Towards the Net Zero Carbon Target
“Green Journey of Steel”

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OYAK MINING METALLURGY

Disclaimer

This presentation includes current views and future expectations of the Company management. Although it is believed that the information and statements given are accurate, the results may differ depending on the changes and realizations in the parameters and assumptions underlying the predictions.

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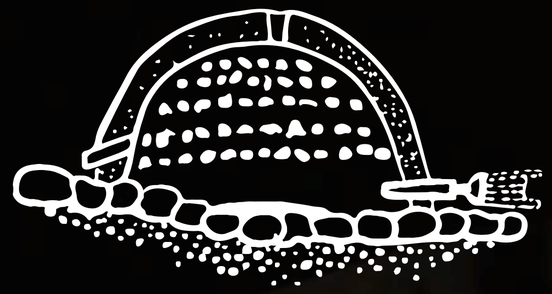
About Steel Production

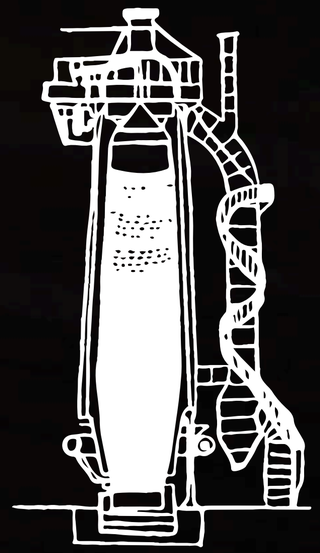
For centuries, steel has been produced by reducing iron ores by the carbon content and energy of coal.

FIRST AGE



MIDDLE AGES

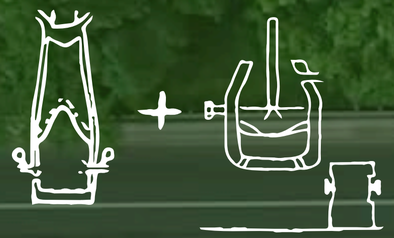
19TH CENTURY



NET ZERO ROADMAP “THE GREEN JOURNEY OF STEEL”

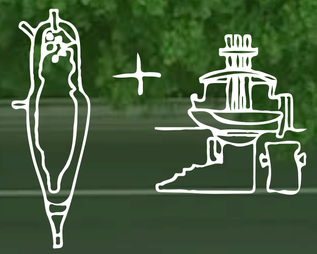
BF-BOF | Electric Arc Furnace (EAF) | DRI-Arc Furnace

BF-BOF Production Flow



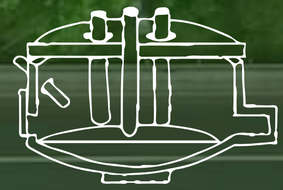
2.2* tCO_2/TCS

DRI-Arc Furnace Production Flow



1.0* tCO_2/TCS

Electric Arc Furnace Production Flow



0.5* tCO_2/TCS

* TCS-Ton Crude Steel; Scope 1 + Scope 2 total emission value (World Steel Association CO2 data report 2023, September 2023)
DRI - Direct Reduced Iron
EAF - Electrical Arc Furnace
BOF - Basic Oxygen Furnace / BF (Blast Furnace)

