Image by Boris Bukovský from Pixabay

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

1.5°C SCIENCE-BASED TARGET-SETTING IN THE STEEL SECTOR

GUIDANCE LAUNCH WEBINAR

19 September 2023

Partner organizations

CDP DISCLOSURE INSIGHT ACTION

United Nations Global Compact

WORLD RESOURCES INSTITUTE

WWF

In collaboration with

WE MEAN BUSINESS COALITION

VIDEO-CONFERENCE GUIDELINES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- This is a **Zoom webinar**. Your camera and microphone are automatically muted.
- Participants can **send questions via the Q&A button.**
- **Slides from this webinar will be shared** after this call.
- Please note that this webinar will be **recorded** for the benefit of those who cannot attend.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

AGENDA

1. Welcome
2. Opening remarks
3. Introduction to the SBTi
4. The SBTi Steel Guidance
    - Development process and applicability
    - Pathways and core boundaries
    - Criteria and target-setting methods
5. Q&A Session
6. Closing remarks

TODAY'S WEBINAR TEAM

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

ALBERTO CARRILLO PINEDA
Chief Technical Officer
SBTi

KARL DOWNEY
Head of Sectoral Development
SBTi

BRENDA CHAN
Technical Manager, Steel
SBTi

AMELIE TAN
UK & WW Regional Manager, Transition Accelerator
CDP

RAFAL MALINOWSKI
Project Manager
ETC

AAMIR KHAN
PMO, Sectoral Development
SBTi

PAULINA MORENO
Communications Manager
SBTi

Poll #1

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

OPENING REMARKS

Poll #2

Image by Boris Bukovský from Pixabay

SCIENCE-BASED TARGETS FOR STEEL

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

OPENING REMARKS

Alberto Carrillo Pineda
Chief Technical Officer
SBTi

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

INTRODUCTION TO THE SCIENCE BASED TARGETS INITIATIVE (SBTi)

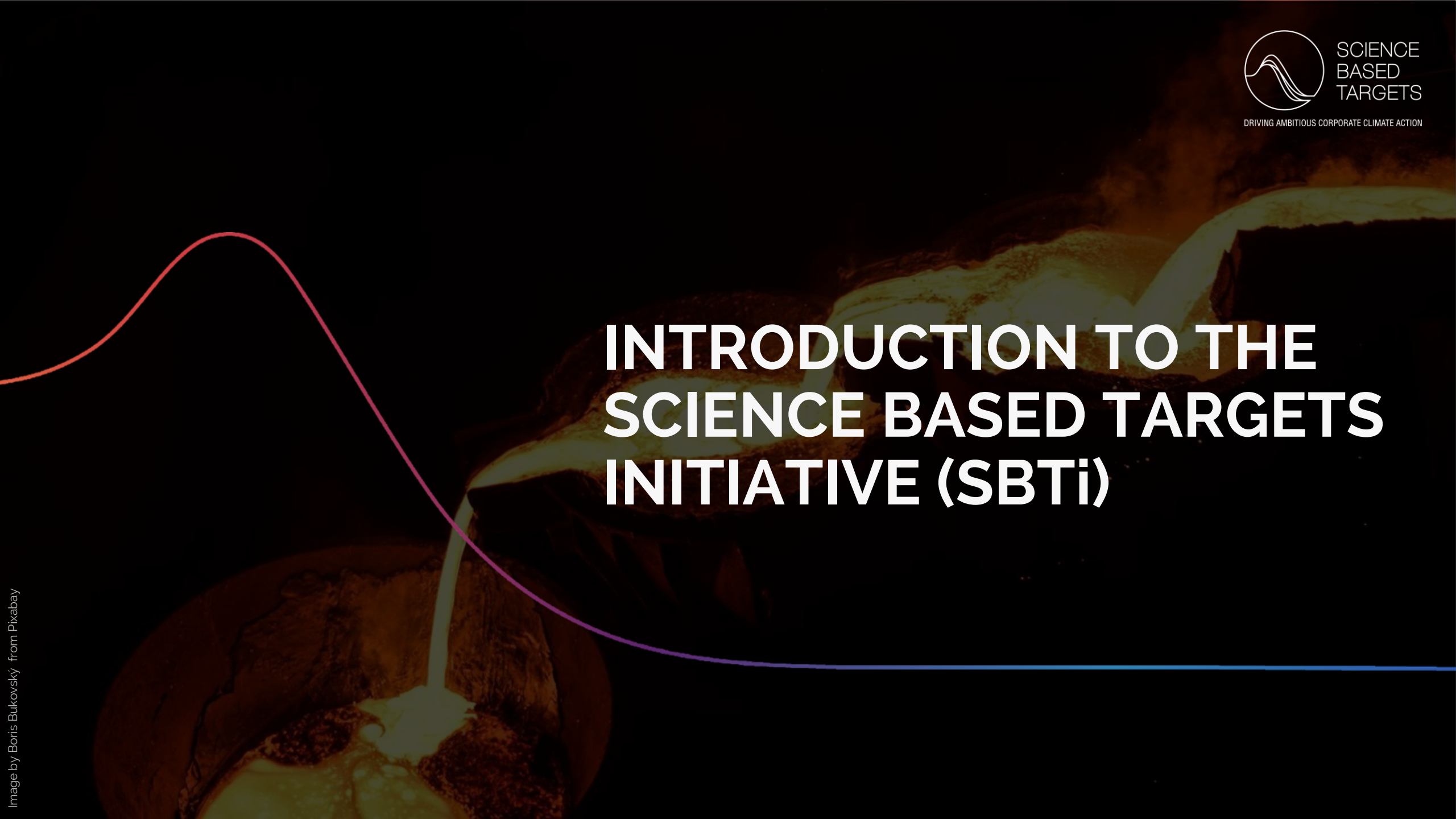


Image by Boris Bukovský from Pixabay

INTRODUCTION TO THE SBTi

WHAT IS THE SCIENCE BASED TARGETS INITIATIVE?

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

The Science Based Targets initiative (SBTi) drives **ambitious corporate climate action** by enabling businesses and financial institutions globally to set **science-based greenhouse gas emissions reduction targets**.

Founding Partners

CDP
DISCLOSURE INSIGHT ACTION

UN Global Compact
United Nations Global Compact

WORLD RESOURCES INSTITUTE

WWF

In collaboration with

WE MEAN BUSINESS COALITION

INTRODUCTION TO THE SBTi

PROGRESS TO DATE

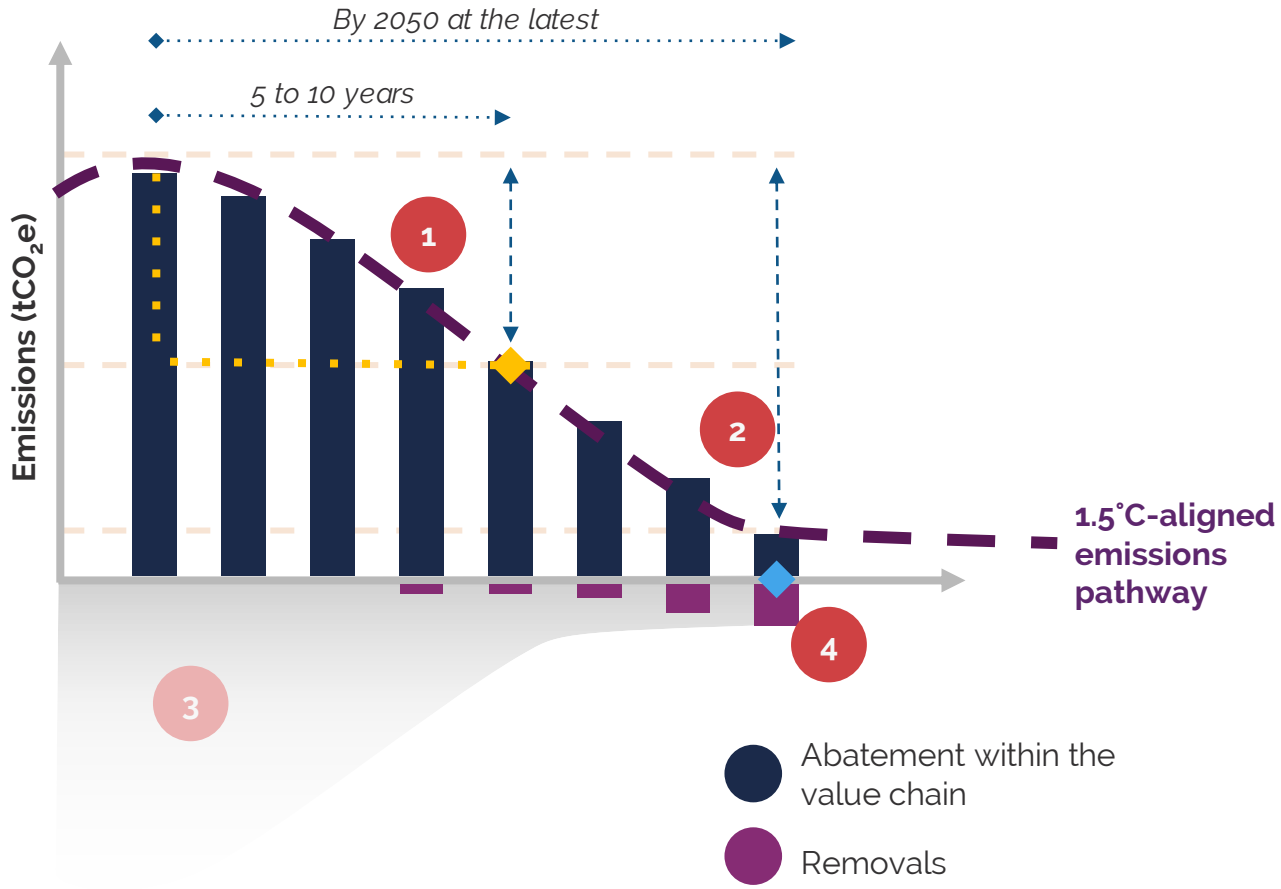
3,451
with science-based targets

5,997
companies taking action

2,399
net-zero commitments

To learn more about the progress in science-based targets globally, consult the SBTi Monitoring Report 2022

