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01-06-2023 - Helsinki

# TREATMENT OF SCRAP IN NEW SBTI METHODOLOGY – HOW AND WHY

# AGENDA

- Introduction and the challenge
- Scrap and its use in the steel system
- Scrap in Steel SBTi Guidance

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# SYSTEMIQ – WHO WE ARE

Systemiq is a B-corporation on a mission to accelerate the transition to a net-zero, nature-positive and more inclusive economy.

We do this by building ambitious multi-stakeholder coalitions; advising leading companies, financial and public institutions; and investing into disruptive businesses that will scale new solutions across the energy, nature and materials systems.

## PEOPLE

- 300+ employees
- Diverse backgrounds from
  - Consulting and finance
  - Industry
  - Public & non-profit
  - Academia

## LOCATIONS

- UK
- France
- Germany
- Netherlands
- Indonesia
- Brazil

## OUR FIVE PLATFORMS



NATURE



ENERGY



MATERIALS

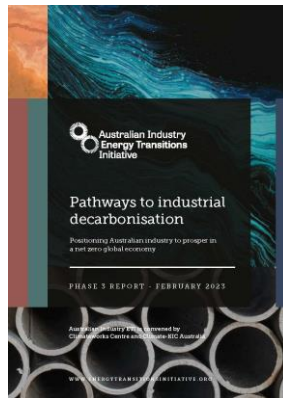
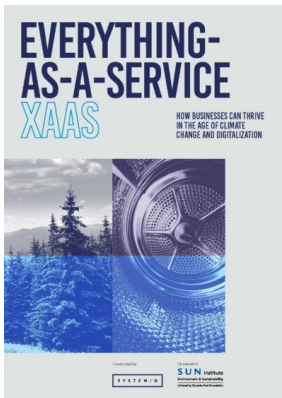
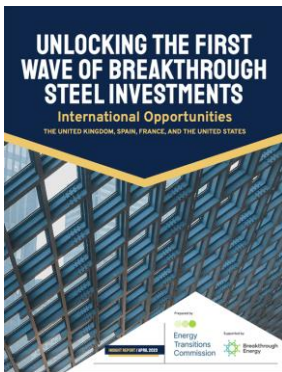
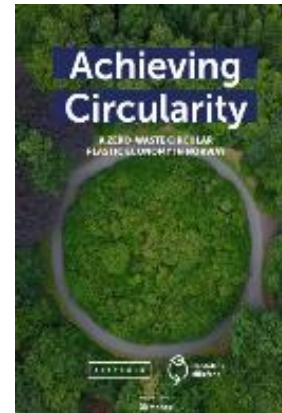
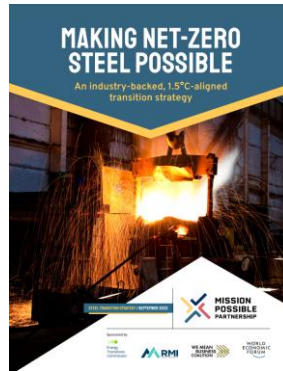


FINANCE



URBAN

## Analytical research:



## Coalition-building:



## Investment and action:



# THE STEEL GUIDANCE CHALLENGE

- Ore-based and scrap-based steel production have vastly different carbon footprint and yet there is almost perfect overlap between their products
- Scrap is finite and there is not enough scrap to cover the whole steel demand
- Guidance needs to be fair and work for every company, irrespective of its location and asset composition

