



REVIEW 4S PLANET

Filatura Papi Fabio– 18/11/2024

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GHG EMISSIONS INVENTORY



GHG EMISSIONS INVENTORY

GAS EMISSIONS REPORTING ACCORDING TO 3 DIFFERENT METHODS:

1. STANDARD ISO 14064:2019
2. GHG PROTOCOL APPLICATION IN THE FASHION SUPPLY CHAIN
3. 4s PLANET SYSTEM



GHG DIRECT EMISSIONS Kg CO ₂ eq	GHG DIRECT EMISSIONS Kg CO ₂ eq			TOTAL Kg CO ₂ eq
Category 1	Category 2	Category 3	Category 4	
444.785	989.756	107.508	12.178.735	
444.785	13.275.999			13.720.784
3,2%	96,8%			

The largest contribution is given by the indirect emissions. Especially in category 4 also **raw materials** are considered and alone they represent **88%** of the global impact.

Category 1 of direct emissions contributes **3%** of the total. This contribution is divided in emissions due to thermal energy production and emissions **due to transport with own vehicles**.

Category 2 of indirect emissions weights **7%** of the total, due to **electricity consumption from the grid** and electricity self-consumption, produced by our **photovoltaic system**.



GHG PROTOCOL

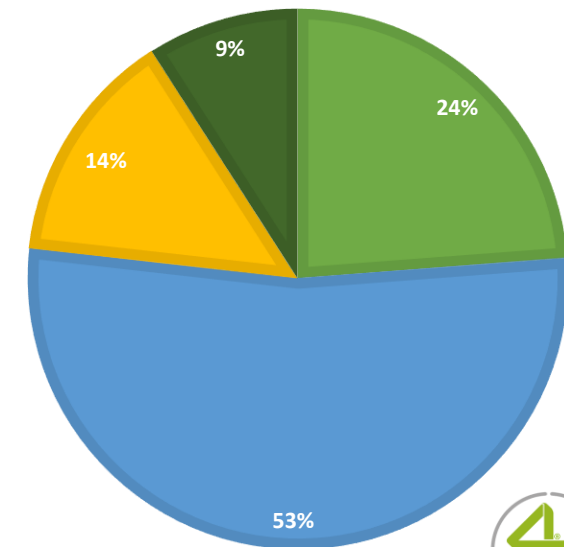
GHG DIRECT EMISSIONS Kg CO2eq	GHG DIRECT EMISSIONS Kg CO2eq		TOTAL Kg CO2eq
Scope 1	Scope 2	Scope 3	
444.785	989.756	433.901	1.868.442
23,8%	53,0%	23,2%	

In this kind of reporting the emissions related to Scope 3 contribute **23%** of GHG total emissions (please be informed that raw materials and process auxiliaries are not calculated in the above mentioned reporting), Supply Chain represents 9% of this value.

Scope 1 emissions weight **23%** .

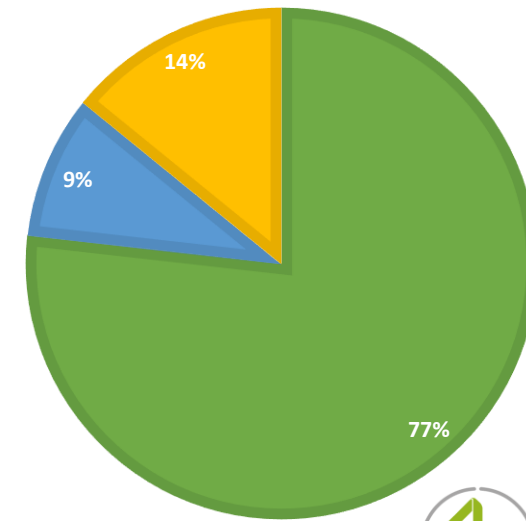
Scope 2 emissions weight **53%** of total emissions and they are almost all due to electricity consumption from the grid (54%) and a part due to self-consumption (2%).