Scope 1 | 2 | 3 Greenhouse Gas Emissions

Scope 2
Indirect

Purchased electricity, steam, and thermal energy

Scope 1
Direct

Corporate facilities

Corporate vehicles

Scope 3
Indirect

Purchased products and services

Dealerships

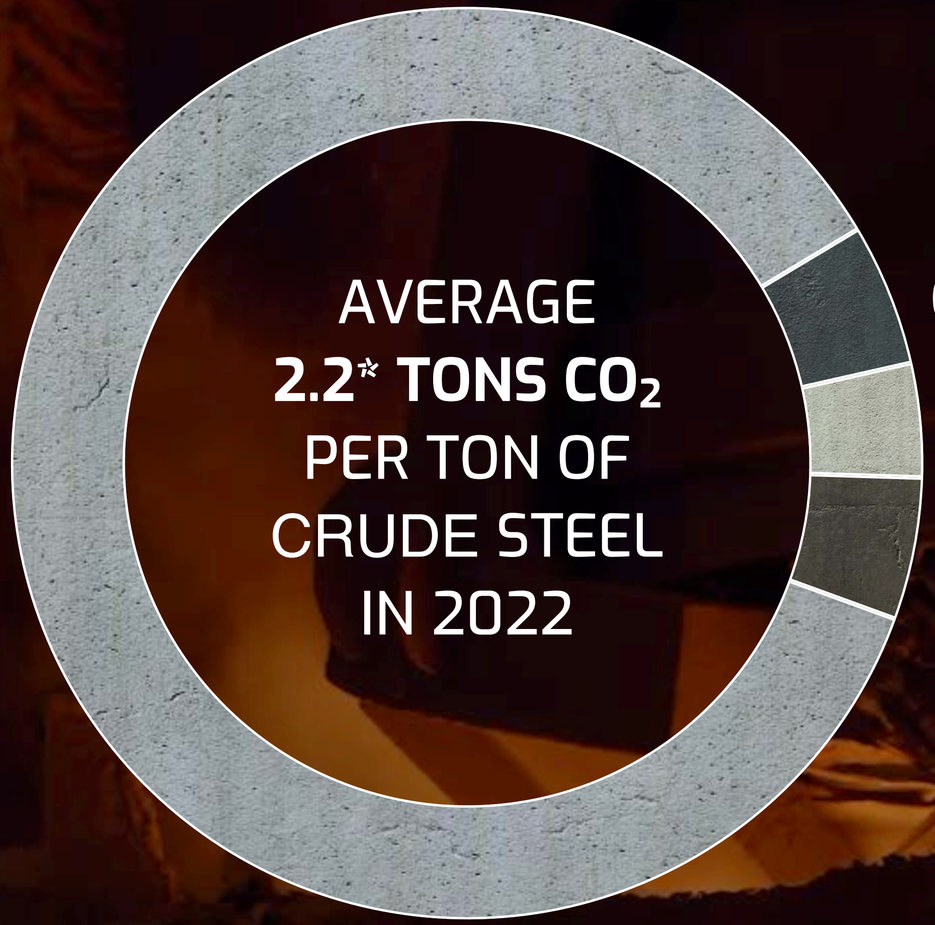
Business Travel

Transportation and Distribution

Disposal of Products Sold

Usage of Products Sold

Our Greenhouse Gas Emission Values - Erdemir & İsdemir



Coal 84%

6% Natural Gas

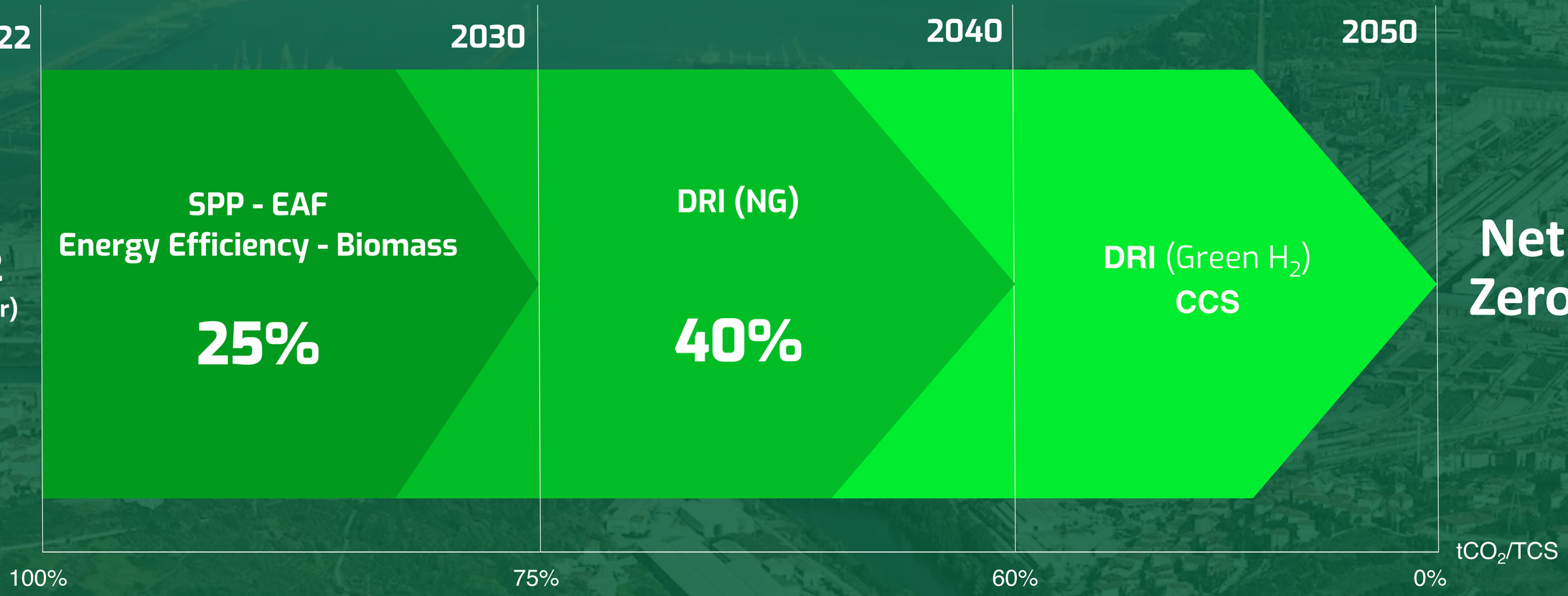
5% Electric

5% Other

* Values are Scope 1 + Scope 2 consolidated values.

