined in the context of CO<sub>2</sub> (carbon dioxide)-consciousness in accordance with the principle of the operational sphere of influence of the certifying company.

Within the GHG protocol, this is described as the 'operational boundary'. In practice, this means that when activities are executed under the auspices of Pipelife Nederland B.V., the accountability for the  $CO_2$ -production is taken: the own organization has control of this.

Based on the lateral purchase analysis of the CO<sub>2</sub> -performance ladder, it is determined that Pipelife Deutschland GmbH & CO. KG and Preflexibel NV are added within the organizational boundary of Pipelife Nederland B.V.

The organizational boundaries for this inventory includes:

- Pipelife Nederland B.V.;
- Pipelife Deutschland GmbH & CO. KG.
- Preflexibel NV

The rationale for this boundary is listed in the boundary report (doc. nr 18.R.0304-5).



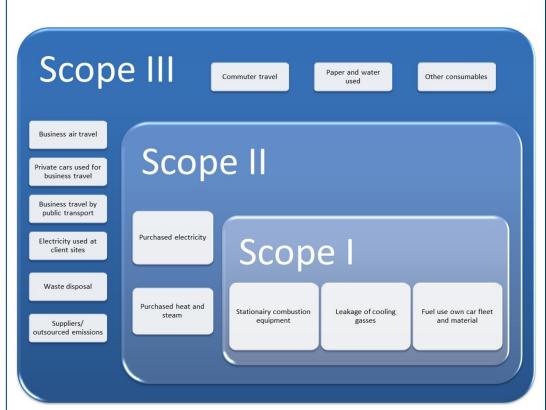
## **Carbon Footprint Analysis**

#### **Basis of analysis**

CO<sub>2</sub>-emissions and absorptions by activities of the organization have been identified based on the established operational limits. At the identification of emissions a distinction has been made between three sources of emission (known as scopes) into two categories: direct emissions and indirect emissions. This is in line with the Greenhouse Gas (GHG) Protocol.

- Scope 1 covers direct emissions under control, and controlled by, the organization. Examples include the combustion of fuels in machinery, business transport with vehicles owned by the reporting organization and emissions of refrigeration and air conditioning systems;
- Scope 2 includes indirect emissions from purchased electricity, steam or heat;
- Scope 3 includes other indirect emissions from sources such as business travel with privately owned vehicles or public transport and business travel by plane, commuter travel, production of purchased materials and outsourced activities such as freight.

This carbon footprint analysis includes the  $CO_2$ -emissions (one of the six greenhouse gases) of Pipelife Nederland BV, in scope 1, 2 and 3 of the first half of the year 2022. The  $CO_2$  emission is analyzed in accordance with the " $CO_2$  performance ladder", manual 3.1 22 June 2020.



## Measurement results and explanation

#### Reported period

Pipelife Nederland B.V. has synchronized its carbon footprint reporting period with its fiscal year. The fiscal year for Pipelife Nederland B.V. runs from January 1 to December 31. The reported period is the first half of the year 2022.







### Scope 1: Direct CO<sub>2</sub>-emissions

#### THE DIRECT CO2 EMISSION IS MEASURED AND CALCULATED AS 1,175.0 TONNES CO2

#### Stationairy combustion equipment

In first half of 2022 217,764  $\text{m}^3$  were used of natural gas. The consumption caused 454.0 tonnes of CO<sub>2</sub> emission (63% of the total direct emission). The natural gas is used for heating of the locations. 155,98126  $\text{m}^3$  was used in stationary combustion equipment in Enkhuizen (about 72% of the total consumption).

#### Gasses

In first half of 2022 26.0 tonnes of CO<sub>2</sub> emission is caused by the usage of the gasses and CO<sub>2</sub> gasses for the production processes in the Netherlands, Belgium and Germany.