■ Scope 1 ■ Scope 2 ■ Scope 3 ■ Scope 3_Lav c/t



ENERGY SOURCES Kg CO2eq	OTHER SOURCES Kg CO2eq	SUPPLY CHAIN Kg CO2eq	TOTAL Kg CO2eq
1.434.541	264.532	169.368	1.868.442
76,8%	9,1%	14,2%	

■ Energy Sources ■ Supply Chain ■ Altre fonti



Due to system borders extension, including also “other sources”, we can see that Supply Chain contribution is 9%.

The most significant contribution (over 76%) is due to **energy sources** use and in particular to electricity energy (9%)





IMPROVEMENT OBJECTIVES

SCIENCE BASED TARGETS



SCIENCE
BASED
TARGETS

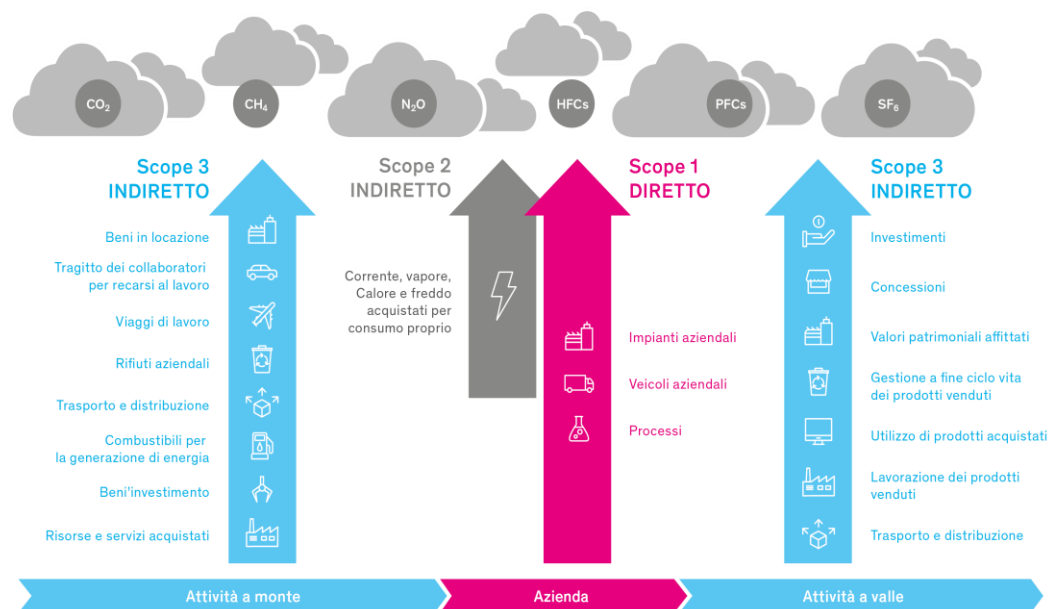
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

I **science based targets** are objectives of green-house gas emissions reduction, according to what was defined as necessary by the scientific community in order to reach Climate agreement of Paris targets.

To limit global warming well below **2°C** compared to pre-industrial levels and to pursue goals to limit the global warming at **1,5°C**.