THE NET-ZERO STANDARD FRAMEWORK



*Note: it is still possible to set a near-term SBT only, without a long-term target

1. **To set near-term science-based targets**: 5-10 year emission reduction targets in line with 1.5˚C pathways*

2. **To set long-term science-based targets:** Target to reduce emissions to a residual level in line with 1.5˚C scenarios by no later than 2050

3. **Beyond value chain mitigation:** In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains. For example, purchasing high-quality, jurisdictional REDD+ credits or investing in direct air capture (DAC) and geologic storage

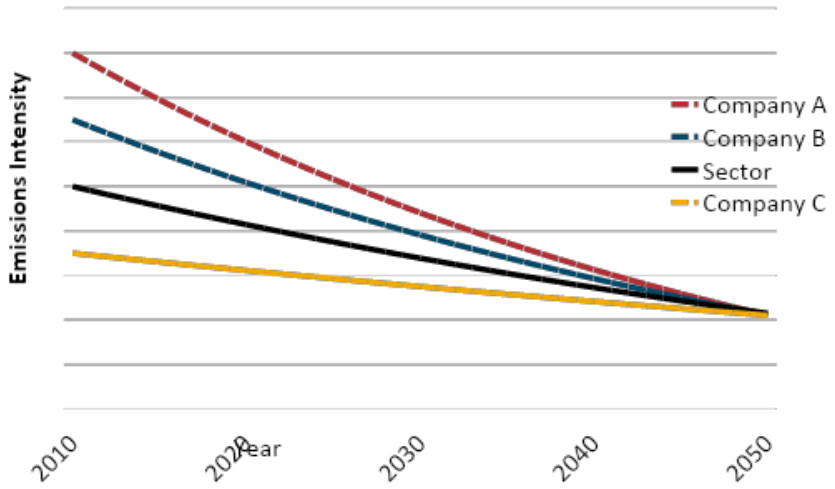
4. **Neutralization of residual emissions:** GHGs released into the atmosphere when the company has achieved their long-term SBT must be counterbalanced through the permanent removal and storage of carbon from the atmosphere

Required Recommended

TARGET-SETTING APPROACHES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

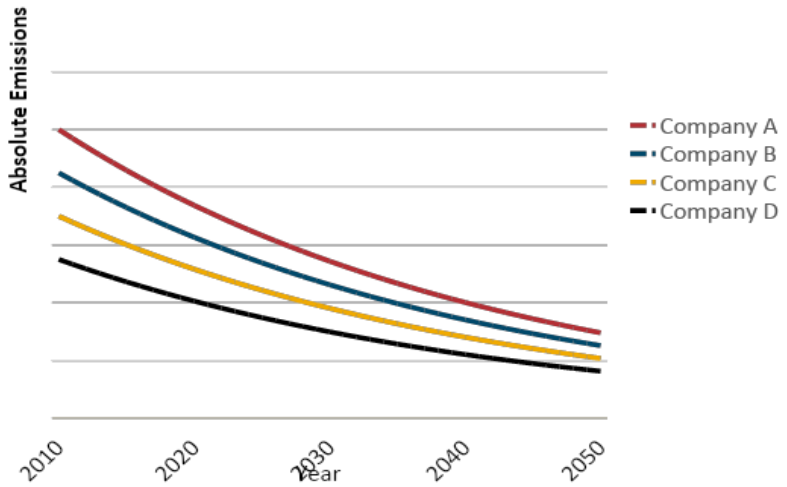
Carbon intensity convergence / Sectoral Decarbonization Approach (SDA)



Homogeneous sectors:

- Power
- Cement
- **Iron & Steel**
- Transport (some sectors)
- Buildings

Carbon emissions contraction



Heterogeneous sectors:

- Other industry

Note: an absolute contraction pathway for 1.5°C has already been derived by the SBTi and requires a minimum 4.2% linear annual reduction or a 42% reduction over 2020-2030, whichever is higher.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THE SBTi STEEL GUIDANCE: DEVELOPMENT PROCESS AND APPLICABILITY

Poll #3

Image by Boris Bukovský from Pixabay

DEVELOPMENT OF THE SBTi STEEL GUIDANCE

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- Project ran from Nov 2021 - July 2023.
- Expert Advisory Group made up of diverse set of stakeholders accompanied the project.
- 60-day public consultation.
- SBTi internal review.
- Published July 2023.

Expert Advisory Group members	
Aceros AZA S.A.	Nippon Steel Corporation
Aperam	Outokumpu Oyj
ArcelorMittal	Ovako
Baoshan Iron & Steel Co Ltd (Baosteel)	POSCO
Bellona	Potsdam Institute for Climate Impact Research
BlueScope Steel Limited	ResponsibleSteel
Cleveland Cliffs	Rocky Mountain Institute (RMI)
E3G	Severstal PAO
Energy Transitions Commission (ETC)	Tata Steel
Environmental Coalition on Standards (ECOS)	Transition Pathways Initiative
Gerdau	Vallourec
Imperial College	Voestalpine AG
JSW Steel Ltd	World Steel Association
Liberty Steel UK	WWF (Finland)

CDP DISCLOSURE INSIGHT ACTION
United Nations Global Compact
WORLD RESOURCES INSTITUTE
WWF

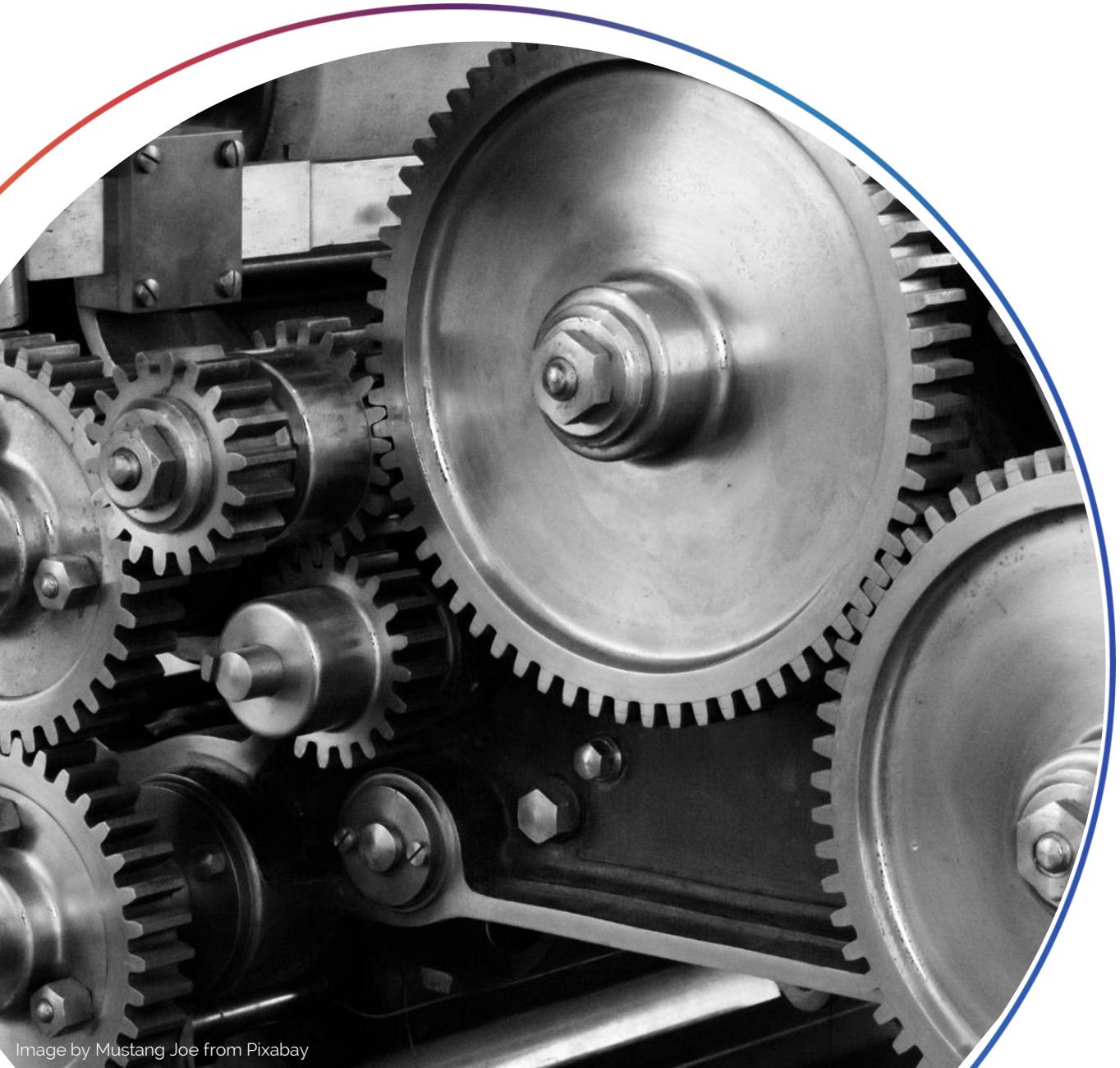


Image by Mustang Joe from Pixabay

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

MISSION POSSIBLE PARTNERSHIP

On 15 September 2022, the SBTi and Mission Possible Partnership announced a technical collaboration.