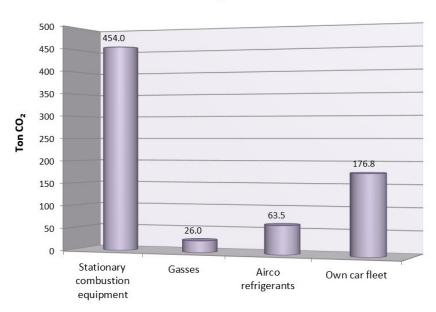
#### **Usage of refrigerant**

In first half of 2022 there was no consumption of refrigerants in the production processes in Germany, but due to malfunction of the cooling and freezing systems in Belgium 33 kg of refrigerant was consumed. The systems for storage and transportable air conditioning-units are regarded as a closed system. Therefore only  $CO_2$ -causing emissions of consumption are calculated, in this period 63,5 tonnes of  $CO_2$  emission.

#### Fuel use own car fleet (business car travel)

In first half of 2022 176.8 tonnes of the  $CO_2$  emissions is assigned to the fuel consumption of the fleet with leased cars. In first half of 2022 the leasing company has reported an usage of 43,213 litres diesel, 12,863 litres of petrol and 1,062 kg of CNG.

#### Direct CO<sub>2</sub> emission



Scope 1 sources

#### Statement of CO<sub>2</sub> sources and sinks omitted

All identified sources and sinks of  $CO_2$  are included in the report. Storage of  $CO_2$  does not occur; there are no sinks.

#### CO<sub>2</sub>-emissions from burning biomass

The combustion of biomass did not occur at Pipelife Nederland B.V., Pipelife Germany GmbH or Preflexibel NV in Belgium.







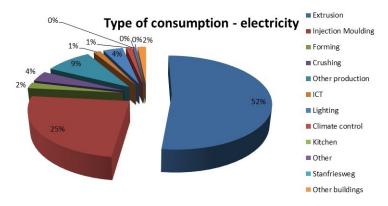
### Scope 2: Indirect CO<sub>2</sub>-emissions

#### INDIRECT CO2-EMISSIONS MEASURED AND CALCULATED ARE 10,810.4 TONNES CO2

#### **Electricity purchased**

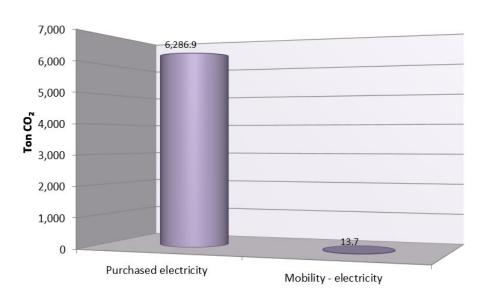
100,0% of the indirect CO<sub>2</sub> emission is caused by consumption of the repurchased electricity. In the reported period, the electricity consumption for buildings and production was in total 12,308,023 kWh. 280,445 kWh was generated by solar panels at our own locations. The repurchased electricity consumption caused 6,286.9 ton CO<sub>2</sub> emission. For mobility 26,162 kWh was consumed by electric cars, which caused 13.7 ton CO<sub>2</sub> emission.

In first half of 2022, Pipelife purchased green power with European wind power as its source. Under the terms of the  $CO_2$ —performance ladder, the purchased electricity is registered and calculated with a grey label performance, see information Influence of measurement inaccuracies and uncertainties on page 8.



Based on the latest information of the energy managementsystem of Pipelife Nederland the extrusion processes caused 52% of the consumption of electricity, second Injection Molding caused 25% and the other production processes 9% of the usage.

#### Indirect CO<sub>2</sub> emission



Scope 2 sources







#### Scope 3: Other Indirect CO<sub>2</sub>-emissions

#### OTHER CO2-EMISSIONS MEASURED AND CALCULATED ARE 962.7 TONNES CO2

#### Other indirect CO<sub>2</sub>-emissions

The most important other indirect CO<sub>2</sub> emissions are measured and calculated in this report. Due to the requirements in CO<sub>2</sub> performance ladder manual version 3.1, the Carbon Footprint report is calculated according to the Green House Gas Protocol and the ISO 14064:2018. The energy sources for business transport are also examined every six months.