SCIENCE BASED TARGETS



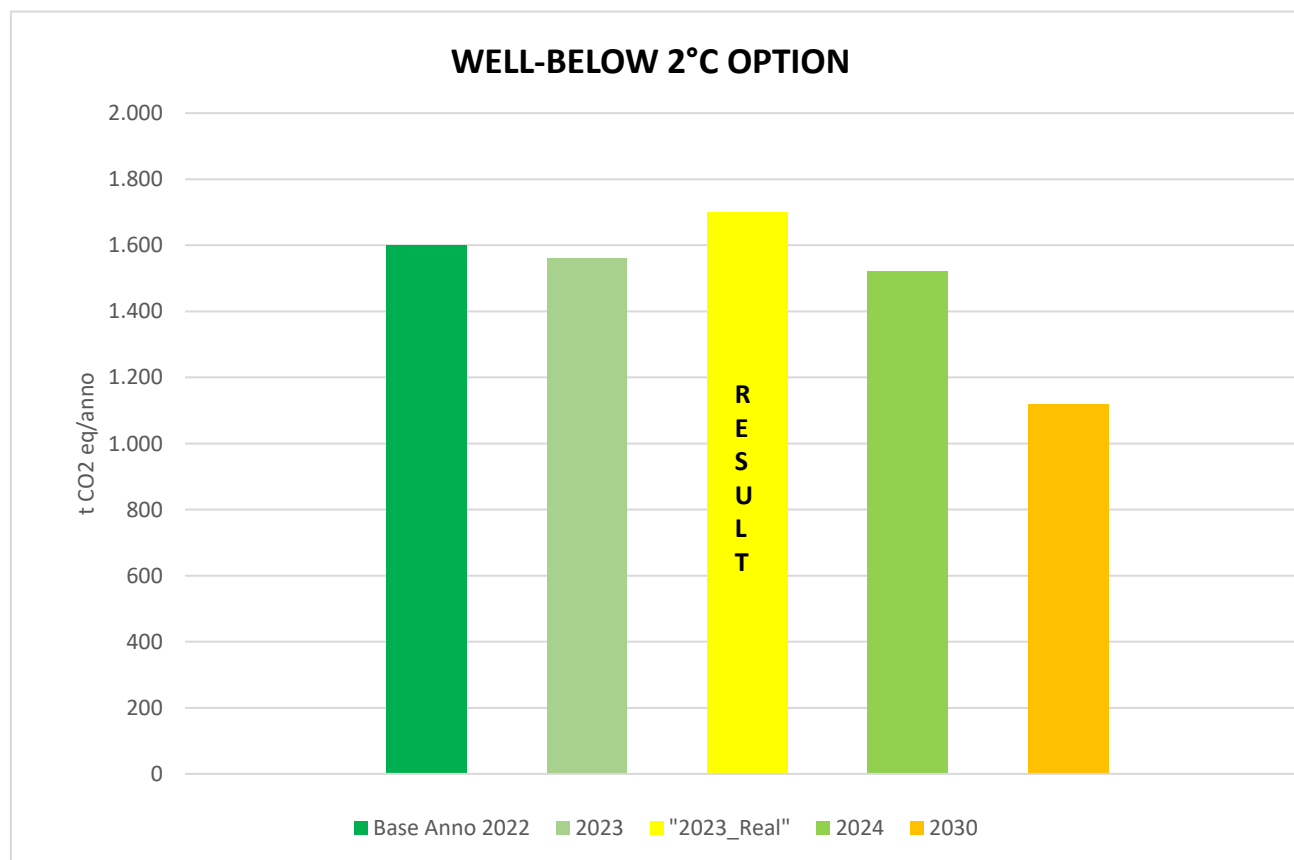
Well-below 2°C option engagement to reduce of 30% the GHG total emissions of scope 1 and scope 2 within 2030 (2021 base year) and measure and reduce scope 3 emissions.

1.5°C aligned option engagement to reduce of 50% the GHG total emissions of scope 1 and scope 2 within 2030 (2021 base year) and measure and reduce scope 3 emissions.



FILATURA PAPI FABIO - SCOPE 1,2,3						
WELL-BELOW 2°C OPTION						
	Base year 2022	Year 2023	Year 2024	Year 2030		Reduction rate per year
t CO2 eq. / anno	1.600	1.560	1.521	480	1.120	2,50%
From GHG inventory						
t CO2 eq. / anno		1.699				