The SBTi Seel Project is first time MPP work has been leveraged, through technical partnership with Energy Transitions Commission

EMISSIONS BUDGET AND ALLOCATION AMONG SECTORS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CARBON BUDGET

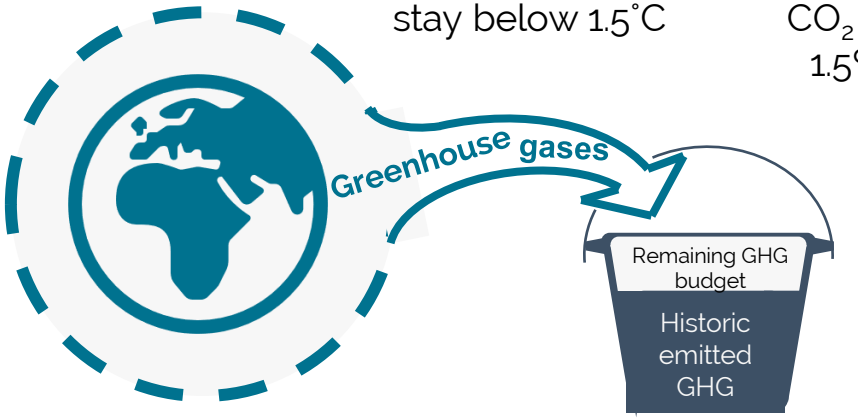
Determine global and sector budget greenhouse gases to stay below 1.5˚C

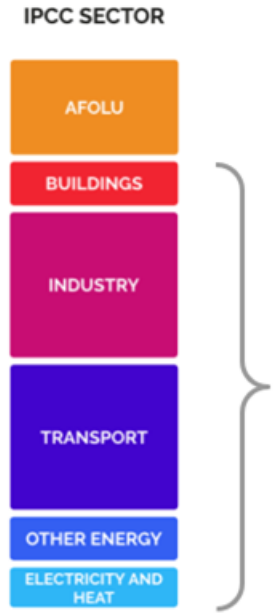
EMISSIONS ALLOCATION ACROSS SECTORS

In our pathways, the remaining CO_2 budget for energy and industrial process CO_2 emissions aligned with 1.5°C is 450-480 GT CO_2

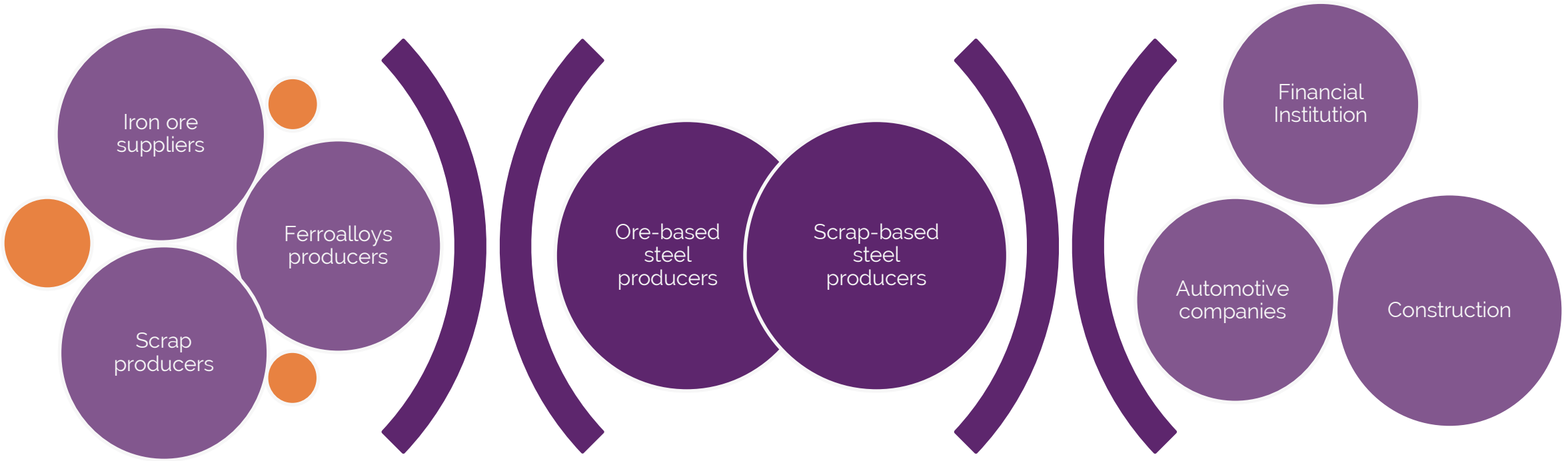
IRON & STEEL SECTOR

2020-2050 carbon budget used by the SBTi to assess 1.5°C pathway is between 20-40 GT CO_2





WHAT DOES THE SBTi STEEL GUIDANCE & TOOLS COVER?



UPSTREAM

IRON & STEEL PRODUCERS

DOWNSTREAM

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

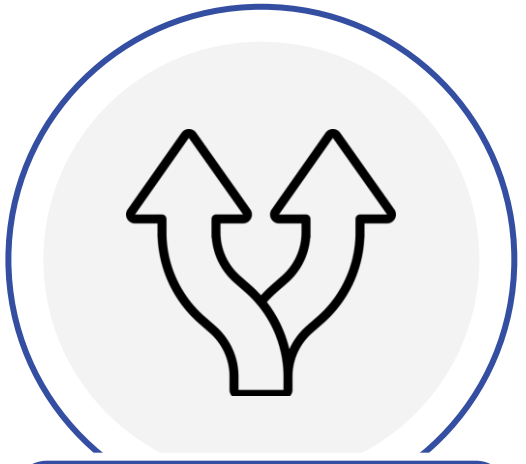
THE SBTi STEEL GUIDANCE: PATHWAYS AND CORE BOUNDARIES

Image by Boris Bukovský from Pixabay

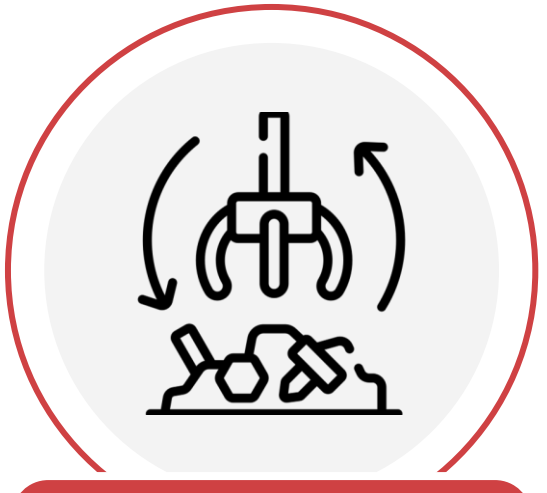
MAIN FEATURES OF THE STEEL GUIDANCE

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Fixed system boundary



Split pathways

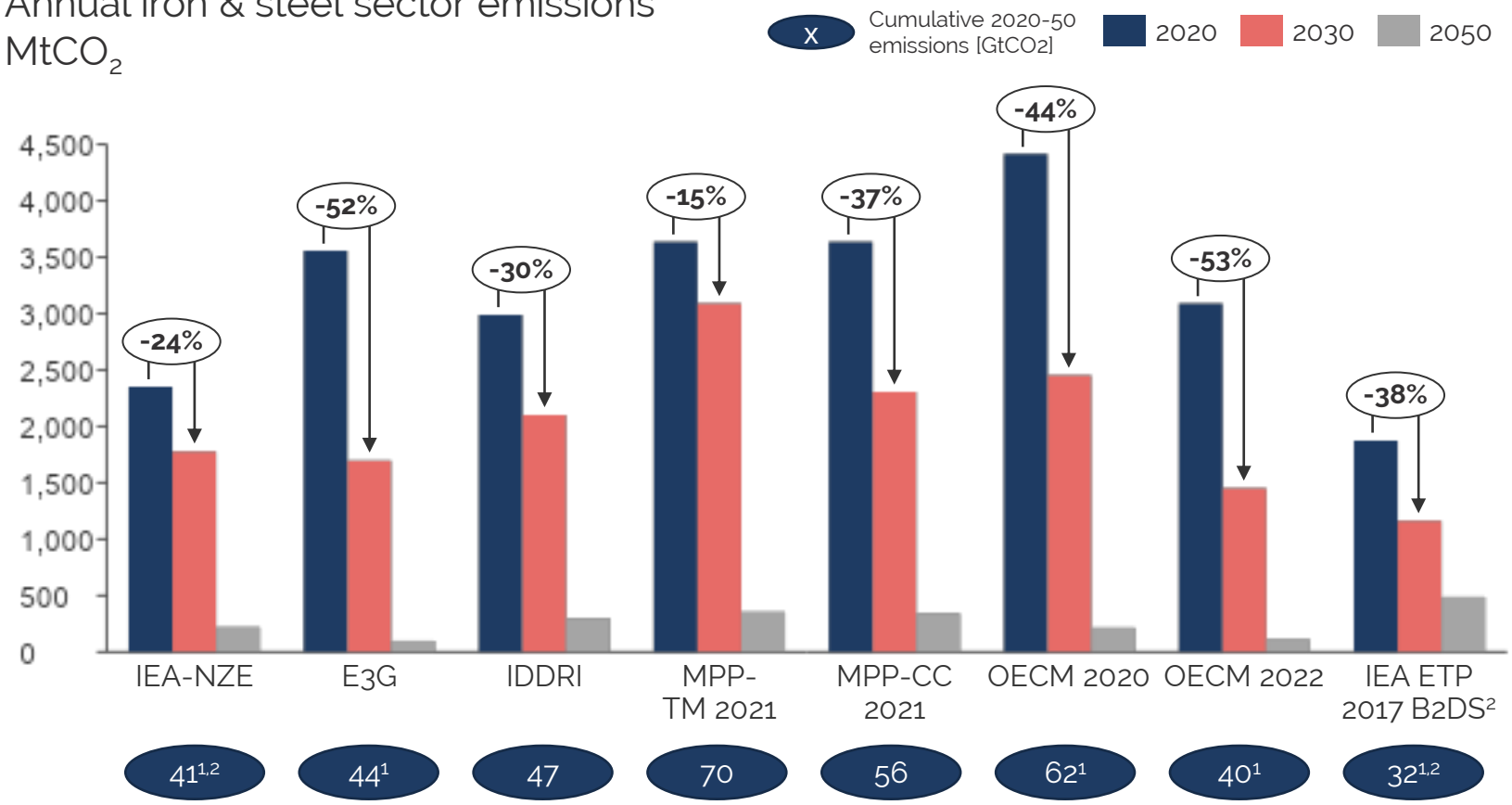


Scrap-input-dependent pathways

MULTIPLE PATHWAYS WERE REVIEWED IN ORDER TO PROVIDE AMBITIOUS, YET REALISTIC BASIS FOR TARGET-SETTING

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Annual iron & steel sector emissions
$MtCO_2$