Business transport consists of the following three energy sources:

- Business traffic with private cars
- · Air travel for business purposes
- Business public transport

The other emission categories Purchase of goods and services, end of treatment life products and Transport and distribution are yearly published in the overall report Analysis Scope 3  $CO_2$  emissions Pipelife Netherlands B.V. -  $CO_2$  Performance Ladder due to the lack of reliable data on a half-year basis.

#### Personal cars for business travel

In first half of 2022 several employees used their private car for business purposes and declared the mileage. The total mileage declarations by private car were 85,611 km in the reported period. This leaded to 16.5 ton  $CO_2$ , 0.3% of the other indirectly  $CO_2$  emissions.

#### **Business air travel**

In first half of 2022 employees made 219,830 flight kilometres for business purposes. 11% of the flights concerned flight distances between 0 - 700 km, 39% of the flights concerned flight distances between 700 - 2500 km and 50% of the flights concerned flight distances more than 2500 km. The air travel caused 37.1 ton CO<sub>2</sub>, 0.6% of the other indirectly CO<sub>2</sub> emissions.

#### Business travel by public transport

In first half of 2022 some employees used public transport for business purposes and declared the travel expenses. The total mileage declarations by public transport were 14,107 km in the reported period. This leaded to 0.2 ton  $CO_2$ .

#### **Commuter travel**

Commuter travel with transportation is not owned by the company. In first half of 2022 employees in the Netherlands and Germany travelled with own transportation to our factories and declared the mileage. The total mileage declarations for commuter travel were 1,529,902 km in the reported period. This leaded to 273.0 ton CO<sub>2</sub>, 41% of the other indirectly CO<sub>2</sub> emissions.

#### Waste disposal

As a result of the Pipelife activities in the Netherlands and Germany, a total of 601.1 tonnes of waste was transported to the waste processors in first half of 2022. Analysis shows that 10% of the waste streams are paper and cardboard, 35% is plastics waste, 20% is wood, 31% is unsorted waste, 2% is Hazardous waste streams en 6% is other waste streams. The unsorted and hazardous waste is incinerated with electricity generation, the other waste streams consisting of paper, plastics, construction and wood were recycled. The recycling percentage is therefore approximately 63% of the total waste stream. The  $CO_2$  emission as a result of the waste disposal caused 345.9 tonnes of  $CO_2$  (51%) of the other indirectly emissions.





## Influence of measurement inaccuracies and uncertainties in scope 1- 2- 3

The foregoing information shows that the vast majority of  $CO_2$  emission is caused by use of fuel in the stationary equipments (480.1 ton of  $CO_2$ , scope 1), the electricity consumption (6,300.6 ton of  $CO_2$ , scope 2) and waste disposal (345.9 ton of  $CO_2$ , scope 3). Therefore, it is important to accurately capture these emissions.

#### SCOPE 1:

The fuel data of stationary combustion equipment for heating is provided by the energy suppliers of the locations and controlled with the internal measurements. For the location Flevolaan Pipelife has a joint natural gas grid connection with the neighbour company Renolit. Renolit has specified the information for natural gas on the location Flevolaan. The data of gasses are provided by the suppliers. The location in Belgium has no natural gas consumption. These information is best practice and deemed as sufficiently reliable.

The fleet management data is provided by the fuel suppliers of the leasing companies who manage the fuel passes linked to the vehicles and by declarations of the fuel in fleet cars by employees. Because the mileage registration is less accurate, since not every employee carefully keeps track of the mileage by registering the mileage at the gas station, the  $CO_2$  emission is based on the fuel data if present.

#### SCOPE 2:

The consumption data of the electricity is registered from billing information received from the energy suppliers of the different locations and the consumption data of electricity supplied by the leasing companies. Renolit has specified the information for electricity on the location Flevolaan. This information is considered as sufficiently reliable. It should be noted that most of the energy is used in the production processes. Since 2021 Pipelife purchased a new energy contract green power for all Pipelife companies. Further analysis showed that European wind energy had been purchased. Because additionality of green power by the supplier could not be demonstrated, unfortunately for first half of 2022 Pipelife can not calculate yet with green power according to the conditions of the CO<sub>2</sub> performance ladder. The CO<sub>2</sub> emission for electricity is calculated with the conversion factor of grey electricity for this period. Consultation is ongoing.