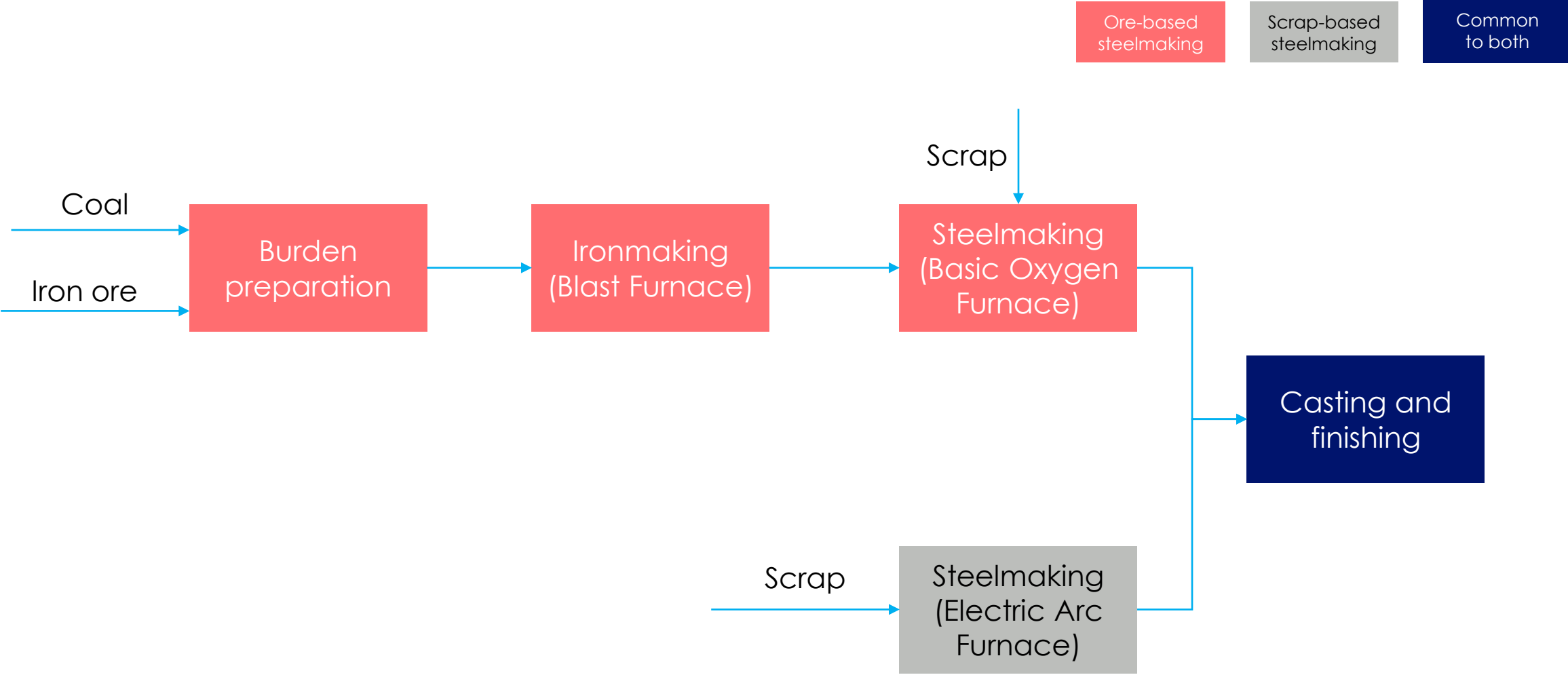
**Disclaimer:** Steel Science-Based Target Setting Guidance has not been published yet. This presentation is not official SBTi communication, its goal is just to present the rationale for recommendations made by the ETC for the SBTi. Any solution and calculation presented in this presentation may differ from what is going to be present in the final guidance, currently scheduled to be published in July.

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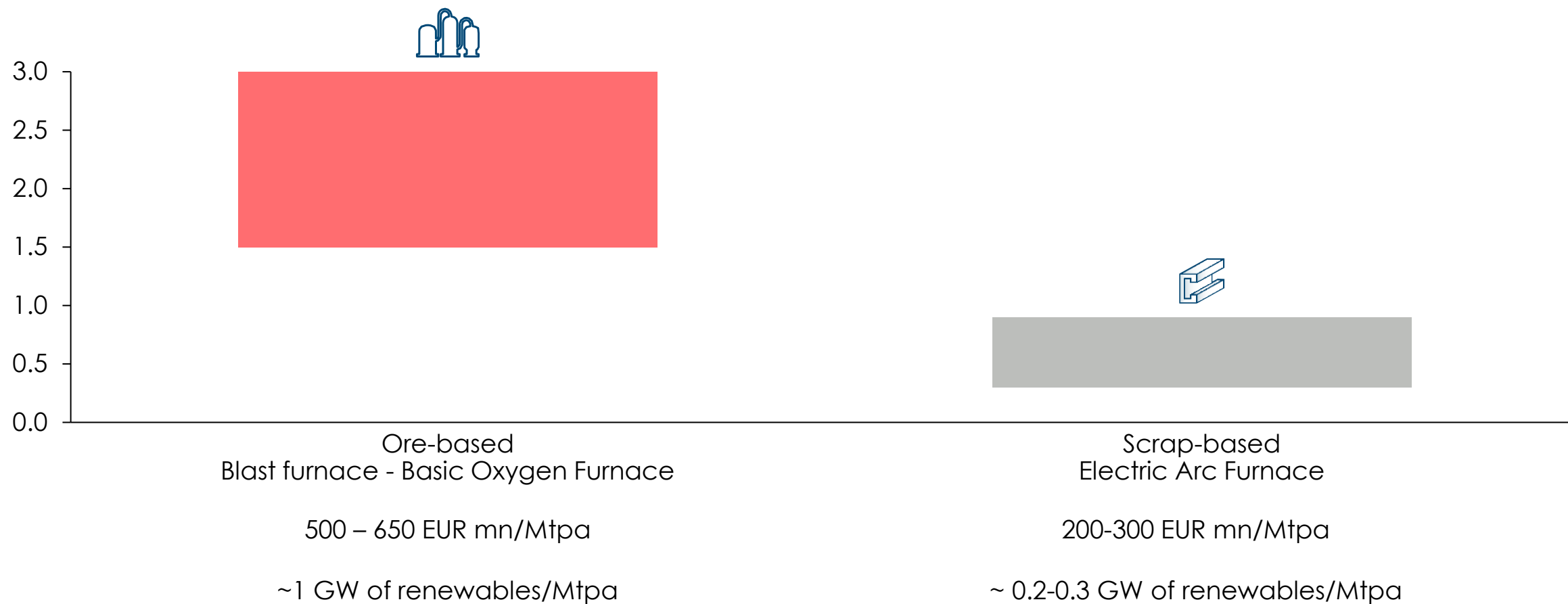
# ORE-BASED STEELMAKING INTRODUCES FRESH IRON TO THE ECONOMY, BUT REQUIRES MORE PROCESS STEPS THAN STEEL RECYCLING