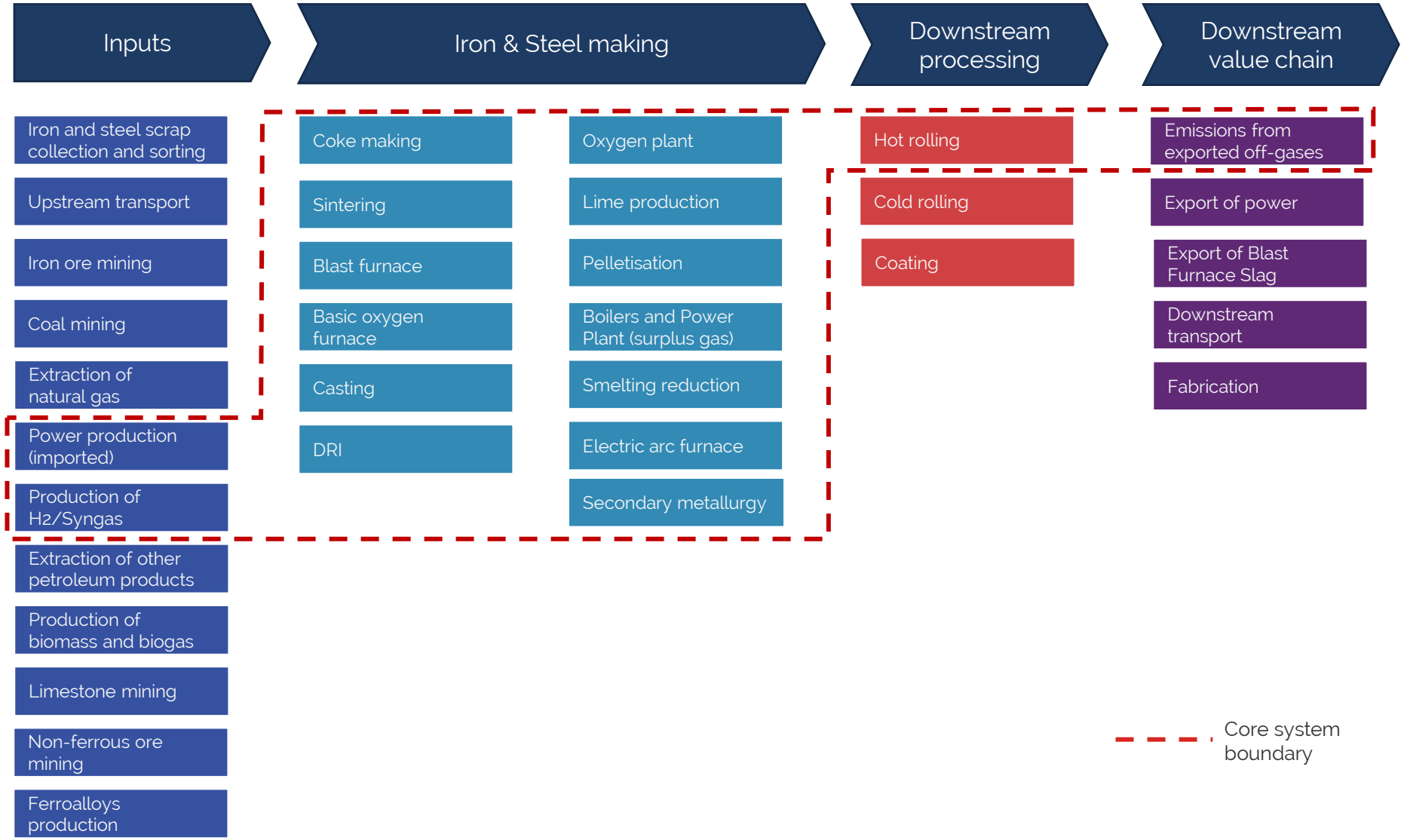
- 2020 values vary significantly which is driven mainly by differences in emission system boundaries.
- Pathways exhibit large differences when it comes to projected ambition level, especially by 2030, which is impacted by assumptions on technology availability and model optimization logic.
- Total budget and emission trajectory are crucial inputs into SBTi target-setting methodology.

Note: scenarios use different system boundaries for their emissions and should not be compared one-to-one

Note 1: Based on linear interpolation of available datapoints
Note 2: Only direct emissions related to iron- & steelmaking

IRON & STEEL CORE BOUNDARY

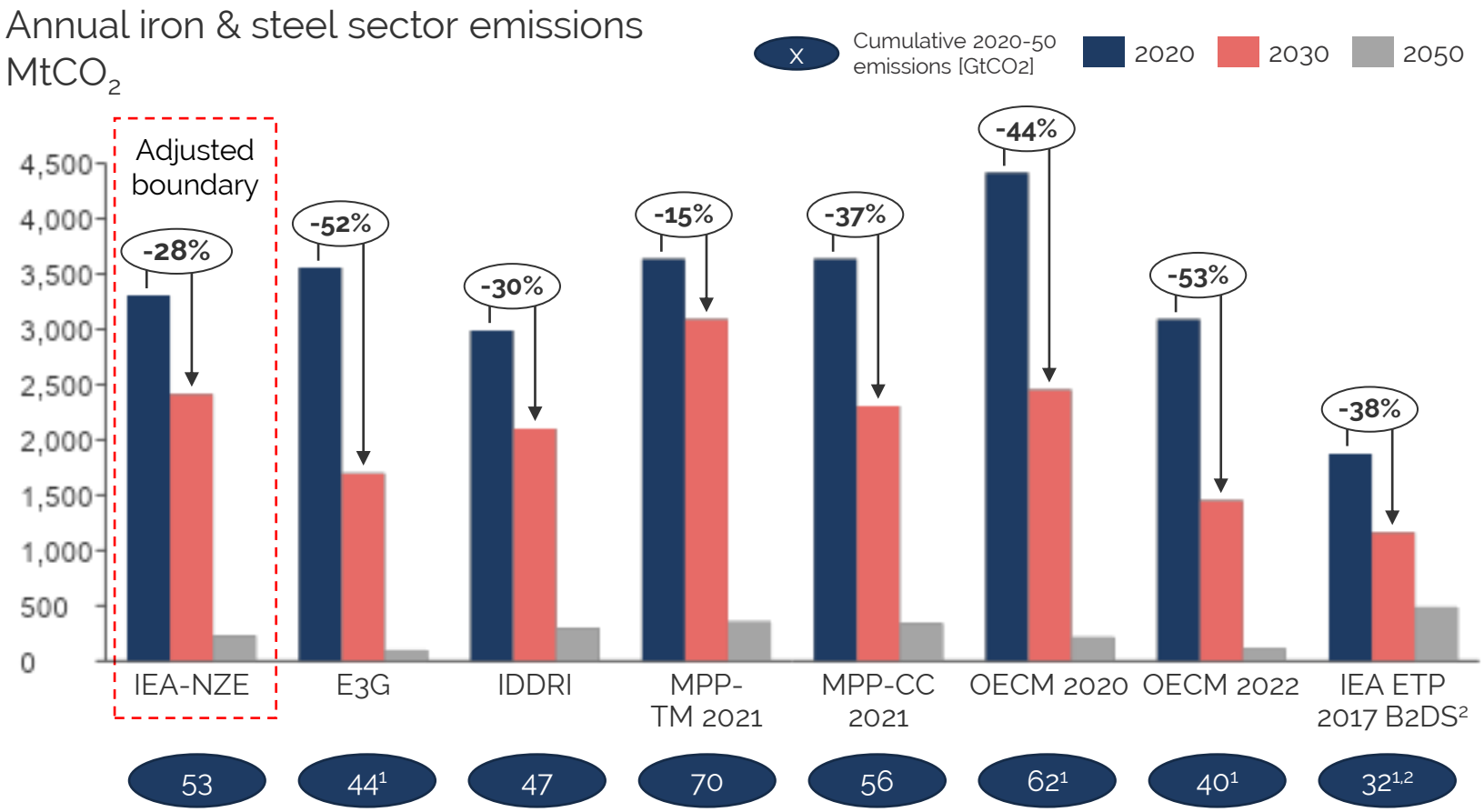
SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



- System boundary ensures consistent treatment of all processes required to make steel regardless of whether they are in companies' scope 1, 2, or 3.
- Upstream fossil fuel-related emissions have been excluded from the boundary due to large data uncertainty, but mandatory scope 3 target was proposed instead.
- Hot rolling was included due to it being the last emission intense step shared by vast majority of steel products.

IEA NZE WAS SELECTED AS THE REFERENCE PATHWAY BASED ON THE BALANCE OF CREDIBILITY AND FEASIBILITY CRITERIA

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



- 2020 values vary significantly which is driven mainly by differences in emission system boundaries.
- Pathways exhibit large differences when it comes to projected ambition level, especially by 2030, which is impacted by assumptions on technology availability and model optimization logic.
- Total budget and emission trajectory are crucial inputs into SBTi target-setting methodology.

