

# SUSTAINABLE

Decarbonization path

Olio Dante S.p.A.

Schneider Electric EcoConsult Italy

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**Schneider**  
Electric

# Agenda

1. Introduction
2. Objectives of the document
3. Activities and method
4. Organizational and operational boundaries
5. Emission factors
6. Carbon footprint
8. Decarbonisation strategy



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## 1. Introduction

2. Objectives of the document

3. Activities and method

4. Organizational and operational boundaries

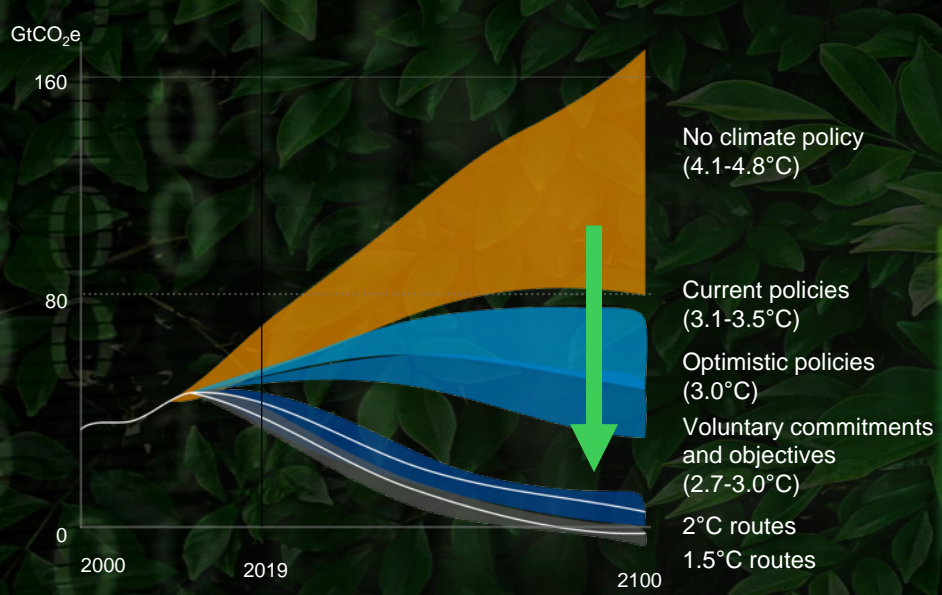
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# Introduction

## Climate change is the main problem of our time



Fonti: International Energy Agency, Schneider Electric

We are on course towards a +3.5°C increase in global temperature.  
We must act now to reduce the impact of climate change.

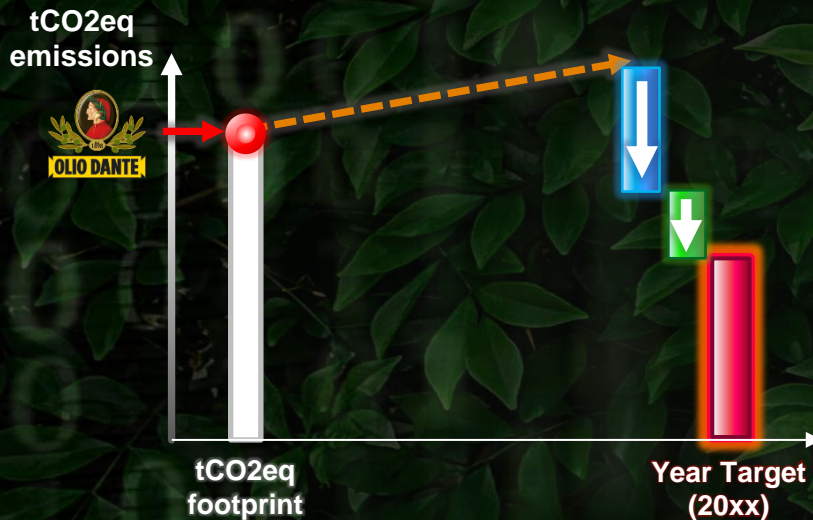
COMMITMENTS	AMBITION	OPPORTUNITIES
23% of Fortune 500 companies have set climate commitments to be achieved by 2030	Over 14,200 companies have signed the United Nations Global Compact for the creation of a sustainable future	27% CAGR Growth of the market for environmentally friendly technologies and sustainability solutions in just 4 years