# PRODUCTION OF FRESH IRON REQUIRES IRON ORE REDUCTION WHICH DRIVES UP ENERGY AND EMISSION INTENSITY OF THE ORE-BASED STEELMAKING

## Indicative emission intensity of main steelmaking technologies

† CO<sub>2</sub>/t crude steel



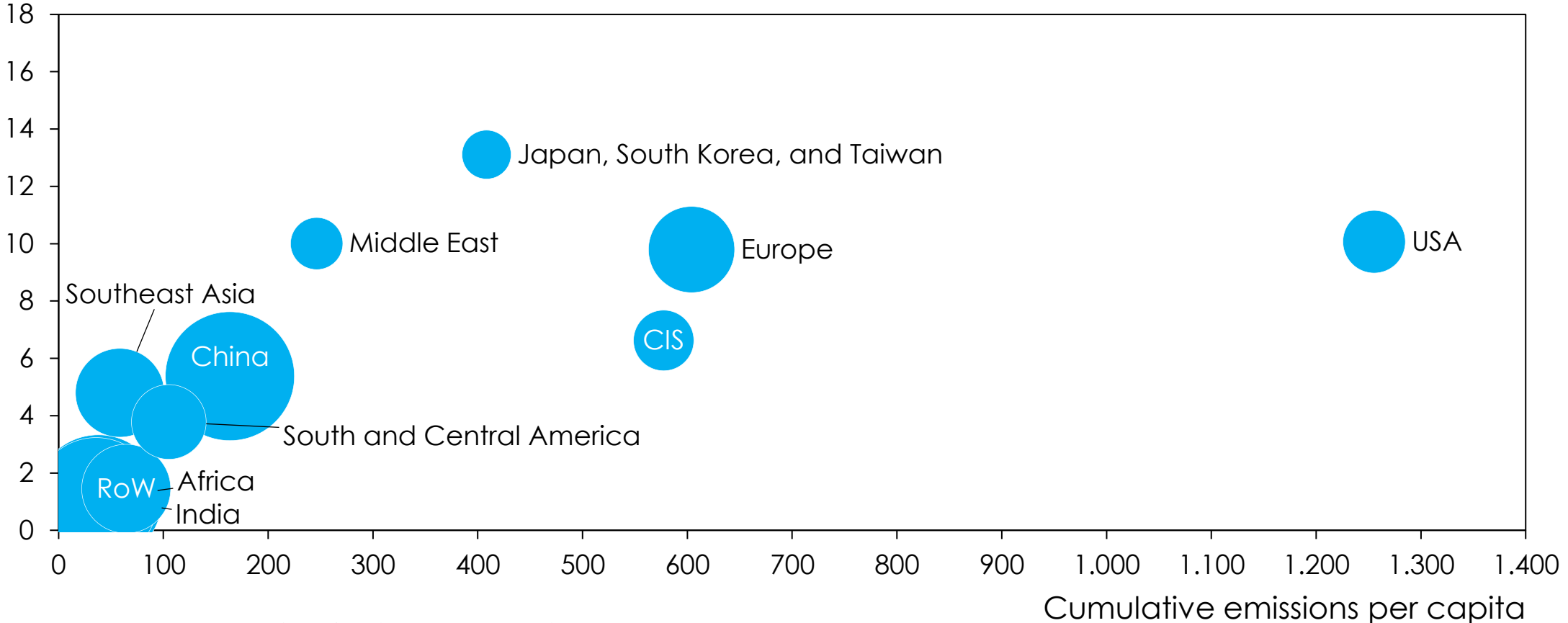
# THE ENVIRONMENTAL COST OF THE STEEL STOCK CAN BE SEEN IN CUMULATIVE EMISSIONS

## Steel stock vs historical cumulative emissions

† steel/person\*, †CO2/person\*