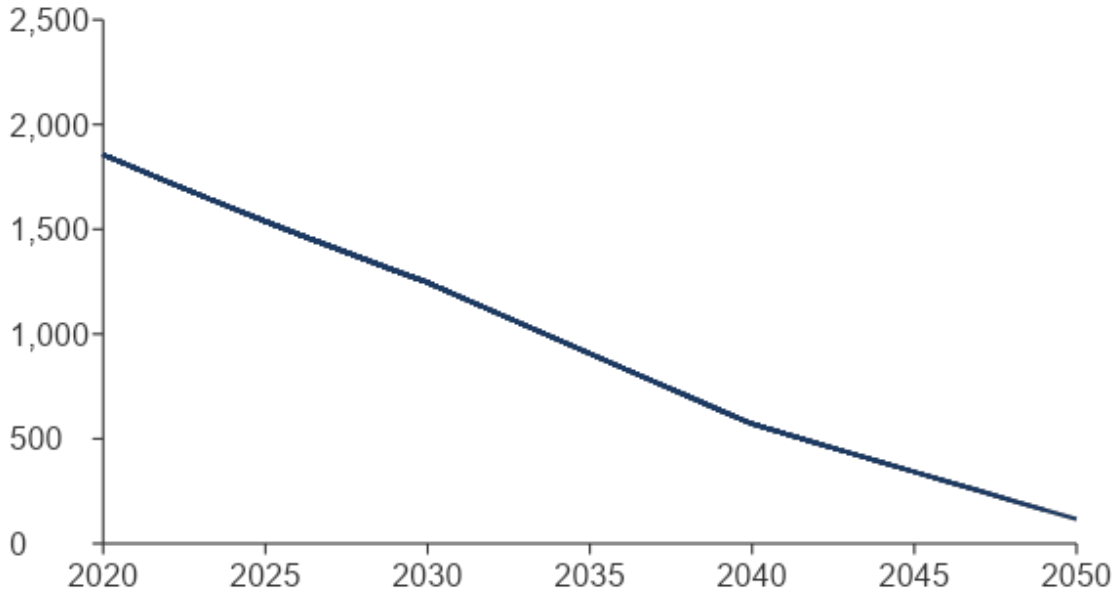
Note: scenarios use different system boundaries for their emissions and should not be compared one-to-one

Note 1: Based on linear interpolation of available datapoints
Note 2: Only direct emissions related to iron- & steelmaking

ORE- AND SCRAP-BASED PRODUCTION PRESENT FUNDAMENTALLY DIFFERENT EMISSIONS PROFILES – HENCE THE PATHWAY WAS SPLIT WHILE PRESERVING THE BUDGET

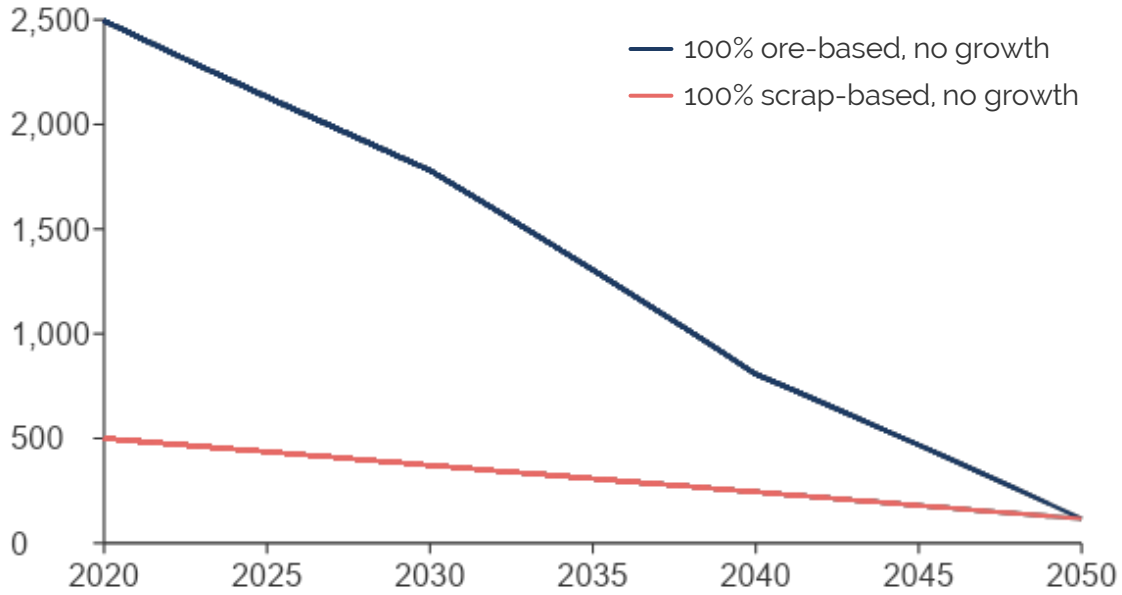
SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Average emission intensity of steel production – single pathway $kgCO_2eq/t$ hot rolled product



Implied carbon budget = ~53 $GtCO_2$

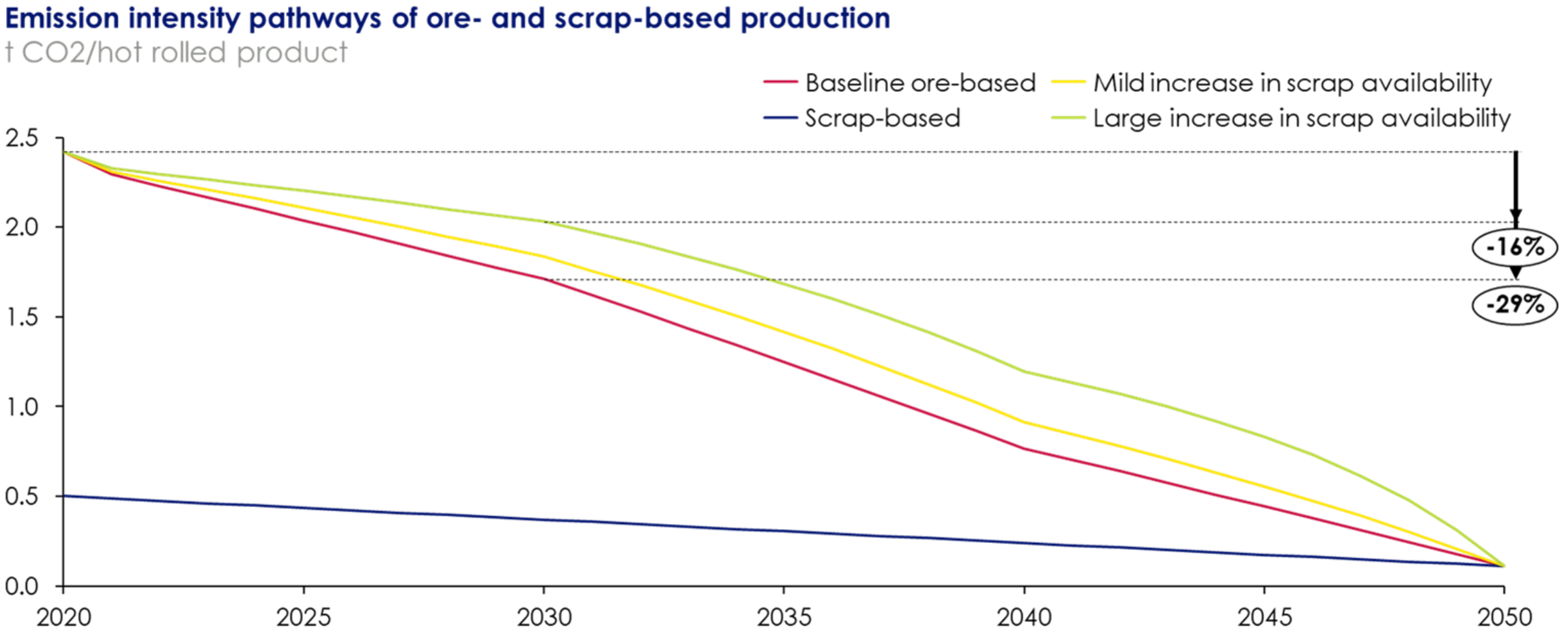
Average emission intensity of steel production – split pathway $kgCO_2eq/t$ hot rolled product



Ore-based budget = ~46 $GtCO_2$
Scrap-based budget = ~7 $GtCO_2$
Total = ~53 $GtCO_2$

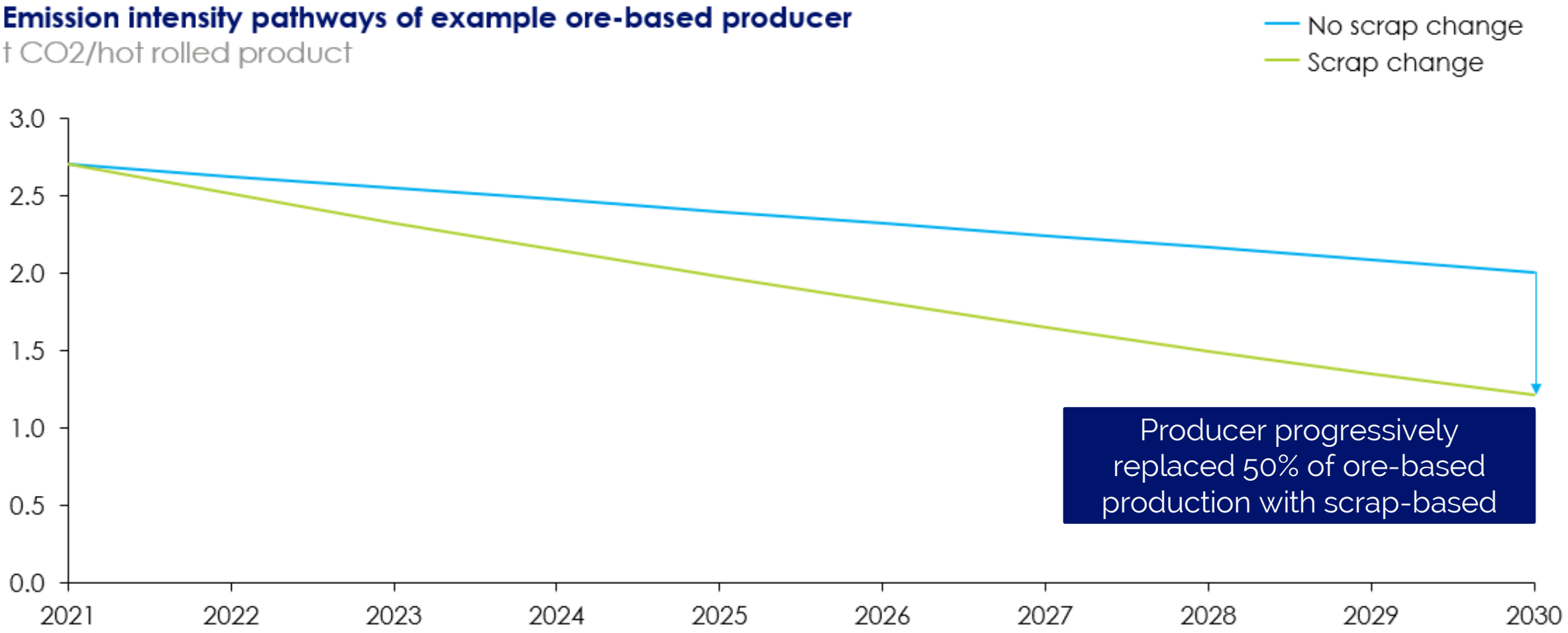
THE BENEFIT OF INCREASING SCRAP USE IS SPREAD ACROSS THE WHOLE INDUSTRY

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



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

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



MAIN FEATURES OF THE SBTi STEEL GUIDANCE

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- **Fixed system boundary** ensures that all material GHG emission sources are covered by 1.5˚C ambition, regardless of asset ownership (going beyond the traditional scope 1, 2 and 3).

