ESG. Sustainability Matters 4th Edition
Bucharest, Nov 2022

Agenda

Why

We do this

Who

We are

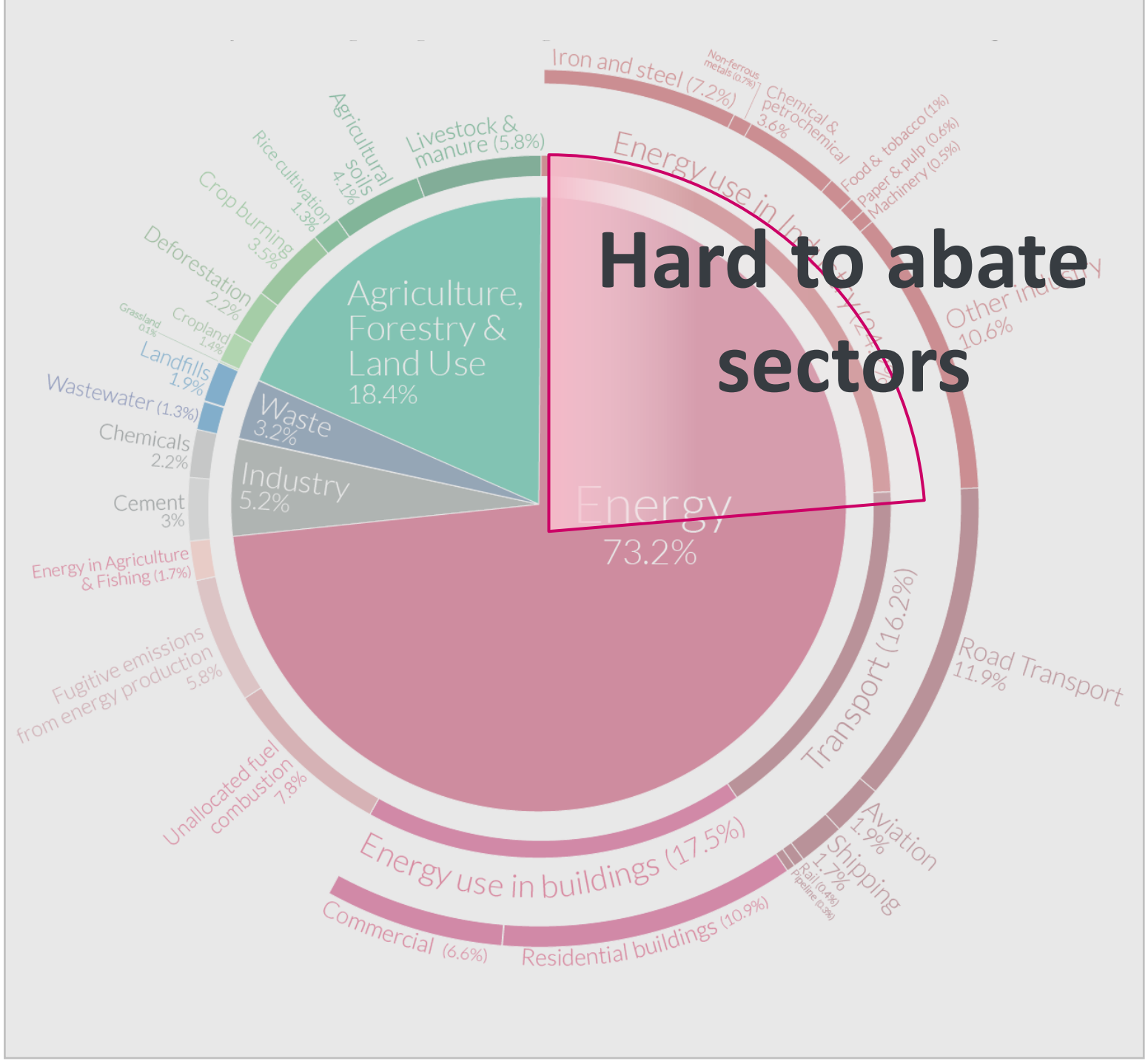
What

We did

Where

We go

Why?