● Population size

Steel stock per capita

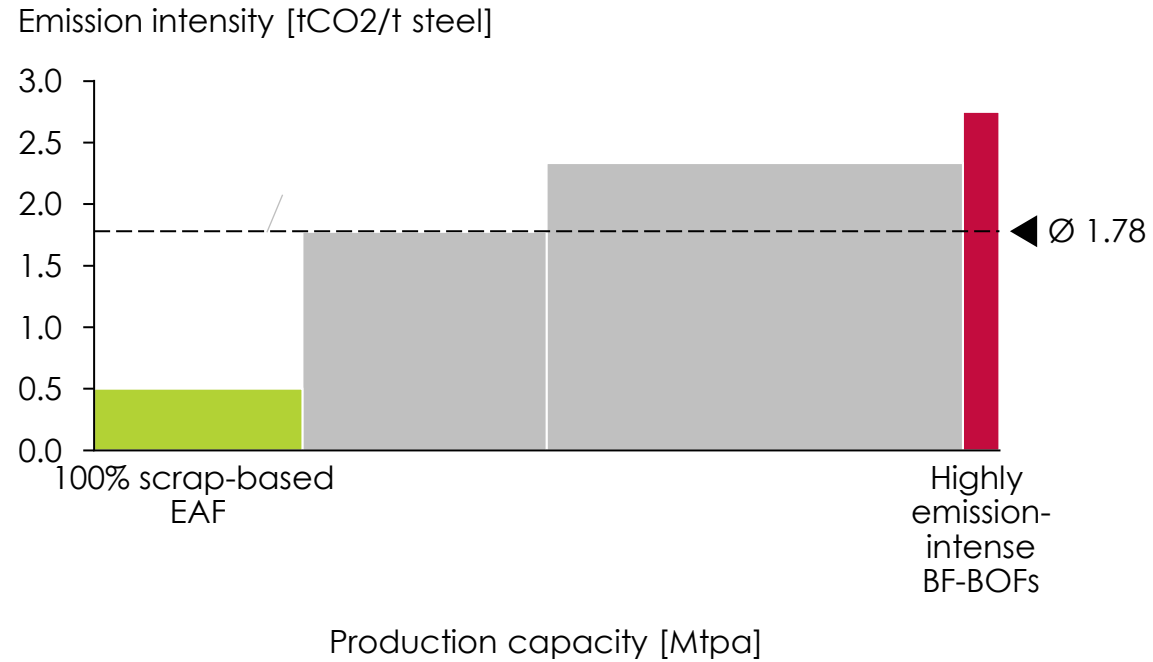


\*Based on 2019 total population of a given country/region



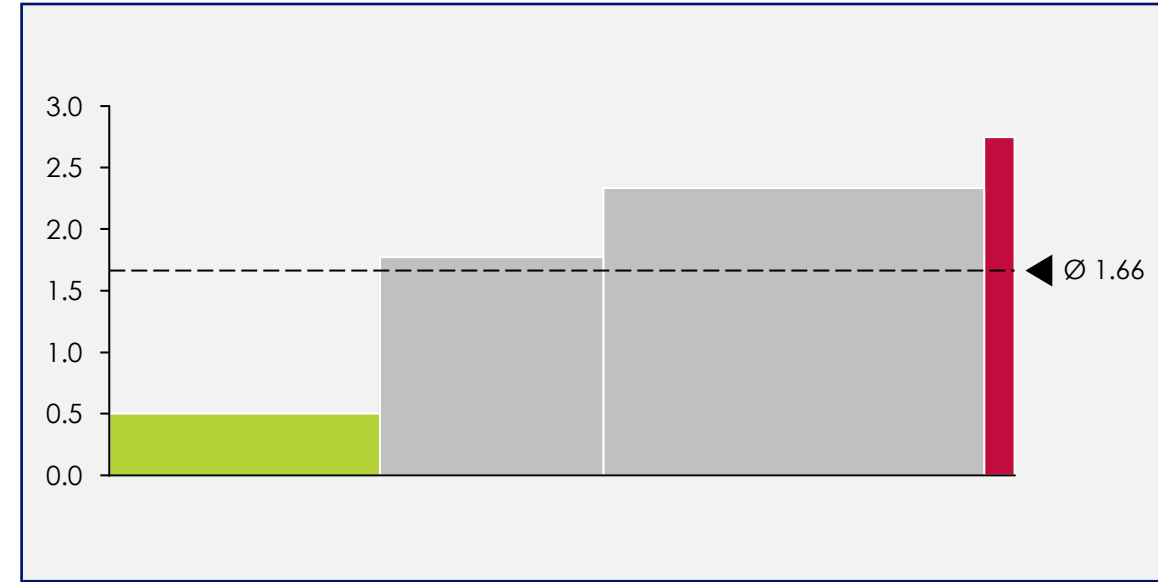
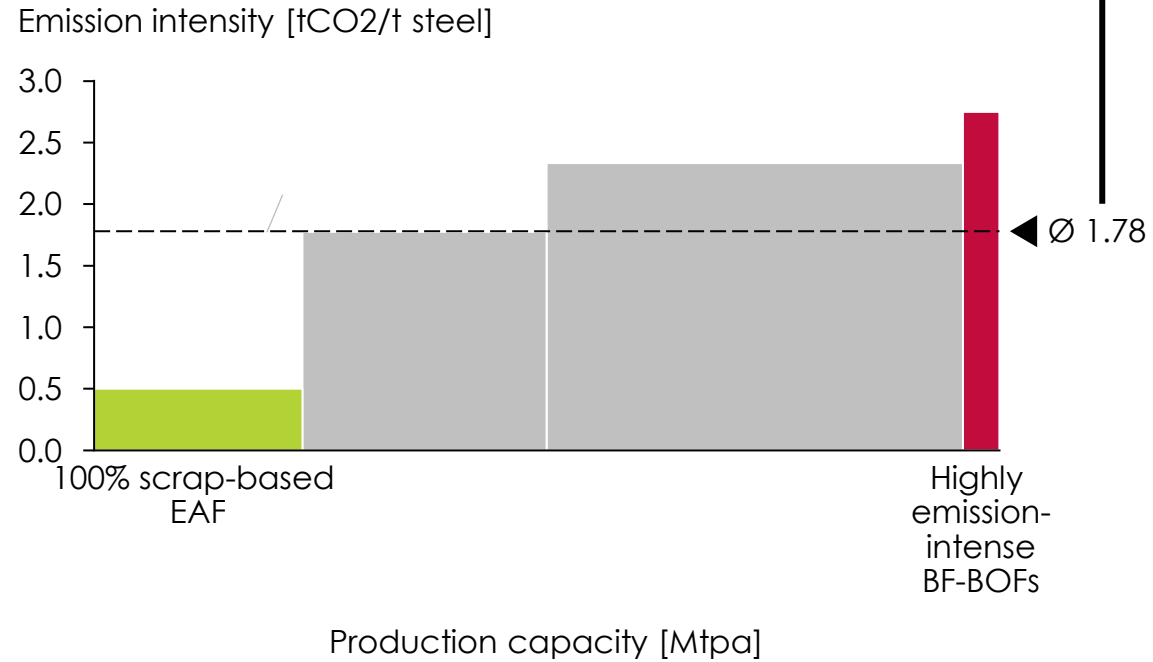
# SCRAP IS AN EFFECTIVE ABATEMENT MEASURE BOTH WHEN APPLIED TO ORE-BASED AND SCRAP-BASED PRODUCTION