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# Objectives of the document



## 1. Carbon Footprint



We determine current emissions of the Company in tCO2eq

## 2. tCO2eq projections



Identifying likely future emissions of tCO2eq

## 3. Objective



We set targets for reducing emissions

## 4. Energy efficiency



We identify possible energy efficiency actions and help define the best technological solutions

## 5. Renewable Energy



We recommend reducing consumption from fossil fuels and using electricity produced from renewable sources



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# Activities and Method

## Environmental Sustainability

### Carbon Footprint

Calculation of the carbon footprint relating to the Company's direct and indirect emissions of climate-changing gases ("Scope 1" and "Scope 2") based on the GHG Protocol.



### Decarbonization path

Medium/long-term strategy for reducing the carbon footprint through innovative technologies and solutions for digitization and efficiency.



#### Scope 1

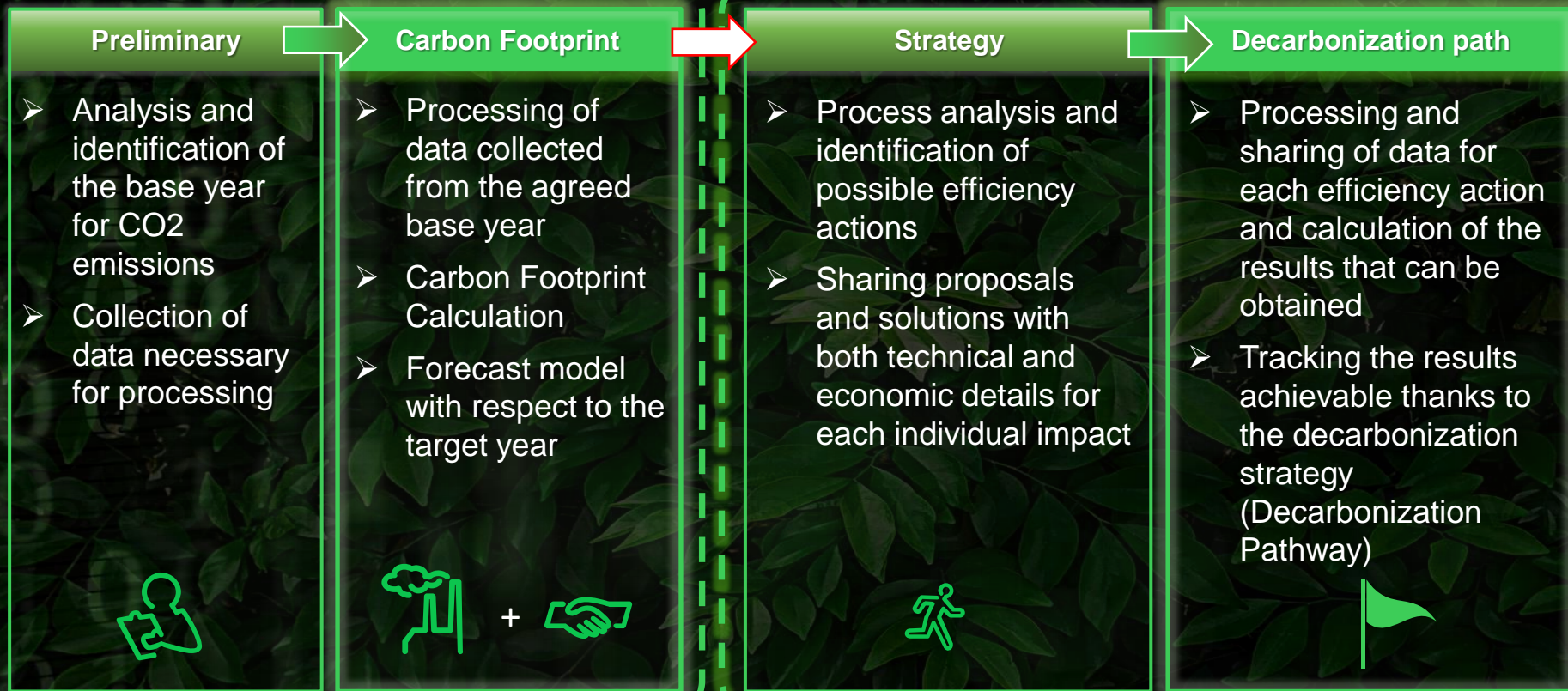
Production  
Fleet  
Fuels (NG)  
Refrigerants