#### SCOPE 3:

The registration for declared kilometres has changed from 2021 due to tax legislation. The exact division between private cars or public transport for business purpose and commuter travel by private cars is changed and supplied by the administration.

The emission data of travel by private cars for business purpose is collected by employee declarations. The fuel type and engine classification of the applicable private cars are not registered. The data for public transport for business purpose is collected by information by employee declarations and calculated to distance according to fixed price per kilometre (source MKB Servicedesk and http://www.dieeinsparinfos.de/guenstige-mobilitaet/bahn/kosten/.

The emission data of commuter travel by private cars for business purpose were collected on the basis of the kilometre calculation for the place of residence - business location, based on calculations par employee and in Germany by an average kilometre calculation par employee. The fuel type and engine classification of the applicable private cars are not registered. The method used is considered sufficiently reliable. The data for public transport is collected by information by employee declarations and calculated to distance according to fixed price per kilometre (source NS and http://www.dieeinsparinfos.de/guenstige-mobilitaet/bahn/kosten).

The emission data of waste disposal were collected on the basis of the invoices from waste processors that are used by Pipelife in the Netherlands and Germany. The type of waste is registered according to national law. The method used is considered sufficiently reliable.

#### CO<sub>2</sub>-compensation

Most resources are used to make improvements within the production processes in the framework of the  $CO_2$ -emission. The emissions of green gas are partly compensated but not calculated in the report.







## Progress against reference year

#### Historical base year

The initial measurements in the context of the ISO 14064 standard have been done by Pipelife Nederland B.V. for the calendar year 2010. This year therefore serves as base year against which an increase or decrease in  $CO_2$  emissions is established.

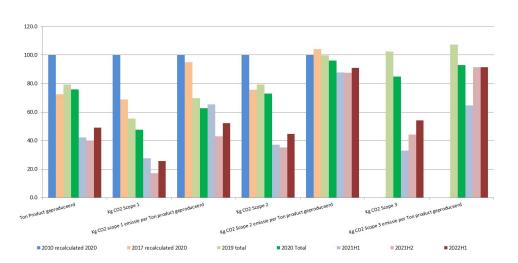
#### Adjustments to historical year

Since the report of the first half of 2020 there were adjustments to the base year. Because of the publication of the version 3.1 of the  $CO_2$  performance ladder manual in 2020 the scope classification has been changed and the  $CO_2$  emission factors are changed again in January 2020, 2021 and 2022. In December 2017 the emission factor for grey electricity was also changed again significantly. Therefore, the publication of base year 2010 is now updated in 2016, 2017 H2 and 2021 and the reference year 2016 because of the latest reduction goals period 2017-2022.

#### **Normalization measurements**

The size of the CO<sub>2</sub> emissions has a clear correlation with the scale of the activities carried out by the organization. For the comparison of the emissions in the reference year and future reported periods, standards are determined to normalize measurement results. For Pipelife, Kg product produced is the standard to scale the business activities. Based on the kg product produced the reported measurement results will be normalized.

Note: since June 2020 the manual  $CO_2$  performance ladder version 3.1 is published. Also because of the publication of changed  $CO_2$  emission factors in 2015, December 2017 and January 2020 the base year 2010 and reference year 2016 and 2017 are recalculated and the information in the graph before 2015 is visible in the previous reports. The scope 3 emissions are published since 2018. This report includes Preflexible NV in Belgium for the 1st time. The trend data before 2022 are therefore not fully comparable with the results for the 1st period of 2022.



In scope 1 the  $CO_2$  emissions par kg product produced decreased again in first half of 2022 compared to the same period in 2021. Compared to the period 2017 the  $CO_2$  emissions for scope 1 in first half of 2022 are almost 63% lower.