- The reference pathway was selected based on multiple expert interactions, adjusted to the core system boundary, and **split into ore-based and scrap-based reference pathways** in recognition of the fundamental differences of the two techniques.

- **Scrap-input dependent pathways:** Scrap steel is treated as global common good, which benefits are recognized at the sector rather than company level, given its unequal distribution between industrialized and industrializing economies.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THE SBTi STEEL GUIDANCE: CRITERIA AND TARGET-SETTING METHODS

Image by Boris Bukovský from Pixabay

EXAMPLES OF USING THE SCRAP-INPUT DEPENDENT PATHWAY FOR DIFFERENT TYPES OF COMPANIES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Company	Production type (stable scrap share between target year and base year except E)	Base year (2020) emission intensity (kg CO2eq/t hot rolled steel)	Required intensity reduction by 2030 vs 2020 (%)
A	100% scrap-based	500	26.1%
B	100% scrap-based	800	28.8%
C	0% scrap-based	2,500	29.4%
D	30% scrap-based	1,700	28.9%
E	0% scrap-based going to 20% scrap in target year	2,500	40.5%

COMMUNICATING SCIENCE-BASED TARGETS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Examples of target wordings

- Scope 1, 2 and 3 targets within the core boundary

Company E commits to reduce scope 1, 2 and 3 GHG emissions covered by the iron & steel core boundary 40.5% per tonne of hot rolled steel by 2030 from a 2020 base year. **As the target calculation depends on the scrap ratio projection, company E will publish the scrap ratio associated with this target annually starting from the base year.**

- Emissions target outside the core boundary

Company E also commits to reduce all other scope 1 and 2 GHG emissions 42% over the same timeframe.

- Other scope 3 target

Company E further commits to reduce scope 3 GHG emissions from fuel- and energy-related emissions 25% over the same timeframe.

SCOPE 3 COVERAGE | CRITERIA AND RECOMMENDATION

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Purchased intermediate product (e.g. hot briquetted iron HBI)

Sold intermediate product (e.g. surplus coke)

Upstream fuel- and energy-related emissions

Criteria

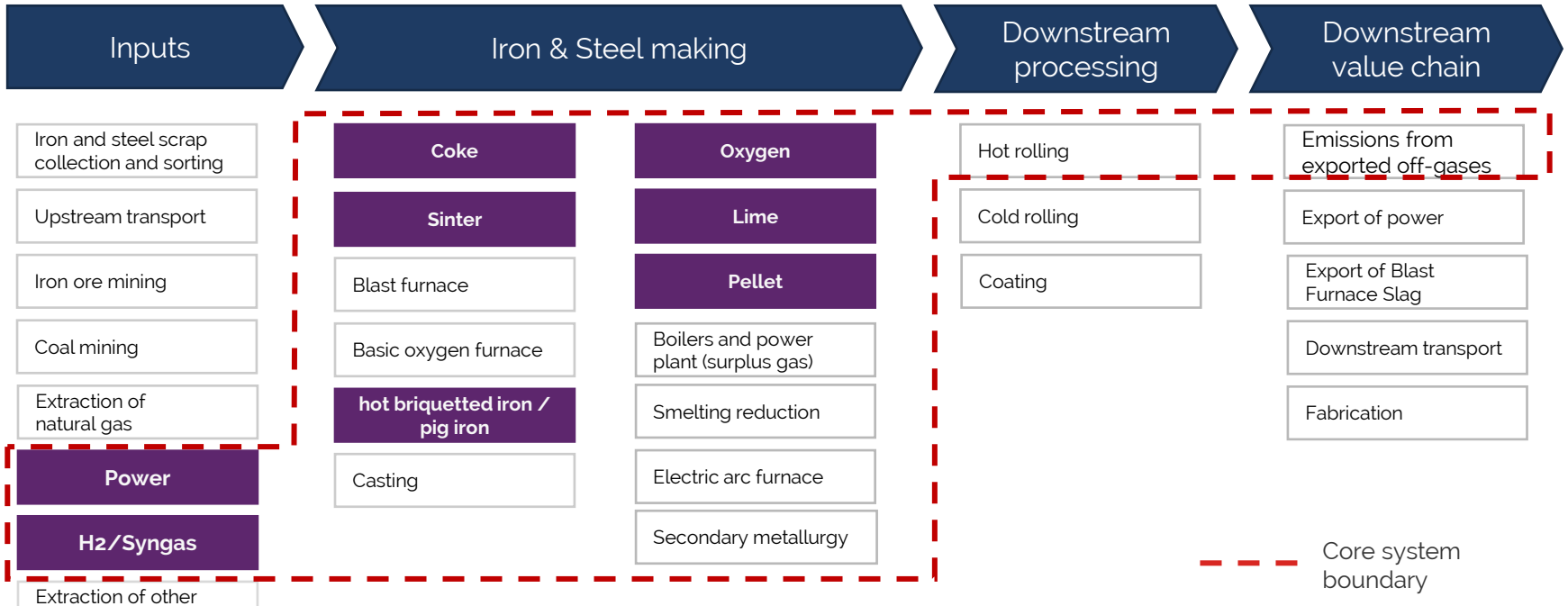
Covering ferroalloys production

Recommendation

Photos credit: Trino González, Ben Scherjon, Martina Janochová & Boris Bukovský from Pixabay

PURCHASED INTERMEDIATE PRODUCTS

Purchased intermediate product (e.g. hot briquetted iron HBI)

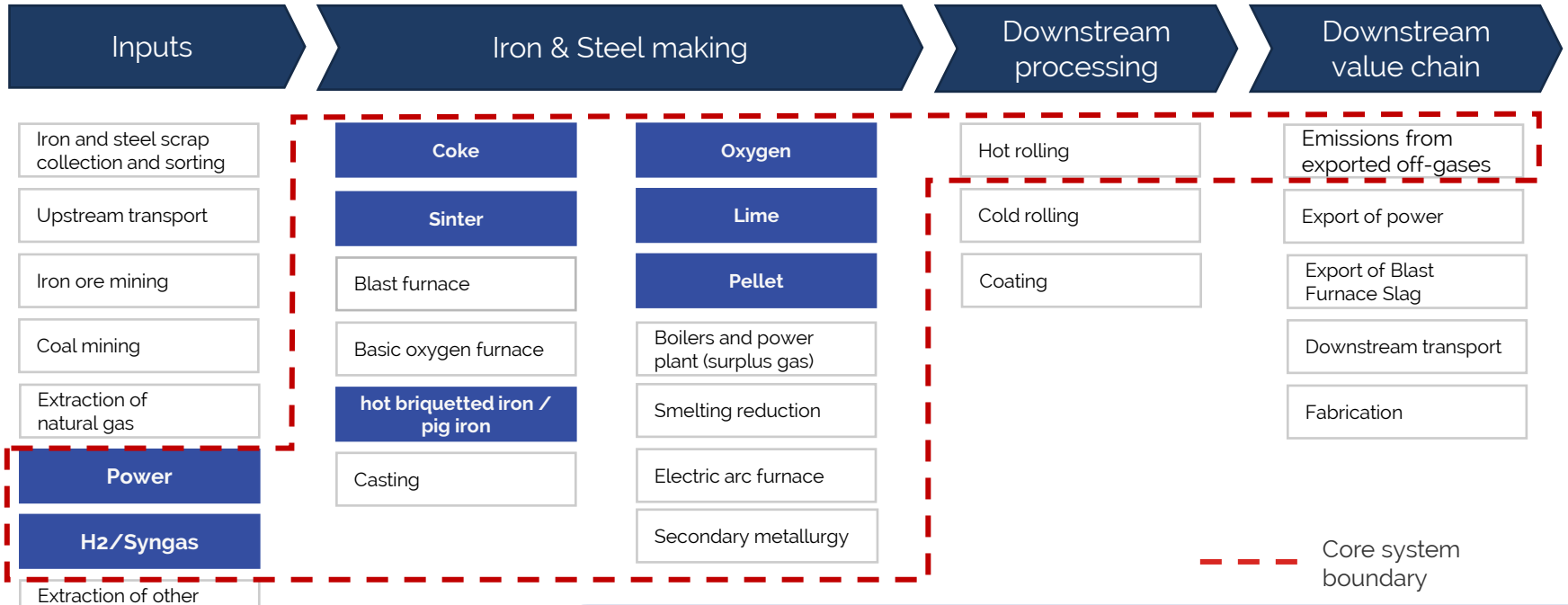


- Include at least 95% of **upstream** emissions for purchased intermediate products falling within the core iron & steel SDA boundary.
- Irrespective of whether the share of these emissions is above the 40% threshold, or scope 3 coverage reached by other scope 3 targets.
- Accept reference emission factors, but actual data should always be used if available.