SCIENCE BASED TARGET WELL-BELOW 2°C OPTION



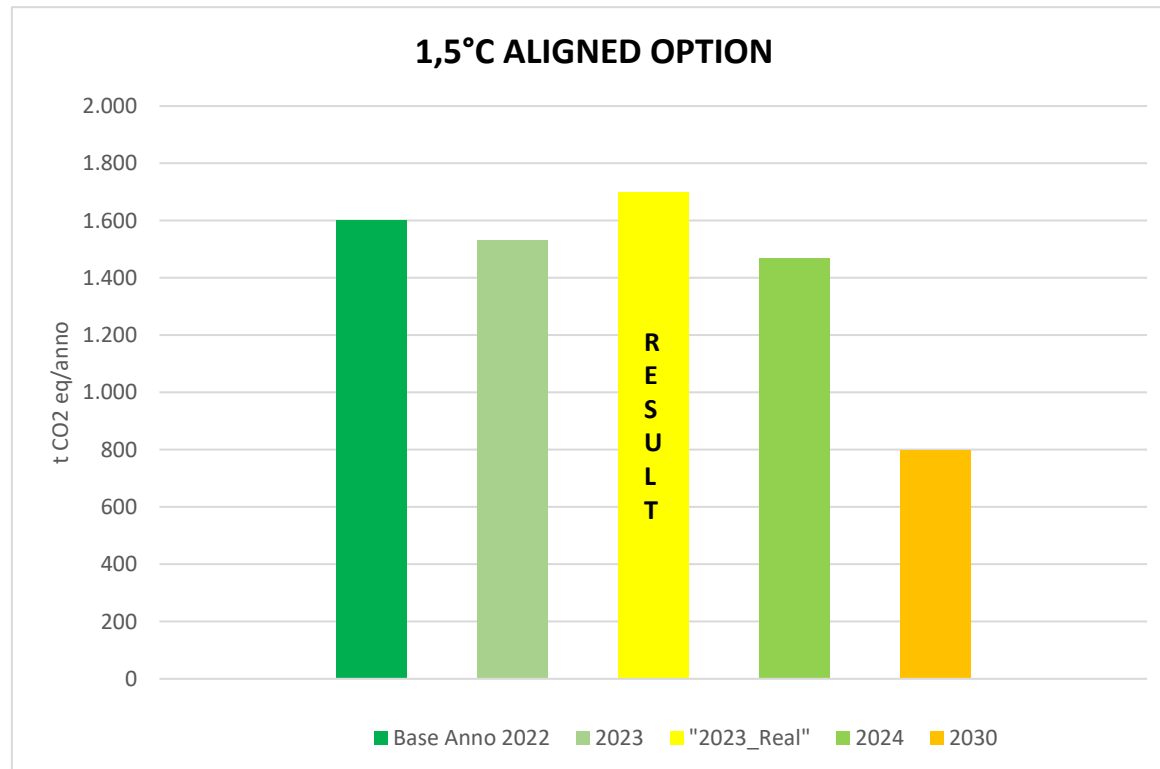
Engagement to reduce of 30% the GHG total emissions of scope 1 and scope 2 within 2030 (2022 base year) and measure and reduce scope 3 emissions

Reduction rate per year is 3,33%



SCIENCE BASED TARGET 1,5°C ALIGNED OPTION

FILATURA PAPI FABIO - SCOPE 1,2,3						
1,5°C ALIGNED OPTION						
	Base year 2022	Year 2023	Year 2024	Year 2030		Reduction rate per year
t CO2 eq. / anno	1.600	1.533	1.469	800	800	4,2%
From GHG inventory						
t CO2 eq. / anno		1.699				



Engagement to reduce of 50% the GHG total emissions of scope 1 and scope 2 within 2030 (2021 base year) and measure and reduce scope 3 emissions