#### Scope 2

Electricity Steam  
District heating



# Activities and Method



# Activities and Method

The collection of data and the calculation of climate-changing gas emissions were carried out in compliance with the protocols and international technical standards of reference:

UNI EN ISO 14064-1:2019 – Greenhouse gases- Part 1: Specifications and guidance, at the organization level, for the quantification and reporting of greenhouse gas emissions and their removal;

"The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard", drawn up by the World Business Council for Sustainable Development (WBCSD), hereinafter referred to as the "GHG Protocol";

In accordance with the ISO 14064 standard, the following principles have been adopted for emissions reporting:

Relevance

Completeness

Consistency

Accuracy

Transparency

The result of the calculation carried out is the total GHG emitted by the activities carried out in the group's perimeter and reported in terms of tonnes of CO<sub>2</sub> equivalent (t CO<sub>2</sub> eq) for the emission categories:

direct GHG emissions and removals (Scope 1)

indirect emissions from acquired energy consumption (Scope 2)



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# Organizational & Operational Boundaries

## OPERATIONAL BOUNDARIES

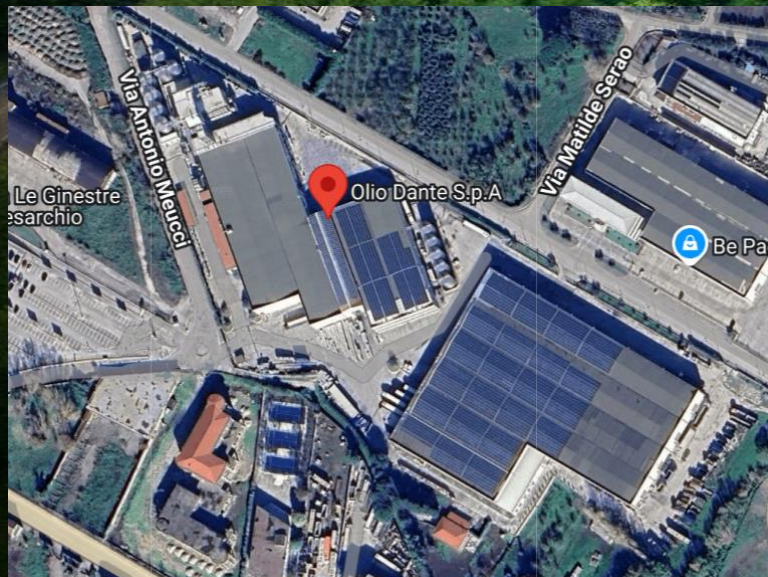
The company has established and documented its operational boundaries, providing for:

- identify GHG emissions associated with your business;
- divide emissions into the two, three, categories defined by the UNI EN ISO 14064-1 standard



### SITE:

- Administrative Headquarters and Factory: Via San Giuda Taddeo 82016 Montesarchio (BN) – Italy



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# Company overview – Energy carrier analysis

To proceed with the analysis of the initial baseline in the first phase of data collection, the consumption of the Plant was taken into consideration.