SOLD INTERMEDIATE PRODUCTS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

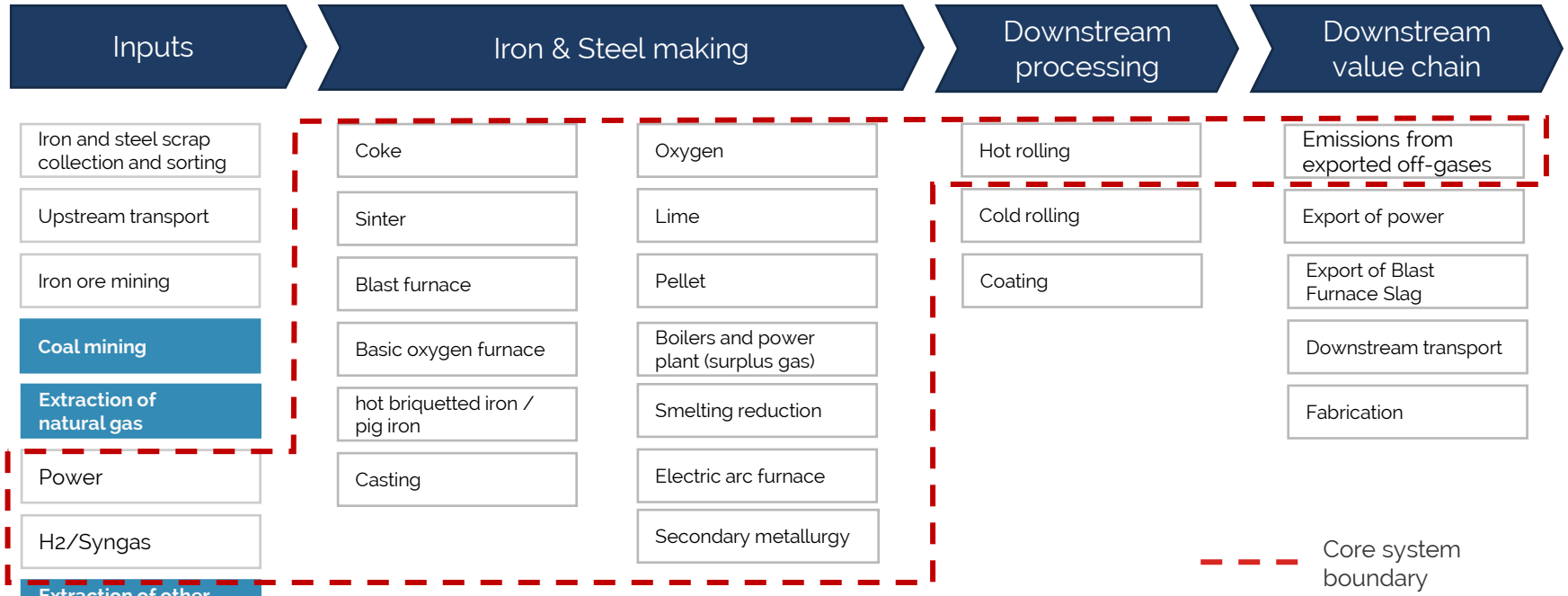
Sold intermediate product (e.g. surplus coke)



- Include at least 95% of **downstream** emissions associated with the further processing of intermediate products falling within the core iron & steel SDA boundary.
- Irrespective of whether the share of these emissions is above the 40% threshold.
- Must expand its emissions associated with the production of hot rolled steel by using these intermediate products.
- Option to add further processing emissions without adjusting its activity to hot rolled steel.
- Accept reference emission factors, but actual data should always be used if available.

UPSTREAM FUEL- AND ENERGY-RELATED EMISSIONS

Upstream fuel- and energy-related emissions



- Include a scope 3 target that covers all scope 3 category 3 fuel- and energy-related emissions not included in scope 1 or scope 2 according to the GHG Protocol.
- includes fuel and energy related emissions from e.g. extraction of iron ore, natural gas, metallurgical coal, etc.
- Upstream methane emissions.

FERROALLOYS PRODUCTION

Covering ferroalloys production

Recommendation

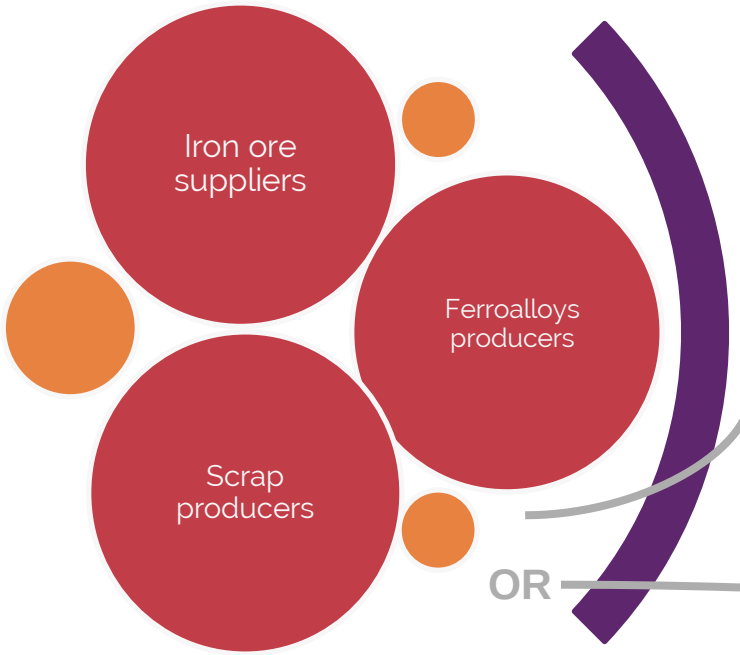
Inputs	Iron & Steel making		Downstream processing	Downstream value chain
Iron and steel scrap collection and sorting	Coke	Oxygen	Hot rolling	Emissions from exported off-gases
Upstream transport	Sinter	Lime	Cold rolling	Export of power
Iron ore mining	Blast furnace	Pellet	Coating	Export of Blast Furnace Slag
Coal mining	Basic oxygen furnace	Boilers and power plant (surplus gas)		Downstream transport
Extraction of natural gas	hot briquetted iron / pig iron	Smelting reduction		Fabrication
Power	Casting	Electric arc furnace		
H2/Syngas		Secondary metallurgy		
Extraction of other petroleum products				
Production of biomass and biogas				
Limestone mining				
Non-ferrous ore mining				
Ferroalloys production				

Core system boundary

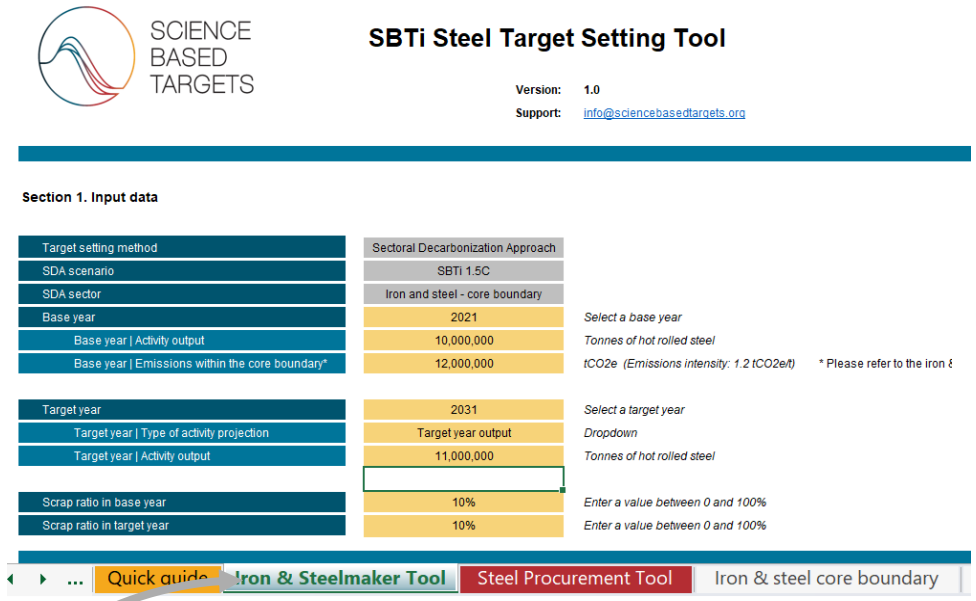
- Stainless or high-alloy steel company, near term targets should include a scope 3 target that covers category 1 "purchased goods and services" covering ferroalloy sourcing, irrespective of the share of the total scope 1, 2 & 3 emissions for which they are responsible.

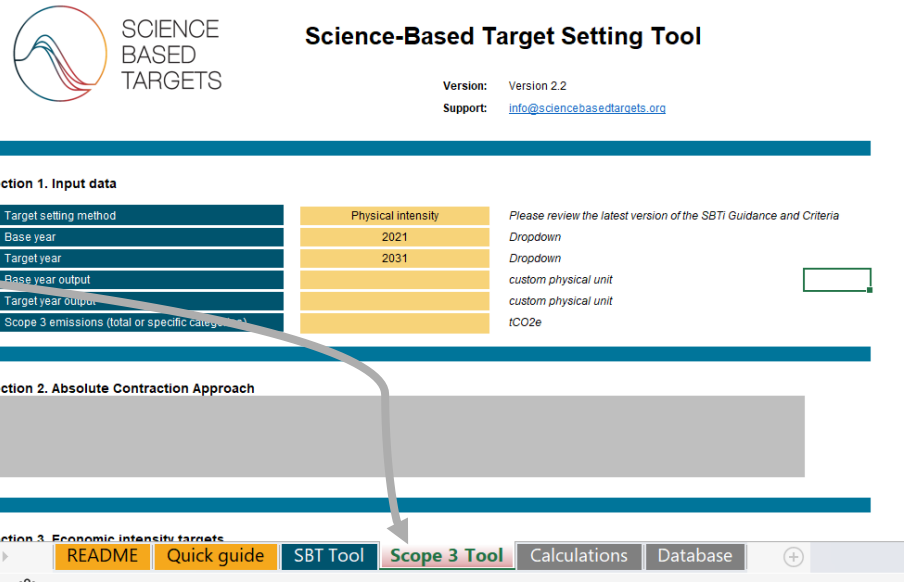
UPSTREAM COMPANIES | TARGET-SETTING METHODS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



OR





1.5°C

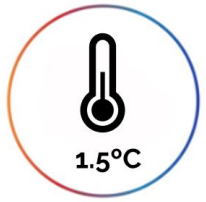
WB2C

UPSTREAM

- Cross-sector absolute reduction(2.5% annual. reduction).
- physical intensity (7% annual reduction).
- economic intensity (7% annual reduction).
- Supplier engagement.