Hard to abate sectors
Iron and steel (7.2%)
Non-ferrous metals (0.7%)
Chemical & petrochemical 3.6%
Food & tobacco (1%)
Paper & pulp (0.6%)
Machinery (0.5%)
Other Industry 10.6%
Road Transport 11.9%
Transport (16.2%)
Aviation 1.9%
Shipping 1.7%
Rail (0.4%)
Pipeline (0.3%)
Residential buildings (10.9%)
Commercial (6.6%)
Energy use in buildings (17.5%)
Unallocated fuel combustion 7.8%
Fugitive emissions from energy production 5.8%
Energy in Agriculture & Fishing (1.7%)
Cement 3%
Chemicals 2.2%
Wastewater (1.3%)
Landfills 1.9%
Grassland 0.1%
Cropland 1.4%
Deforestation 2.2%
Crop burning 3.5%
Rice cultivation 1.3%
Agricultural soils 4.1%
Livestock & manure (5.8%)
Agriculture, Forestry & Land Use 18.4%
Waste 3.2%
Industry 5.2%
Energy 73.2%

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Global leader in pipes and related services for the world's energy industry

Serving the world's energy industry and other industrial applications.

6.5
US$ billion
Annual net sales (2021)

16
Countries
Manufacturing facilities

3
R&D Centers
Worldwide

3
Stock exchanges
New York, Italy, Mexico

23,000
Employees (approx.)
(2021)

25
Countries
Services and distribution network

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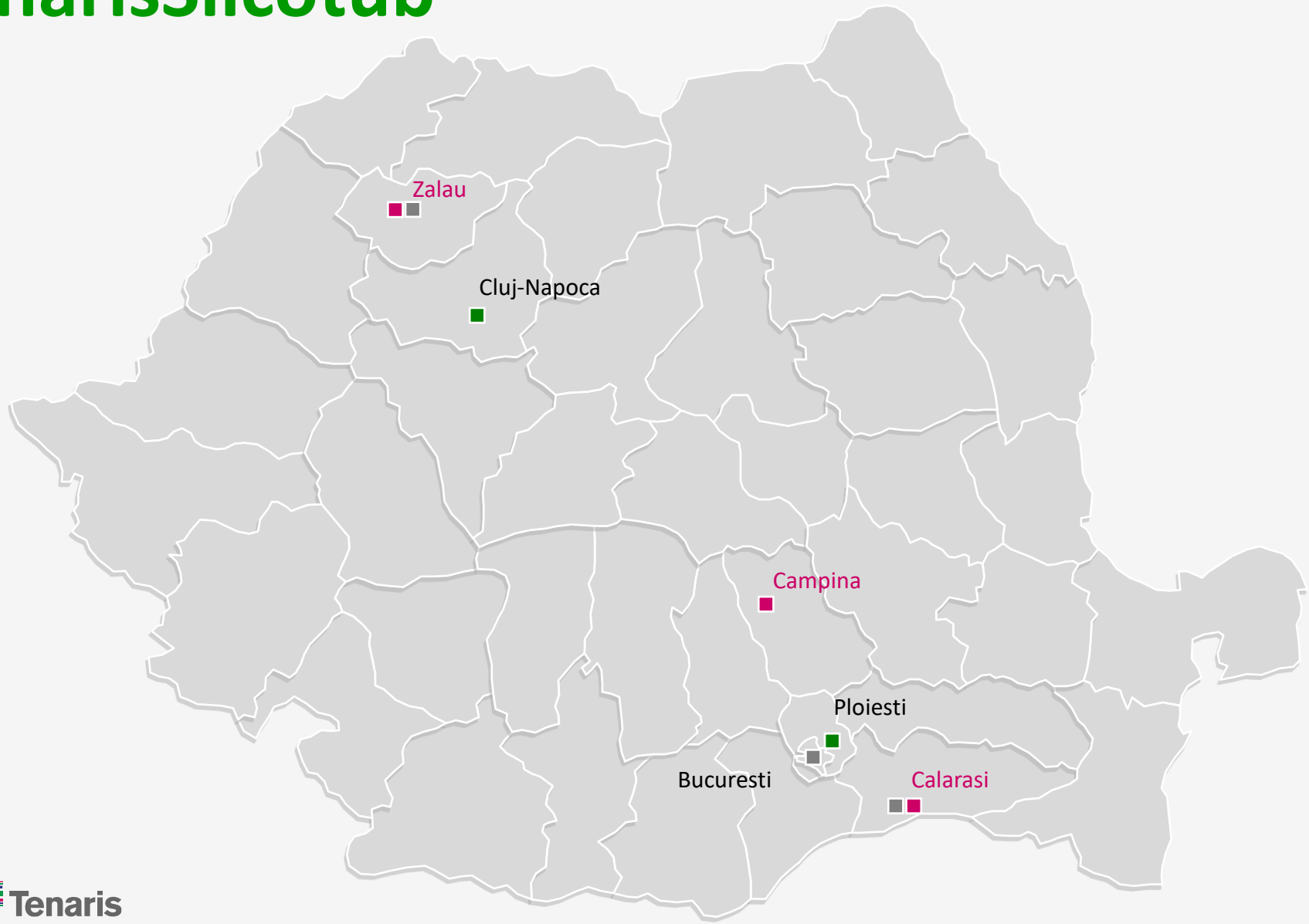