Our Greenhouse Gas Reduction Target

For a world where the global average temperature increase should be limited to 1.5 °C, we aim to reduce our emissions by 25% in 2030 and 40% in 2040 so to achieve the Net Zero emission target by 2050.



CCS - Carbon Capture and Storage

Our Actions for Greenhouse Gas Reduction Target

Action 1: Electric Arc Furnace Investment

Erdemir
~25.7%* Reduction

	Capacity	Unit Emission(tCO_2/TCS)
BOF Route *	3.9 M tons	
EAF Investment	1.4 M tons	
After EAF Investment	5.3 M tons	

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~17.3%* Reduction

	Capacity	Unit Emission(tCO_2/TCS)
BOF Route *	5.8 M tons	
EAF Investment	2.5 M tons	
After EAF Investment	8.3 M tons	

* According to 2022 Base scenario

Our Actions for Greenhouse Gas Reduction Target

Action 2: Energy Efficiency Studies

Through consistent research on improving our processes, we are finding ways to generate more energy with fewer resources. We plan to maximize our energy efficiency through these methods and to reduce our dependency on foreign energy supplies.

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- Coke Dry Quenching System
- **Turbo Generator No. 10**
- **Waste Heat Recovery Boiler for 2nd Slab Furnace**
- **Erdemir Designed Driver Implementation**
- **PCI Facility Driver System Applications**
- **New Turbo Blower Investment**
- Roof-Type Solar Power Systems Project
- **APC Implementation in Air Separation Facilities**
- **Driver-Controlled 1st Blast Furnace Stove Air Fan**
- Oxy-Fuel Usage

~ 3.5% Reduction

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- Coke Dry Quenching System
- **Steam Boiler No. 3 Retubing**
- Turbo Generator No. 1-2 Capacity Increase
- **Coke Dry Quenching Steam Turbine**
- New Air Compressor

~ 3.1% Reduction

Ongoing investments

Our Actions for Greenhouse Gas Reduction Target

Action 3: Solar Power Plant (SPP) Investments

We reduce our Scope 2 emissions with our Renewable Energy investments.

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	SPP (Solar Power Plant)
Project Calendar	Full capacity production is expected by the end of 2025
Project Region	Van, Malatya
Expected Electricity Generation	770.000 MWh/Year
Installed Power	424 MWp

~ 4.9% Reduction

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	SPP (Solar Power Plant)
Project Calendar	Full capacity production is expected by the end of 2025
Project Region	Çorum, Diyarbakır, Şırnak
Expected Electricity Generation	940.000 MWh/Year
Installed Power	530 MWp

~ 4.5% Reduction

Our Actions for Greenhouse Gas Reduction Target

Action 4: Biomass Usage

Using biomass with a zero emission factor instead of coal will reduce our emissions.

Within this scope, pilot pyrolysis plant installation work has started.

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Coke Plant Coal Reduction	
Sintering Plant Coke Breeze Reduction	
Blast Furnaces PCI Coal Reduction	
Steel Mill Coal Reduction	
Total Coal Reduction	**205.091 tons/year**

~ 11.9% Reduction

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Coke Plant Coal Reduction	
Sintering Plant Coke Breeze Reduction	
Blast Furnaces PCI Coal Reduction	
Steel Mill Coal Reduction	
Total Coal Reduction	**381.897 tons/year**

~ 10.6% Reduction

Our Actions for Greenhouse Gas Reduction Target

Action 5: DRI with Natural Gas Investment

2 DRI

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~25.0%* Reduction

	Capacity	Unit Emission
BOF Route *	3.9 M tons	
DRI Investment	2 M tons	
After DRI Investment	5.9 M tons	

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~18.1%* Reduction

	Capacity	Unit Emission
BOF Route *	5.8 M tons	
DRI Investment	2 M tons	
After DRI Investment	7.8 M tons	

* According to 2022 Base scenario

Our Actions for Greenhouse Gas Reduction Target

Action 6: DRI (with Green Hydrogen) Investment

In the iron-steel industry, hydrogen has the potential to replace coal as fuel and raw material.

Türkiye’s long-term energy strategies include establishing low-cost hydrogen production facilities in regions with energy-intensive sectors such as iron and steel.