DOWNSTREAM COMPANIES | TARGET-SETTING METHODS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



SCIENCE BASED TARGETS

SBTi Steel Target Setting Tool

Version: 1.0
Support: info@sciencebasedtargets.org
Required Input

Section 1. Input data

Target setting method	Steel SDA - for steel purchasers	This option is for steel purchasers setting scope 3 category 1 targets. For oth
Base year	2021	Dropdown
Target year	2031	Dropdown
Base year output	10,000,000	Tonnes of purchased steel
Target year output	11,000,000	Tonnes of purchased steel
Scope 3 emissions (Category 1)	15,000,000	tCO2e (please refer to the SBTi Steel Guidance)

Section 2. Steel Procurement Tool

	Base year (2021)	Target year (2031)	% SBT reduction
Physical intensity (tCO2/t)	1.500	0.946	36.9%

... Quick guide | Iron & Steelmaker Tool | Steel Procurement Tool | Iron & steel core boundary | Ta ...

SCIENCE BASED TARGETS

Science-Based Target Setting Tool

Version: Version 2.2
Support: info@sciencebasedtargets.org

Section 1. Input data

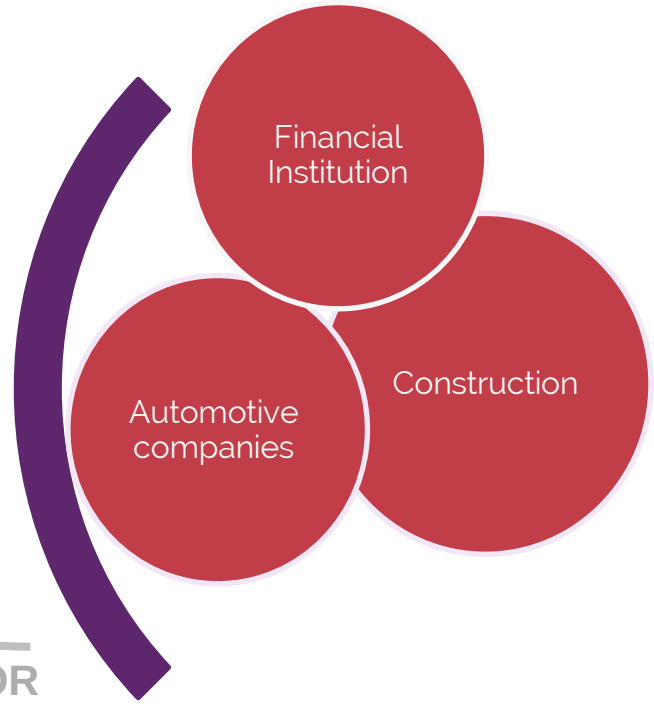
Target setting method	Physical intensity	Please review the latest version of the SBTi Guidance and Criteria
Base year	2021	Dropdown
Target year	2031	Dropdown
Base year output		custom physical unit
Target year output		custom physical unit
Scope 3 emissions (total or specific categories)		tCO2e

Section 2. Absolute Contraction Approach

Section 3. Economic intensity targets

README | Quick guide | SBT Tool | Scope 3 Tool | Calculations | Database

OR



DOWNSTREAM

RESOURCES FOR TARGET SETTING

THE SBTi STEEL GUIDANCE DOCUMENT, STEEL TARGET-SETTING TOOL AND WORKED EXAMPLES

The SBTi Steel Guidance:

provide methodology on how to set targets within a consistent core boundary according to the steel criteria

Worked Examples:

provide different worked examples to guide users in developing targets according to the SBTi Steel Guidance

Steel Target-Setting Tool:

The tool calculates targets using the SDA method for emissions inside the iron & steel core boundary, as well as Steel SDA for steel purchasers

Recommendations on target wordings

Target submission

PILOT TARGET VALIDATION PHASE

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

1. COMMIT

2. DEVELOP

3. SUBMIT

Steel companies have up to **2 years** to develop their targets and have their targets approved and announced by the SBTi once they commit.

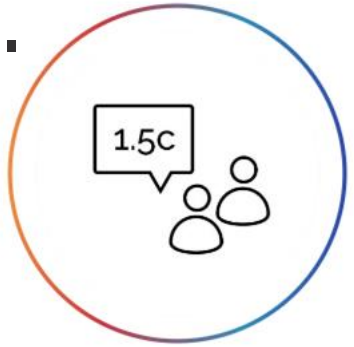
Previously committed steel companies will have **24 months** to submit their targets.

Submissions from the **first 5 steel companies.**

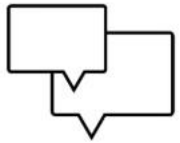
Contact the Project Team to express your interest! aamirkhan@sciencebasedtargets.org.

The target submission form and Steel Annex will be posted on the SBTi steel webpage.

4. COMMUNICATE



5. DISCLOSE



SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Q&A SESSION

Poll #4

Image by Boris Bukovský from Pixabay

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CLOSING REMARKS

Image by Boris Bukovský from Pixabay

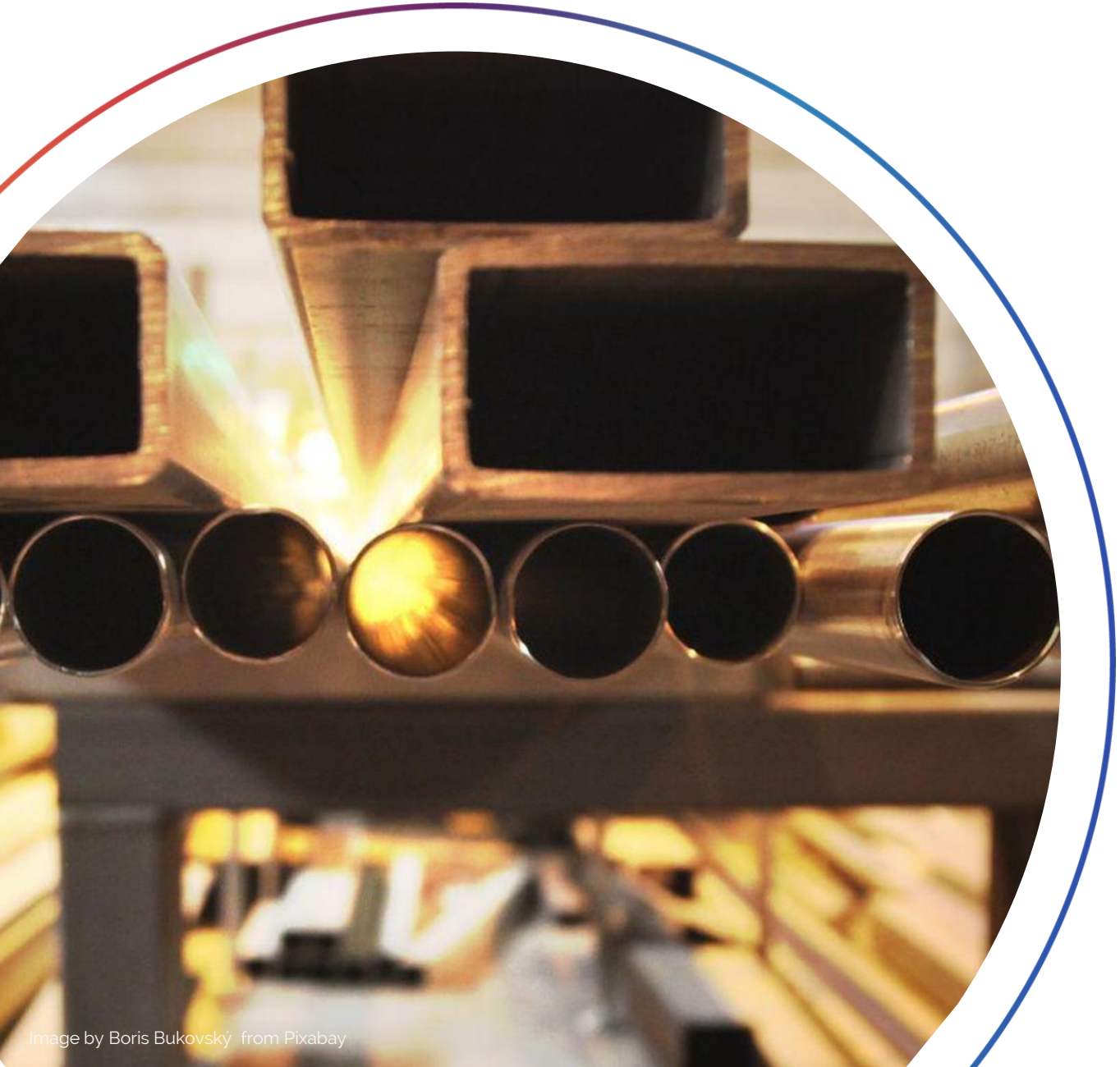


Image by Boris Bukovský from Pixabay

THE TIME TO ACT IS TODAY!

- We are urgently calling on **all companies to set science-based** net-zero targets.
- The new guidance and tools, as well as the recording of this webinar, can be found on the SBTi steel webpage.
- Companies are encouraged to **take up the pilot validation slots.**
- Should you have any questions, contact us at aamirkhan@sciencebasedtargets.org.

CONTACT US

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Aamir Khan
aamirkhan@sciencebasedtargets.org

Brenda Chan
brendachan@sciencebasedtargets.org

Steel - Science Based Targets

info@sciencebasedtargets.org
www.sciencebasedtargets.org
@sciencetargets
/science-based-targets

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THANK YOU!