Illustrative steel supply curve based on emission intensity



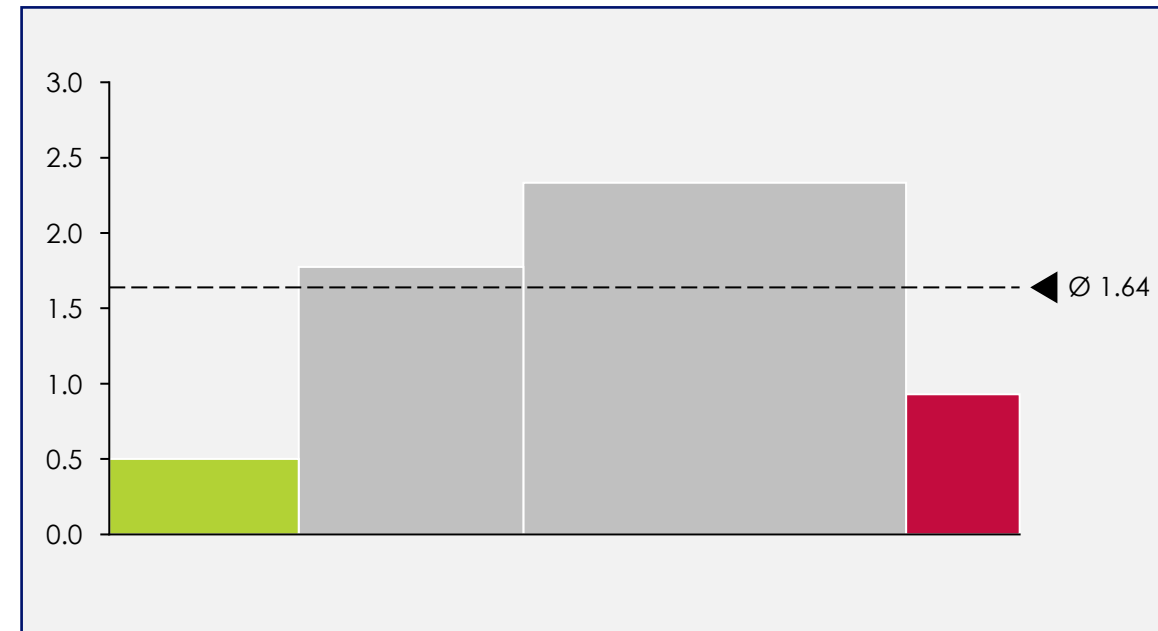
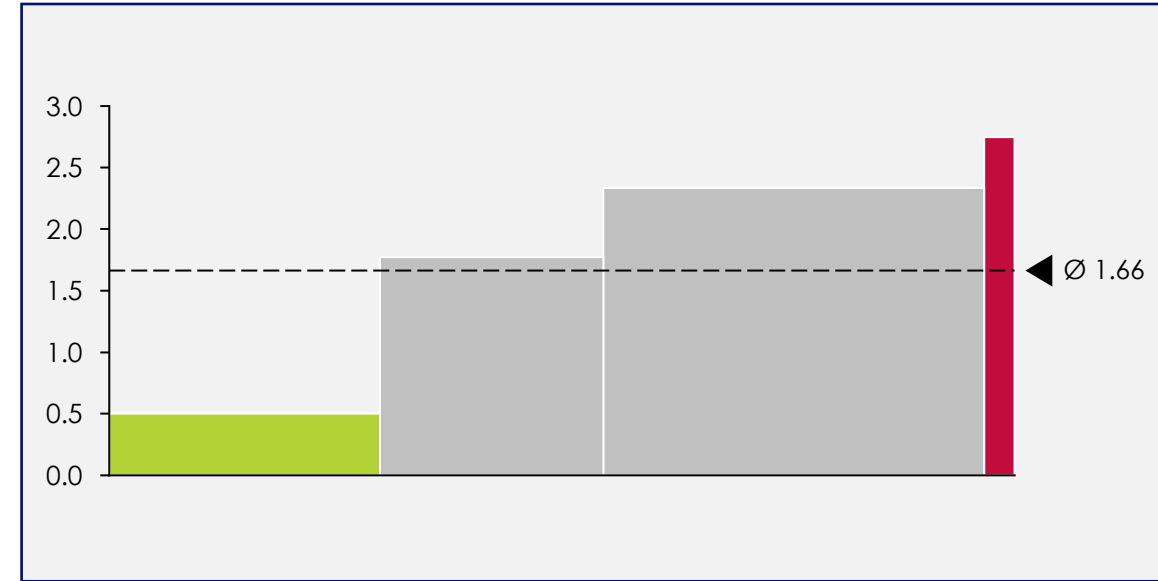
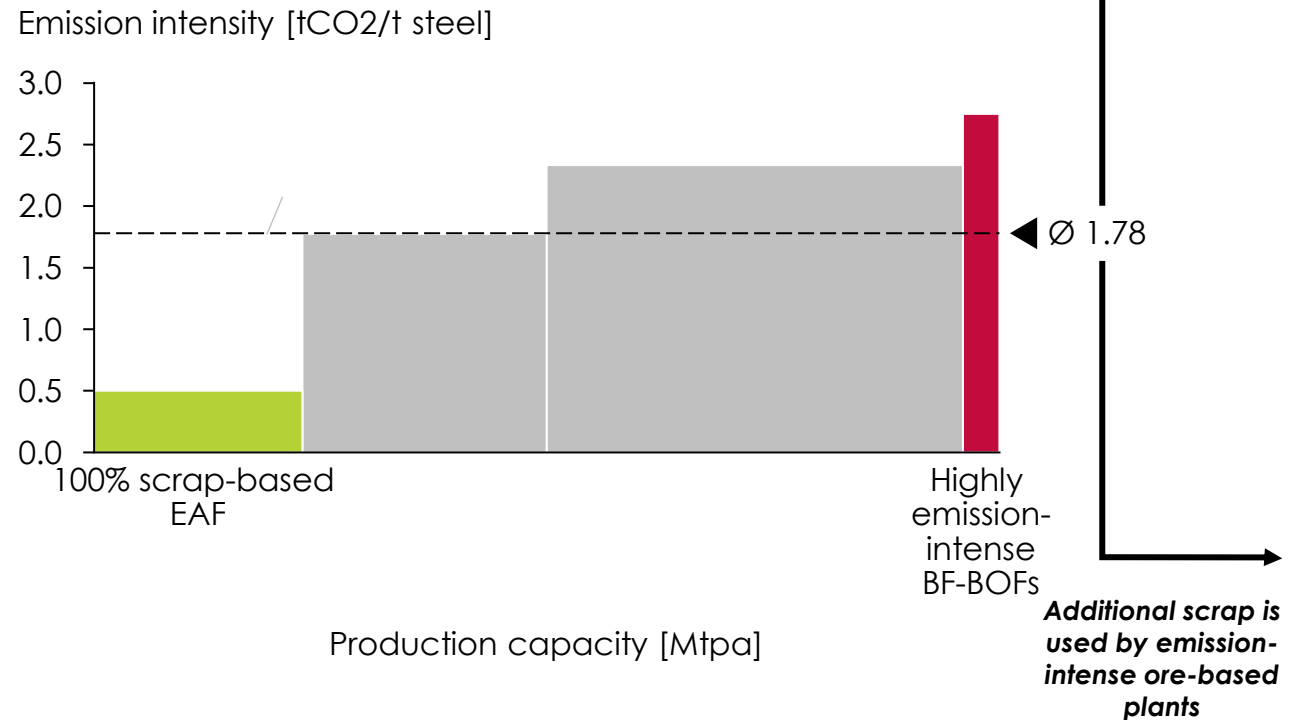
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# SUMMARY OF ARGUMENTS

- Scrap comes mostly out of the accumulated steel stock
- Steel stock has accumulated in countries with largest historical emissions per capita due to the fact, among others, that they had to build the steel stock through the use of ore-based steelmaking
- Countries with highest steel stock per capita are home of the least emission-intense plants (on average) which owners are more likely to set Science-Based Targets than many of their peers thanks to higher availability of technology, capital, and supporting legal and physical infrastructure