- Manufacturing Centers
- Service Centers
- Commercial/ Administrative Offices

Tubular products & components (Zalău)

250 ThTn/y

Sucker Rods plant (Câmpina)

500 Thpcs/y

Steel Shop (Călărași)

713 ThTn/y

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Environmental Goals and Strategy

Reduce CO2 emissions

With 30% by 2030

Circularity

Foster circular economy by maximizing all type of waste recycling

Efficiency

Efficient use of primary resources such as water, energy and raw materials.

Air Emissions

Enhance our systems for capturing and treating atmospheric emissions.

Decarbonization Strategy

30%
Target 2030

Reduction in CO_2 intensity per ton of steel (Scopes 1, 2 & 3) vs 2018 values

Collaboration with partners to minimize CO_2 footprint

USD 80
per ton CO_2

Internal carbon price

Increase scrap use

Renewable electricity

Energy efficiency

H2 Use

Alternative raw material

Carbon capture use and storage

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Were we stand

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We apply the best available technologies in all new lines, aiming at improving our performance beyond local applicable requirements.

96%

Recycled content in our steel

93%

Waste recovery rate

Electric Arc Furnace – Calarasi Steel Shop

Through EAF technology, our environmental footprint is 3 times less than BOF technology, according to WSA.

640 Th Tn

of scrap recycled annually

12 Th Tn

alternative materials used in steel production

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Retrofeed project

Horizon 2020

Main objective is to enable the use of an increasingly variable, bio-based and circular feedstock in process industries through the retrofitting of core equipment and the implementation of an advanced monitoring and control system.

Retrofeed
smart retrofitting in process industry

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This approach will be demonstrated in **five resource and energy intensive sectors** (ceramic, cement, aluminum, **steel**, and agrochemical)