## Consumption 2024 – Reference year

### Electricity purchased:

2,181,608.81 kWh total per year

### Self-produced electricity:

563,499.29 kWh total per year ( 634,166.87 Produced - 119,576.58 Input)

### Natural Gas:

119,576.62 Sm3 per year

### Diesel:

An estimate was made on the company vehicles supplied by the customer 21,387.28 L per year

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# Emission Factors: LOCATION Based (LB)

For the purposes of quantifying the "indirect emissions from energy consumption" calculated using the Location Based method, as shown in the table below, the national energy mix used for the production of electricity fed into the Italian electricity system in the reference year of the analysis was considered.

Data for 2024 were used

Emission factor 2024 (gCO <sub>2</sub> e/kWh)*	
Location Based	215,9

\*FONTE ISPRA

## Emission Factors: MARKET Based (MB)

For the purposes of quantifying the "indirect emissions from energy consumption" calculated using the Market-Based method, as shown in the table below, the energy mix declared by the Supplier used for the production of the electricity fed into the Italian electricity system in the reference year of the analysis was considered.

Data for 2024 were used

Emission factor 2024 (gCO <sub>2</sub> e/kWh)	
Market Based	<b>441,20</b>

Fonte AIB

<https://www.aib-net.org/facts/european-residual-mix>

The methodology involves the use of the national residual mix emission factor, declared by AIB (Association of Issuing Bodies), if the one declared by your supplier is not available, in the reference year of the analysis.



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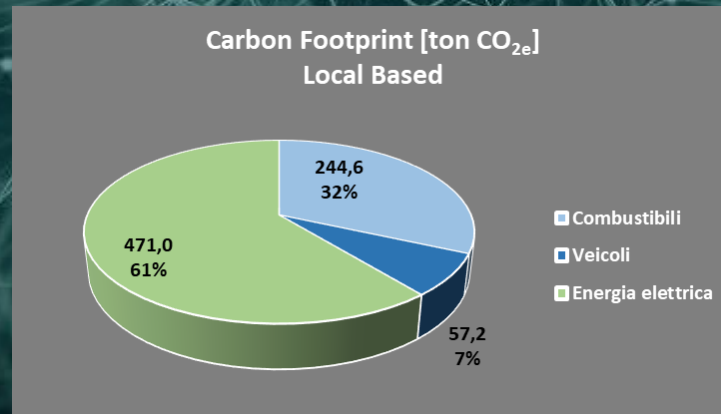
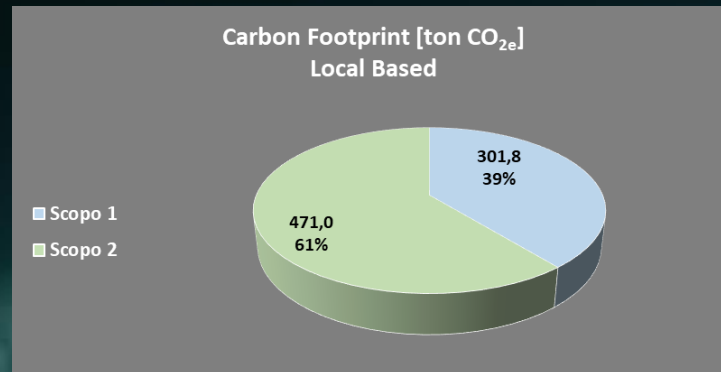
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# Carbon Footprint : Scope 1 & Scope 2 - Location Based

## The Environmental Impact year 2024

Location Based	Emissioni	
	ton CO <sub>2e</sub>	%
Scopo 1	301,8	39,1%
Scopo 2	471,0	60,9%
<b>Totale</b>	<b>772,8</b>	<b>100,00%</b>

Emissioni		ton CO <sub>2e</sub>	%
Scopo 1	Combustibili	244,6	31,6%
	Veicoli	57,2	7,4%
	Refrigeranti	0,0	0,0%
	<b>Totale Scopo 1</b>	<b>301,8</b>	<b>39,1%</b>
Scopo 2	Energia elettrica	471,0	60,9%
	<b>Totale Scopo 2</b>	<b>471,0</b>	<b>60,9%</b>
<b>Totale</b>		<b>772,8</b>	<b>100,00%</b>