The usage of stationary combustion equipment showed again a decrease in the first half of the period 2022 because of the warmer spring, after correction of degree days the total usage compared to the same period in 2017 is already 53% reduced. The usage of refrigerant was in first half of 2022 increased due to the incident in Belgium. The usage of CO<sub>2</sub> gasses increased due to small changes in the productmix, but consumption still significantly lower than the same period in 2017. The litres of fuel for the own car fleet reduces further in first half of 2022 due to actions for more electric cars, less driving kilometres and partly also due to the covid-19 effects. Compared to 2017 the annual estimated reduction is more than 20.000 litres and shows a reduction of more







YEAR 13, NR. 1

Page 10

than 60 tonnes CO<sub>2</sub>, despite the increased emission factors for fossil fuels and addition of Preflexibel NV to the boundary.

The absolute  $CO_2$  emissions for scope 2 in first half of 2022 compared to the period 2017 were slightly higer to 5.1% due to the addition of Preflexibel NV. Due to the energy reduction measures and own energy generation, for example solar panels on the location in Enkhuizen, by further increasing product volume produced in the Netherlands the increase of total electricity usage was limited. The emission for business air travel and personal cars for business travel and commuter travel in first half of 2022 are still low comparable to the periods before covid19 but increased again in first half of 2022.

The scope 3 emissions par ton product produced were more than 22% reduced in first half of 2022 compared to the baseyear 2018, after the increase of the emissions in 2019. For the calculation of all the scope 3 emissions see our Pipelife Netherlands - Scope 3 inventory  $CO_2$  emissions which is updated yearly.

In first half of 2022 the actions continues as described in our Energy Efficiency plan (EEP) plan for the MJA 3 program. The MJA 3 program for the period 2017-2022 is still in progress and make efforts. Pipelife is implementing the Energy Efficiency plan and reduction targets for the period till 2022, the measures are implemented as planned in this EEP. Because of the implementation and certification of level 5 of the  $CO_2$  performance ladder our reduction targets were actualised till 2022 and expanded with scope 3 targets. The reduction goals par ton product produced are still on target, but challenging. The effects of the changed  $CO_2$  emission factors will be analysed on yearly basis and reduction targets for the next period are in preparation.

## Projects with award advantage

## Project Supply of plastic pipes and fittings for drinking water pipes

At the end of 2017 Pipelife Nederland B.V. won his second tender with  $CO_2$  performance ladder advantage. This tender concerns the supply of pipe and fittings for drinking water to a few drinking water companies

The project is still in execution. The project-specific reductions within the project are based on the reduction targets and measures that are part of the EEP of the MJA3. Pipelife's  $CO_2$  reduction plan also applies to this project; the same measures are applied in the implementation.

This project represents about 0.5% of its yearly production volume for Pipelife in the Netherlands. Indexed to the total  $CO_2$  emission, the project therefore causes an emission of approx. 193 tonnes  $CO_2$  during the current contracted period. The expected reductions for this project are therefore estimated at 7 tonnes of  $CO_2$ .

## Calculation models

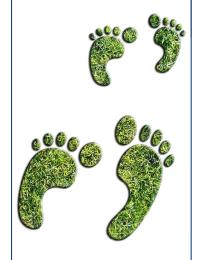
#### **Quantification methods**

The quantification of raw materials to  $CO_2$  emissions is always calculated by registered volume units of the fuels used if present. The conversion of volume to emission values is straightforward and provides the most reliable comparison. In those situations where no volume units of fuel were available, the most reliable information available was used.

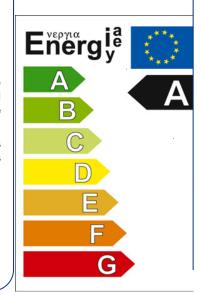
Electricity consumption is either taken based on calibrated meters and/or based on the invoices of the energy company. By applicable law, this is the most reliable source of information that is available.

#### Explanation for changes in the quantification methods

The measurement over first half of 2022 is the twenty-three measurement in the framework of the ISO 14064 standard. No adjustments in the quantitative methods are made against to the historical year.







### **Reduction targets**

Based on this Carbon Footprint and the Energy Management System Pipelife defined measures to reduce its  $CO_2$  emissions for the period 2017-2022 for scope 1, 2 and 3.