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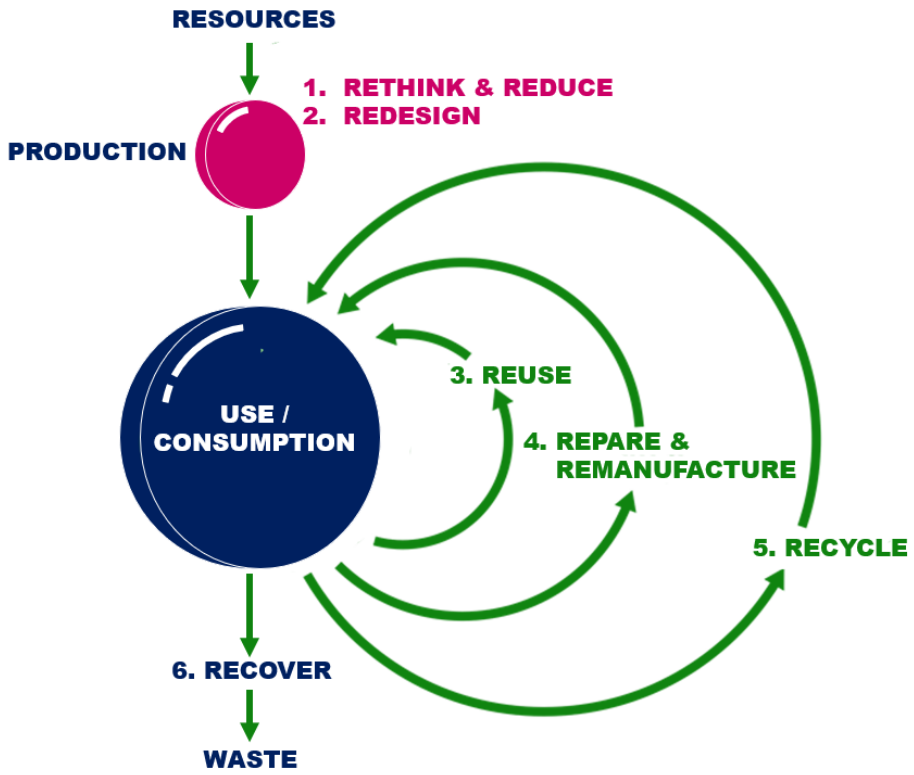
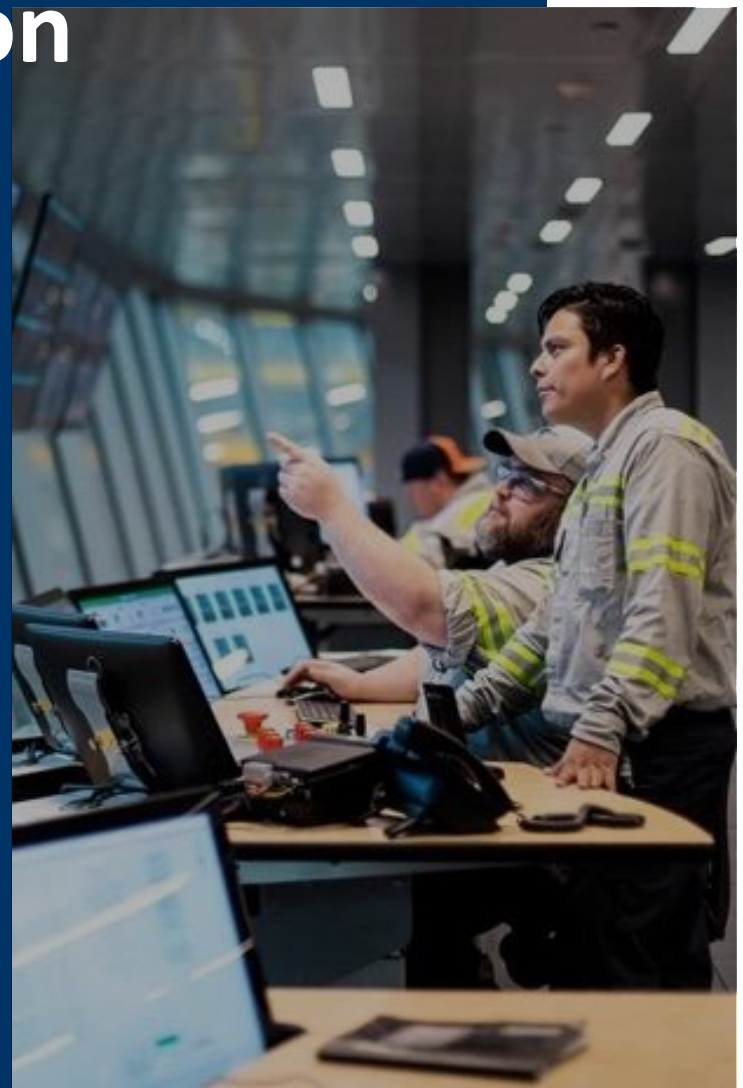


Implementation of a smart RETROfitting framework in the process industry towards its operation with variable, biobased and circular economy enhancing Decarbonization and Industrial Symbiosis

Innovation



Main challenges of the targeted process in the demo-site

Regulatory aspects →

Co-product transportation, storage and test development.

Cross media effects: air emissions, slag production, etc

Technical aspects →

Adequacy of co-products to process requirements

Effectiveness of a new injection system adaptable to different co-products.

Schedule aspects →

Process availability due to production conditions and market requirements.

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Alternative materials

Plastic grain

- High C content
- High heating values
- Commercial product
- Coal substitute

Tire grain (rubber)

- High C content
- High heating values
- Commercial product
- Coal substitute

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Progress

START

2019
- Kick-off meeting
- Team definitions

2020
- Preliminary discussions for injector design
- Waste Characterization
- Process Data Share
- Preliminary Market Analysis

2021
- Injector design and technical solution

2022
- Injector testing

2023
- Reporting

2024

Environmental Monitoring -> Teste showed positive outcome

Industrial Testing

Reporting and Validation by IVL Swedish Environmental Research Institute

Integrate the methodology in the industrial process

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Expected Outcome and Benefits

01. Circularity

Reduction of residues sent to landfill and increase of recovery rate of the produced wastes and by-products.

02. CO2

Reduction of CO2 emissions due to the use of co-products and improving process performances on energy

03. Resource conservation

The utilization of steel and other industry residues will allow saving natural resources as lime, coal and iron

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