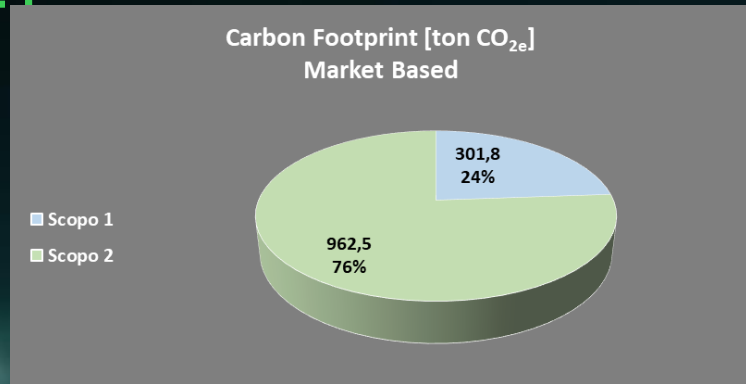




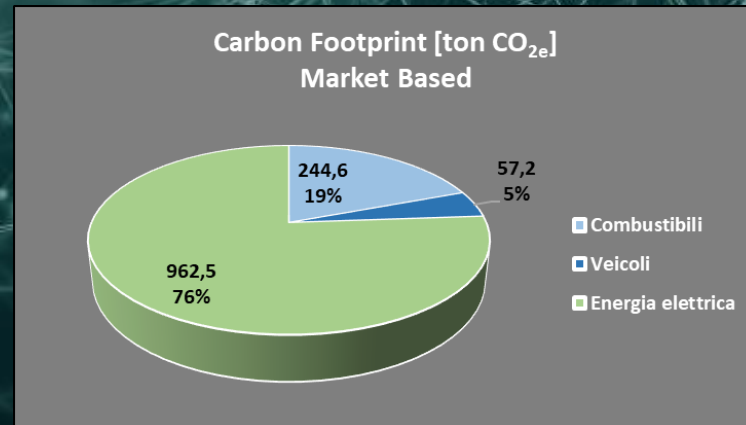
# Carbon Footprint : Scope 1 & Scope 2 - Market Based

## The Environmental Impact year 2024

Market Based	Emissioni	
	ton CO <sub>2</sub> e	%
Scopo 1	301,8	23,9%
Scopo 2	962,5	76,1%
<b>Totale</b>	<b>1.264,3</b>	<b>100,00%</b>



	Emissioni	ton CO <sub>2</sub> e	%
Scopo 1	Combustibili	244,6	19,3%
	Veicoli	57,2	4,5%
	Refrigeranti	0,0	0,0%
	<b>Totale Scopo 1</b>	<b>301,8</b>	<b>23,9%</b>
Scopo 2	Energia elettrica	962,5	76,1%
	<b>Totale Scopo 2</b>	<b>962,5</b>	<b>76,1%</b>
<b>Totale</b>		<b>1.264,3</b>	<b>100,00%</b>