The first target is to reduce the direct emissions per Kg product produced by improvements to the roof of the factory in Enkhuizen and change our forklifts from diesel to electric. Next to these reduction targets several investigations in the Netherlands and Germany are in progress to gain knowledge for better understanding of the current energy consumption. Examples of investigations are isolation improvements in production, improvement of heating in the Netherlands and lighting in buildings. These investigations are an ongoing process.

Reduction of the indirect emissions (scope 2) will be carried out by reducing the Electricity usage in the production, replacement of lighting to LED, replacements of production infrastructure and implementation of an energy management system for the production facilities.

Reductions of the other indirect emissions (scope 3) are also planned in the Energy Efficiency plan for the period 2017-2022.

Based on the current results and the quantitative information Pipelife wants to reduce its  $CO_2$ -emissions for the period 2017 till 2022 with 5.2% per Kg product produced. The Kg product produced, by equal productmix, is the standardization factor to make comparison possible between the reference period and the progress reports. The reduction objectives for this period are subdivided per scope; scope 1: 0.11%, scope 2: 6.8% and scope 3: 5.1%.

Nr. Reduction target CO <sub>2</sub>	Total reduction 2017-2022	CO <sub>2</sub> -emission 2022		
	(%)	Reduction (Tonnes CO <sub>2</sub> )	(par ton product produced)	
Implementation Energy Efficiency Plan scope 1 measures	0,11%	2,3	61,9	
Index CO <sub>2</sub> -emission scope 1	0,1%	2,3	99,9	
Implementation Energy Efficiency Plan scope 2 measures	6,8%	960,3	389,8	
Index CO <sub>2</sub> -emission scope 2	6,8%	960,3	93,2	
Implementation Energy Efficiency Plan scope 3 measures	5,1%	4.318,0	2.351,8	
Index CO₂-emission scope 3	5,1%	4.318,0	94,9	
Index CO <sub>2</sub> -emission scope 1 and 2	5,9%	962,6	94,1	
Index CO <sub>2</sub> -emission scope 1, 2 en 3	5,2%	5.280,6	-5,2	







## PIPELIFE ()



Annex 1 002 enno				•	
	_	emission factor <sup>1</sup> Unit	Quantity	2022-H1	
	emission factor	Unit	Quantity	Unit	CO <sub>2</sub> -emission [metric ton]
Scope 1: Direct emissions					720.3
Stationary combustion equipment					480.1
- Natural gas	2,085	g CO2 / Nm3	217,764	Nm <sup>3</sup>	454.0
- Butane <sup>2</sup>	3,143	g CO2 / kg	-	kg	-
- Propane	1,725	g CO2 / litre	-	litre	-
- CO2 gasses <sup>2</sup>	1,000	g CO2 / kg	26,007	kg	26.0
- Acetylene <sup>2</sup>	3,385	g CO2 / kg	8	kg	0.0
- Protegon20 <sup>12</sup>	217	g CO2 / Nm3	8	m3	0.0
- Sagox 18 <sup>2</sup>	195	g CO2 / Nm3	-	m3	-
Airco refrigerants					63.5
- Refrigerant - R22	1,760	kg CO2 / kg	-	kg	-
- Refrigerant - R404a	3,943	kg CO2 / kg	-	kg	-
- Refrigerant - R407c	1,624	kg CO2 / kg	-	kg	-
- R-449A <sup>3</sup>	1,282	gwp	-	gwp	-
- Refrigerant - R410a	1,924	kg CO2 / kg	33.0	kg	63.5
Own car fleet, fuel use					176.8
- Petrol	2,784	g CO2 / litre	12,863	liter	35.8
- Diesel	3,262	g CO2 / litre	43,213	liter	141.0
- CNG (natural gas) (NL)	2,633	g CO2 / kg	1,062	kg	2.8
	CO <sub>2</sub> -	-emission factor <sup>1</sup>		2022-H1	
	emission factor	Unit	Quantity	Unit	CO <sub>2</sub> -emission [metric ton]
Scope 2: Indirect emissions					6,300.6
Purchased electricity			12,000,002.0		6,300.6
Total used electricity building and production			12,308,023		
own generated solar electricity			280,445		
- Grey electricity: 2010 and later	523	g CO2 / kWh	12,020,830	kWh	6,286.9
- Mobility -Grey electricity: 2010 and later	523	g CO2 / kWh	26,162	kWh	13.7