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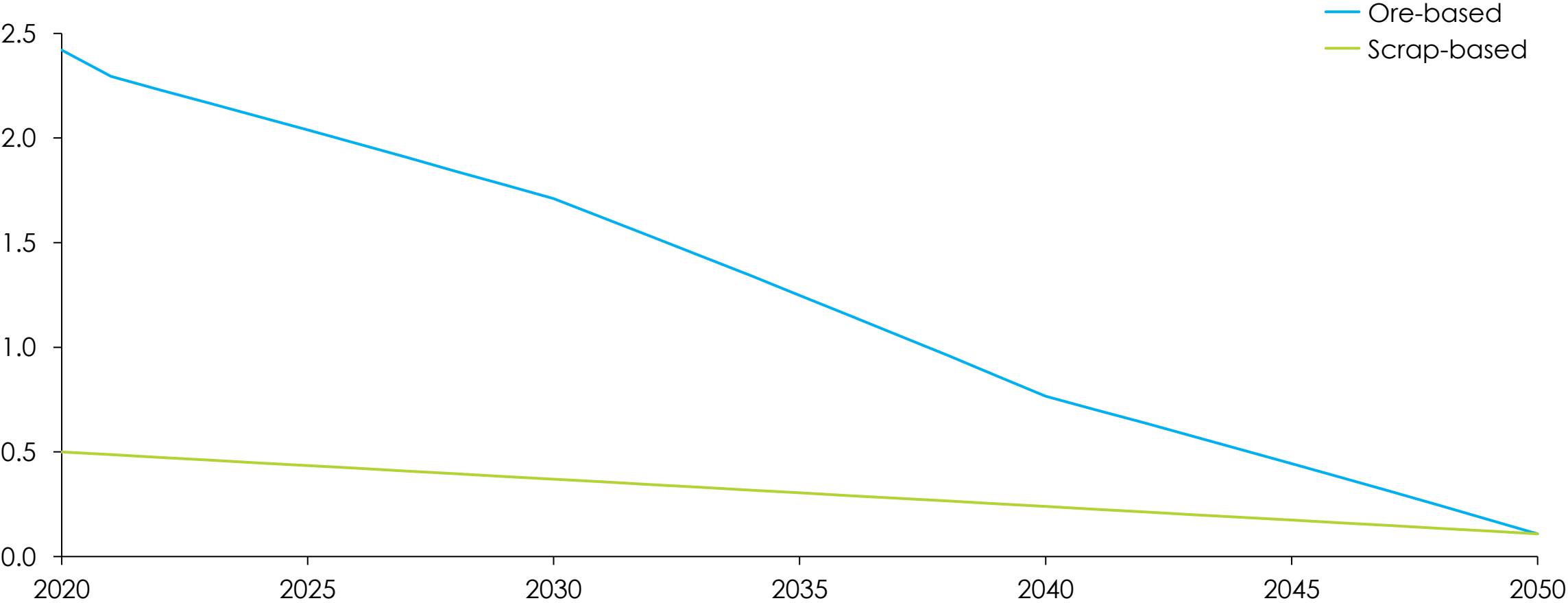
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# STEELMAKING WAS SPLIT INTO TWO REFERENCE PATHWAYS: ORE- AND SCRAP-BASED