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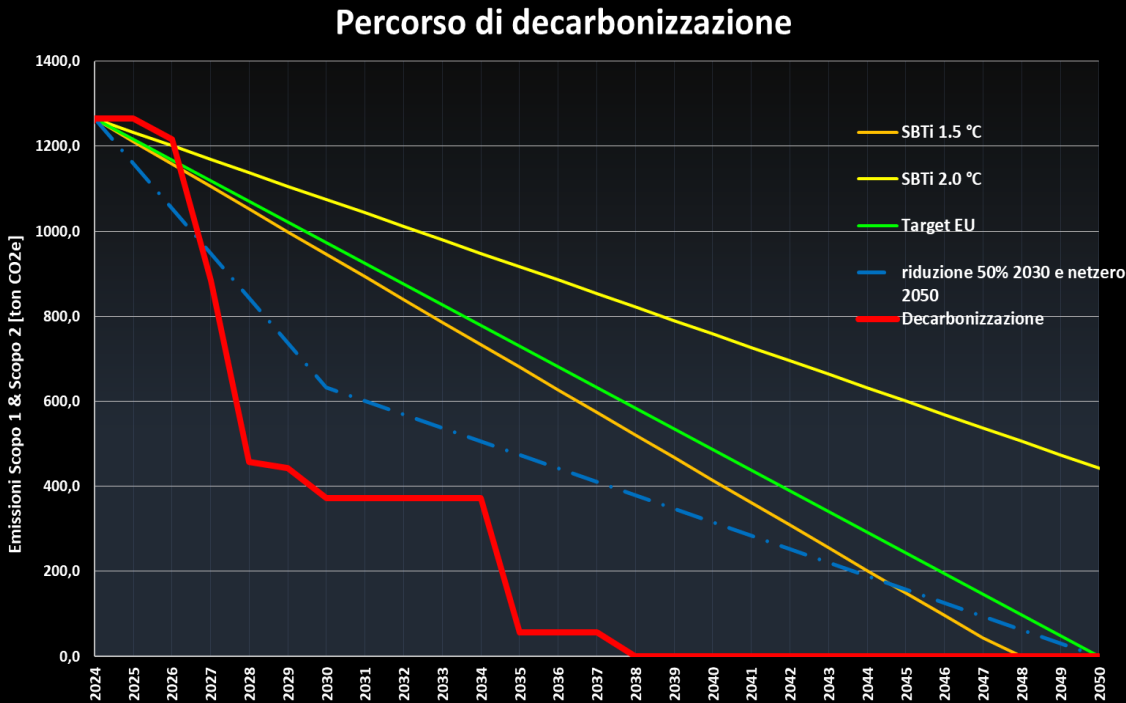
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## 8.5 Energy efficiency actions

#	Category	Topic	Saving [kWh el]	Saving [ton CO2]	Saving [k€]	CAPEX [k€]	PBT [anni]	KPI ton CO2/k€
1	RENEWABLES	Photovoltaic system	1000000,0	441,2	255,0	550,0	2,2	1,7
2	STEAM	Replacing the steam boiler with electric	-105500,0	20,5	20,0	50,0	5,0	1,0
3	COMPRESSED AIR	Compressed air leak detection and repair	48000,0	21,2	12,2	8,0	0,7	1,7
4	COMPRESSED AIR	Gradual reduction of the compressed air setpoint by 0.2 bar	24000,0	10,6	6,1	0,0	0,0	1,7
5	MONITORING	Reactivation and expansion of the energy monitoring system	60000,0	26,5	15,3	15,0	1,0	1,7
6	STEAM	Optimize purge control, install automatic purge control	0,0	9,8	3,9	30,0	7,6	2,5
7	STEAM	Perform a steam trap leak detection	0,0	4,9	2,0	3,5	1,8	2,5
8	HOT WATER	Install heat pumps for heating the production area of the silo area c	-55000,0	51,1	6,5	40,0	6,2	7,9
9	HOT WATER	Install heat pumps for heating silos A and B	-26000,0	24,5	3,2	22,0	6,9	7,6
10	MONITORING	Installing a BMS	3000,0	17,7	7,3	12,0	1,6	2,4
11	COMPRESSED AIR	Replacing air compressors with compressor with VSD	90000,0	39,7	23,0	97,0	4,2	1,7

# 9.6 Decarbonization Pathway



0	Purchase of 100% renewable energy sources	2026
1	Photovoltaic system	2026
2	Replacing the steam boiler with electric	2026
3	Compressed air leak detection and repair	2026
4	Gradual reduction of the compressed air setpoint by 0.2 bar	2027
5	Reactivation and expansion of the energy monitoring system	2027
6	Optimize purge control, install automatic purge control	2027
7	Perform a steam trap leak detection	2027
8	Install heat pumps for heating the production area of the silo area c	2029
9	Install heat pumps for heating silos A and B	2029
10	Installing a BMS	2029
11	Replacing Compressor Air Compressors with VSD	2029
12	Residual removal on natural gas (electrification, green gas,...)	2035
13	Electrification of the company fleet	2038

Il modello di riduzione è allineato con le ambizioni delle politiche climatiche attuali



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