#### References

1: Source: website CO2emissiefactoren.nl 2: Source: BI-conversion calculations 2010



Scope 1		Ton CO <sub>2</sub>	%
Stationary combustion equ	ipment	454.0	63.0%
Gasses		26.0	3.6%
Airco refrigerants		63.5	8.8%
Own car fleet		176.8	24.5%
Tot		720.3	

Scope 2	Ton CO <sub>2</sub>	%
Purchased electricity	6286.9	99.8%
Mobility - electricity	13.7	0.2%
Tot	6300.6	



## Annex 1 CO<sub>2</sub>-emissions first half 2022 scope 3

	CO <sub>2</sub> -	emission factor <sup>1</sup>		2022-H1		
	emission factor	Unit	Quantity	Unit	CO <sub>2</sub> -emission [metric ton]	
Scope 3: Other indirect emissions					672.8	
Business travel					53.9	
Personal cars for business travel					16.5	
- Passenger car, unknown fuel type and weight	193	g CO2 / vehicle km	85,611	km	16.5	
Business air travel			249,889.0		37.1	
- Distance < 700 km	234	g CO2 /travellers km	17,473	travellers km	4.1	
- Distance 700 - 2.500 km	172	g CO2 /travellers km	84,394	travellers km	14.5	
- Distance > 2.500 km	157	g CO2 /travellers km	117,963	travellers km	18.5	
Business travel by public transport			94,907.8		0.2	
- Intercity	0	g CO2 /travellers km	-	travellers km	-	
- Stopping train and Intercity	24	g CO2 /travellers km	-	travellers km	-	
- High speed train	26	g CO2 /travellers km	-	travellers km	-	
- Public transport unknown category	15	g CO2 /travellers km	14,107	travellers km	0.2	
Commuter travel with transportati	on not ow	ned by the company			273.0	
- Passenger car, unknown fuel type and weight	193	g CO2 / vehicle km	1,413,119	vehicle km	272.7	
- Train unknown category	2	g CO2 /travellers km	116,783	travellers km	0.2	
- High speed train	26	g CO2 /travellers km	0	travellers km	0.0	
Bicycle or walking					0.0	
- Bicycle, walking	0	g CO2 /travellers km	0	travellers km	0.0	
Waste disposal <sup>2</sup>			601,072		345.9	
- Paper and paperboard	676	g CO <sub>2</sub> / kg	58,386	kg	39.5	
- Plastic	120	g CO <sub>2</sub> / kg	207,403	kg	24.9	
- Wood	-	g CO <sub>2</sub> / kg	117,850	kg	-	
- Metal	1,060	g CO <sub>2</sub> / kg	48	kg	0.1	
- Hazardous substances	1,308	g CO <sub>2</sub> / kg	10,720	kg	14.0	
- Unsorted waste	1,308	g CO <sub>2</sub> / kg	186,040	kg	243.3	
- Construction and demolition waste	434	g CO <sub>2</sub> / kg	3,220	kg	1.4	
- PMD	1,308		385	kg	0.5	
- Other Waste	1,308	g CO <sub>2</sub> / kg	17,020	kg	22.3	

#### References

- 1: Source: website CO2emissiefactoren.nl
- 2: Source: Chain analyses Pipelife and Siemens Netherland / CE Delft/ KEMA



Scope 3		Ton CO <sub>2</sub>	%	
Personal cars for business	s travel	16.5		0.3%
Business air travel		37.1		0.6%
Personal cars for business travel		0.2		0.0%
Commuter travel with				
transportation not owned				
by the company		273.0		4.3%
Waste disposal		345.9	)	5.5%
Tot		672.8		