TR Green Hydrogen Roadmap*

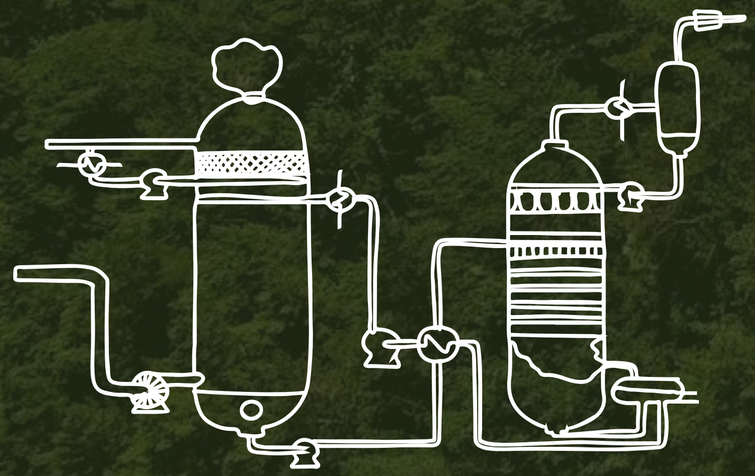
TR Hydrogen Technologies Strategy and Road Map Announced	1st Intermediate Goal	2nd Intermediate Goal	2053 TR Net Zero Carbon Target
2023	**2030**	**2035**	**2053**
Electrolyzer Capacity Target	2 GW	5 GW	70 GW
Production Cost Target	-	2.4 $/kg$H_2$	1.2 $/kg$H_2$

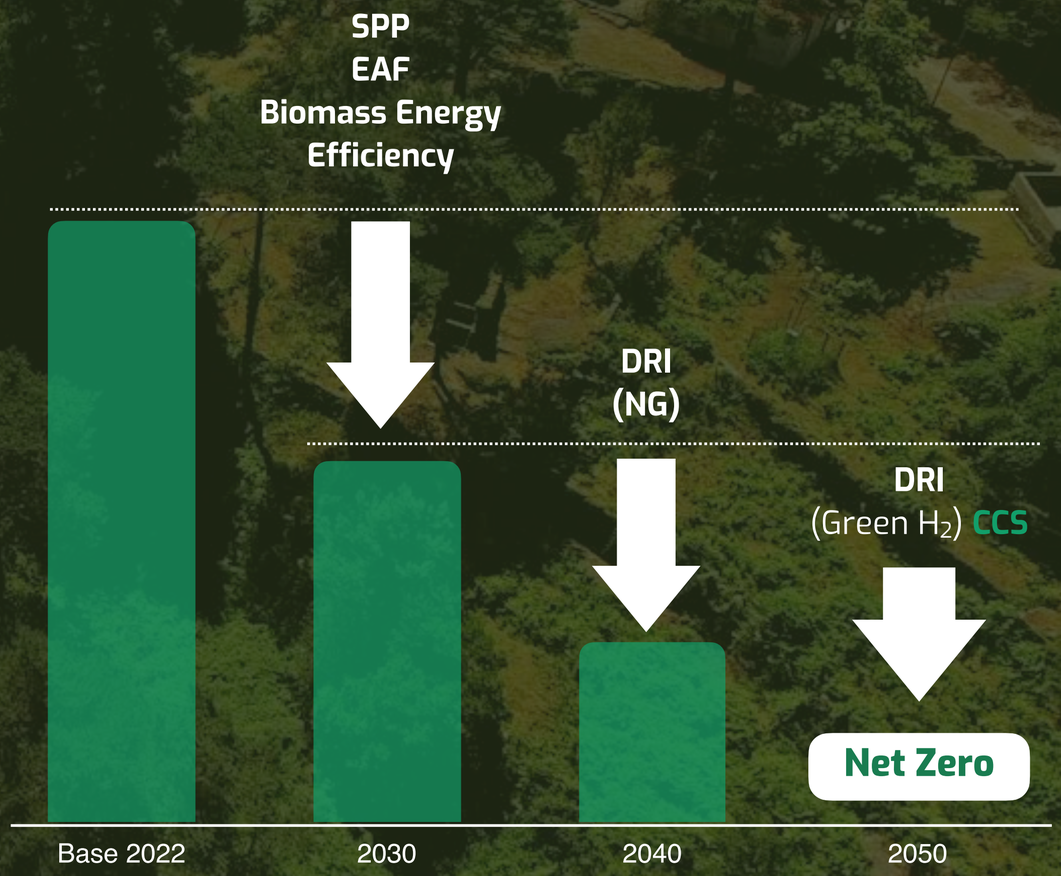
*TR Ministry of Energy and Natural Resources report - 2023

Our Actions for Greenhouse Gas Reduction Target

Action 7: Carbon Capture and Storage (CCS)

In the long term, it is aimed to zero out unavoidable emissions with technologies for capturing and storing carbon released from processes.





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