Reduction rate per year is 5,56%



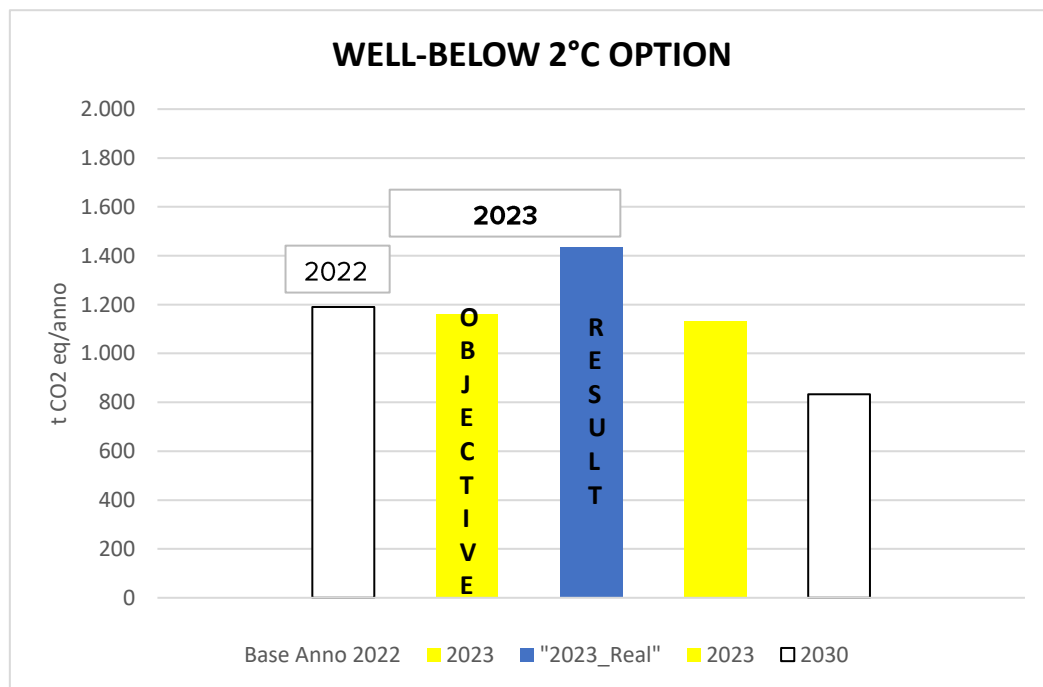
SCIENCE BASED TARGET WELL-BELOW 2°C OPTION

FILATURA PAPI FABIO - SCOPE 1,2						
WELL-BELOW 2°C OPTION						
	Base year 2022	Year 2023	Year 2024	Year 2030		Reduction rate per year
t CO2 eq. / anno	1.190	1.160	1.131	357	833	2,50%
From GHG inventory						
t CO2 eq. / anno		1.435				

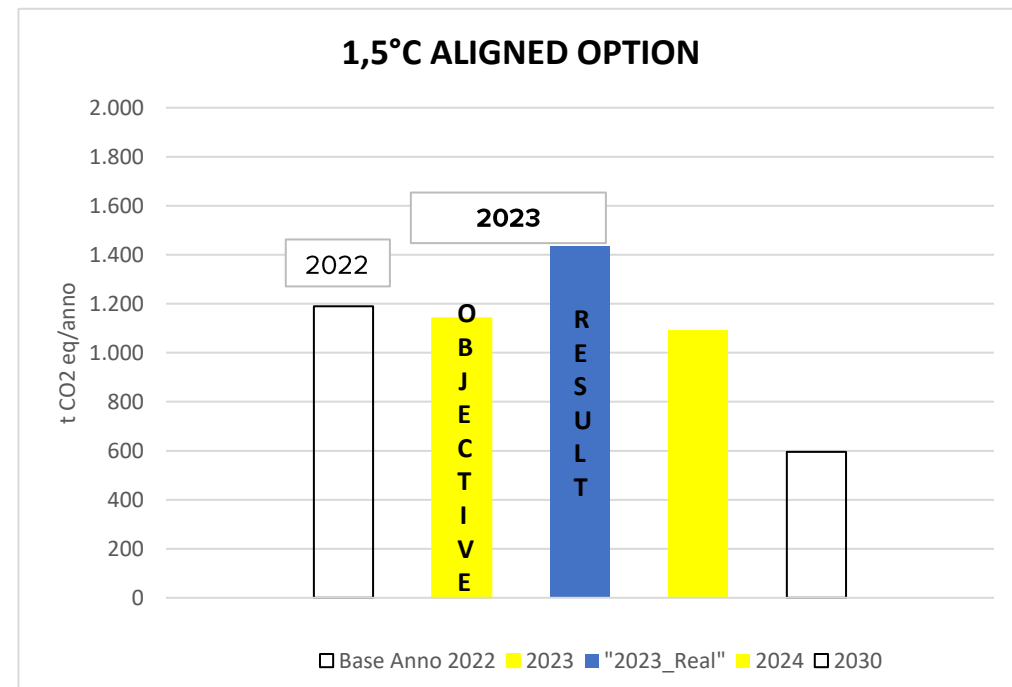
SCIENCE BASED TARGET 1,5°C ALIGNED OPTION