Reference emission intensity pathways of ore- and scrap-based production

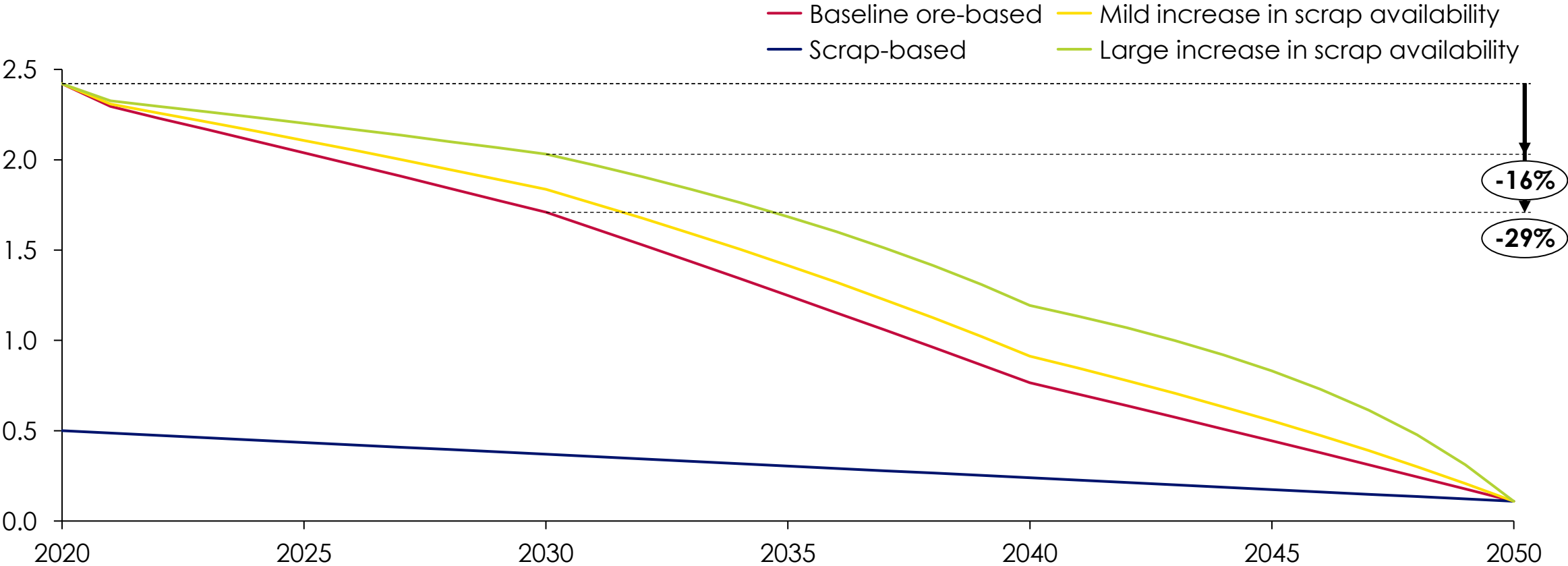
† CO<sub>2</sub>/hot rolled product



# THE BENEFIT OF INCREASING SCRAP USE IS SPREAD ACROSS THE WHOLE INDUSTRY

## Emission intensity pathways of ore- and scrap-based production

† CO<sub>2</sub>/hot rolled product

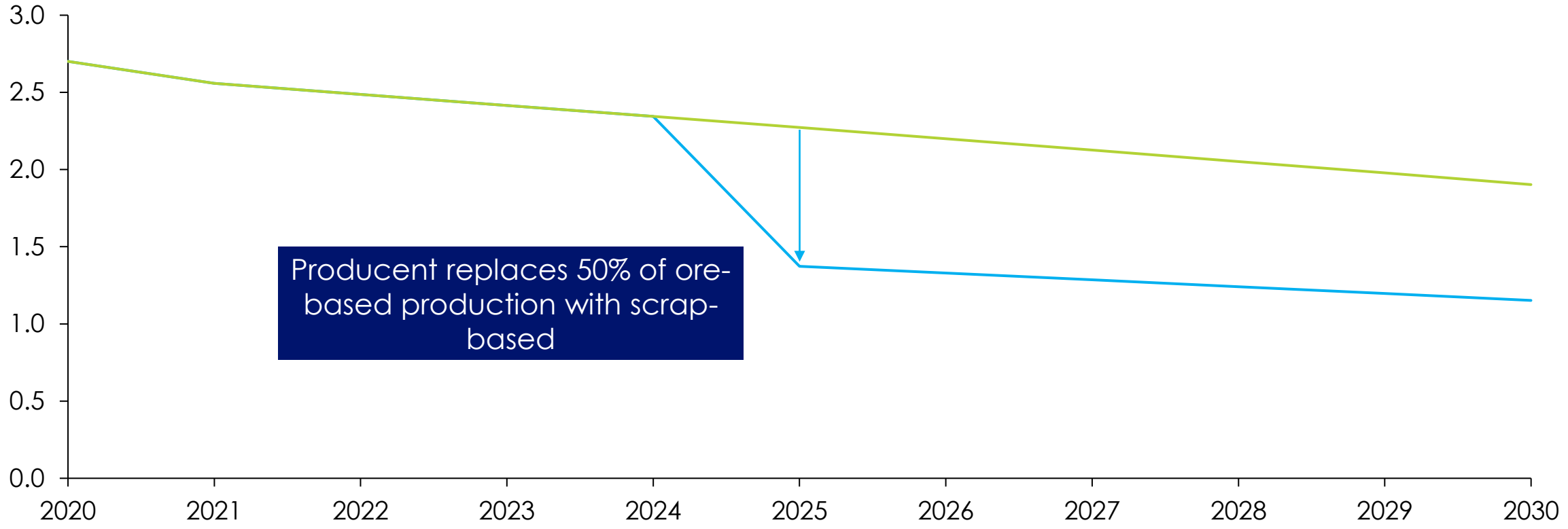


# IF A COMPANY INCREASES SCRAP USE IN THE MIDDLE OF TARGET PERIOD, THE TARGET ADJUSTS TO PREVENT DOUBLE-COUNTING OF THE SCRAP BENEFIT

Reference emission intensity pathways of ore- and scrap-based production

t CO2/hot rolled product

- Scrap change
- No scrap change



Producent replaces 50% of ore-based production with scrap-based

# SUMMARY OF TREATMENT OF SCRAP IN NEW SBTI GUIDANCE

- Scrap is treated as common global good – if the scrap availability increases, the budget available for ALL ore-based production increases, irrespective of whether steel companies in question has set Science-Based Targets or not. Since vast majority of steel makers use ore-based inputs, they will see the benefit regardless of their asset composition.
- Because the benefit from increased scrap use is already distributed across the whole sector, the adjustments needs to be made at a single company level to reflect that it taps more into the global pool of scrap and reaps immediate benefits because of that. It prevents companies from meeting their emission intensity targets just by using more scrap instead of decarbonising their assets.
- The emission intensity target for scrap-based production does not change with increased production, but it is more lenient than for ore-based producers under baseline assumptions and both ore- and scrap-based are aiming towards the same emission intensity goal in 2050.

# THANK YOU



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S Y S T E M I Q

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