FILATURA PAPI FABIO - SCOPE 1,2						
1,5°C ALIGNED OPTION						
	Base year 2022	Year 2023		Year 2024		Reduction rate per year
t CO2 eq. / anno	1.190	1.141	1.093	595	595	4,2%
From GHG Inventory						
t CO2 eq. / anno		1.435				

WELL-BELOW 2°C OPTION



1,5°C ALIGNED OPTION





YEARS COMPARASION



YEARS COMPARISON

ISO 14064	Year 2022 [kgCO ₂ eq]	Year 2023 [kgCO ₂ eq]	Delta %
Category 1: GHG direct emissions	291.760	444.785	52%
Category 2: GHG indirect emissions	898.394	989.756	10%
Category 3: GHG indirect emissions	172.192	107.508	-38%
Category 4: GHG indirect emissions	16.769.007	12.009.367	-28%
Supply Chain –Category <4: GHG indirect emissions	-	169.368	-
Total	18.131.353	13.720.784	-24%

GHG PROTOCOL	Year 2022 [kgCO ₂ eq]	Year 2023 [kgCO ₂ eq]	Delta %
Scope 1	291.760	444.785	52%
Scope 2	898.394	989.756	10%
Scope 3	409.351	264.532	-35%
Scope 3_Supply Chain	-	169.368,37	-
Totale	1.599.505	1.868.442	17%
Totale (Scope 1&2)	1.190.154	1.434.541	21%

Scope 3	Year 2022 [kgCO ₂ eq]	Year 2023 [kgCO ₂ eq]	Delta %
Packaging	181.330,48	104.995,46	-42%
Chemical products	53.329,56	49.757,28	-7%
Water consumption	1088,19	518,16	-52%
Wastes	1.411,23	1.753,66	24%
Upstream transport	172.191,52	107.507,73	-38%

Following ISO 14064 **category 3 and 4** have had a noticeable reduction in 2023 in comparison to the baseline; as far as concerns especially category 4 the reduction is due to a lower amount of raw materials purchases (-22%) in 2023, compared to the previous year.

Category 2 shows an increase in 2023, due to a higher electricity consumption from grid and a consequent reduction in terms of photovoltaic system consumption.

Category 1 shows a considerable increase, due to use of fuel used for transport with own vehicles (diesel)

Variations of each “Scope” coincide with variations detected for Categories 1,2 and 3&4.

The only entry with emissions reduction is Scope 3.



YEARS COMPARISON FOR CARBON INTENSITY

The index shows a specific emissions increase per product unit in year 2023, compared to base year, according to GHG Protocol. There can be many reasons, but the most significant is the year production quantity, which was reduced in 2023 compared to the base year (-10%)

TOTAL EMISSIONS INDEX PER PRODUCT UNIT			
TOTAL	Year 2022 [kgCO ₂ eq/kg]	Year 2023 [kgCO ₂ eq/kg]	Delta %
GHG PROTOCOL&SUPPLY CHAIN	2,15	2,79	30%
GHG PROTOCOL	2,15	2,54	18%
ISO 14064&SUPPLY CHAIN	24,34	20,50	-16%
ISO 14064	24,34	20,25	-17%

TOTAL EMISSIONS INDEX PER PRODUCT UNIT			
GHG PROTOCOL	Year 2022 [kgCO ₂ eq/kg]	Year 2023 [kgCO ₂ eq/kg]	Delta %
Scope 1 – Total	0,39	0,66	70%
Methane consumption	0,17	0,20	16%
Fuel consumption	0,22	0,46	112%
Scope 2 – Total	1,21	1,48	23%
Electricity consumption	1,17	1,44	23%
Photovoltaic consumption	0,04	0,04	-3%

Also from this table we can see what was already and clearly mentioned here above: lower total quantity production, higher electricity consumption from grid and lower photovoltaic system consumption, which have caused total emissions increase.



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