SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

UNLOCKING THE POWER OF SCIENCE-BASED TARGETS FOR BUILDINGS

A Deep Dive Webinar

October 17, 2024

HOUSEKEEPING

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- This is a **zoom webinar**. Your camera and microphone are automatically muted.
- **Ask questions in the Q&A box** at the bottom of your screen.
- A **recording** will be published on SBTi's YouTube channel.
- The **slides** will be published on our website.

SCIENCE BASED TARGETS

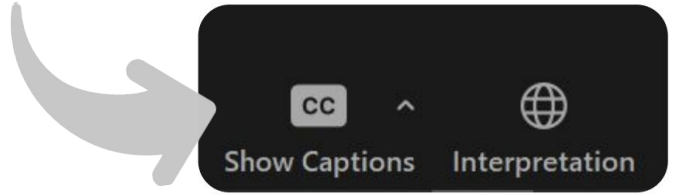
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

LIVE TRANSLATIONS

This webinar is **being translated** into different languages:

- **1st session:**
  - Mandarin
- **2nd session:**
  - Spanish
  - Portuguese

Choose your preferred language using the button at the bottom of your screen.



SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

AGENDA

- Opening remarks
- Introduction to the Science Based Targets initiative
- The SBTi Buildings Criteria
- In-use operational targets
    - Live Q&A
- Upfront embodied emissions targets of new constructed buildings
    - Live Q&A
- Closing remarks

TODAY'S WEBINAR TEAM

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

ALBERTO CARRILLO PINEDA
Chief Technical Officer
SBTi

AYLA DİNÇAY
Buildings Lead
SBTi

MARÍA GARCÍA
Technical Buildings Manager
SBTi

JIHYUN (JUNE) KIM
Stakeholder Engagement Manager
SBTi

DIANA FARMER
North American Regional Lead
SBTi

STEPHAN ZIVEC
Project Manager
SBTi

PAULINA MORENO
Communications Manager
SBTi

Poll #1

SCIENCE-BASED TARGETS FOR BUILDINGS | OPENING REMARKS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Alberto Carrillo Pineda
Chief Technical Officer
SBTi

ABOUT THE SBTi

The Science Based Targets initiative (SBTi) is a corporate climate action organization that enables companies and financial institutions worldwide to play their part in combating the climate crisis.

We develop standards, tools and guidance which allow companies to set greenhouse gas (GHG) emissions reductions targets in line with what is needed to keep global heating below catastrophic levels and reach net-zero by 2050 at latest.

The SBTi is incorporated as a charity, with a subsidiary which will host our target validation services. Our partners are CDP, the United Nations Global Compact, the We Mean Business Coalition, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).

PARTNERS

CDP
DISCLOSURE INSIGHT ACTION

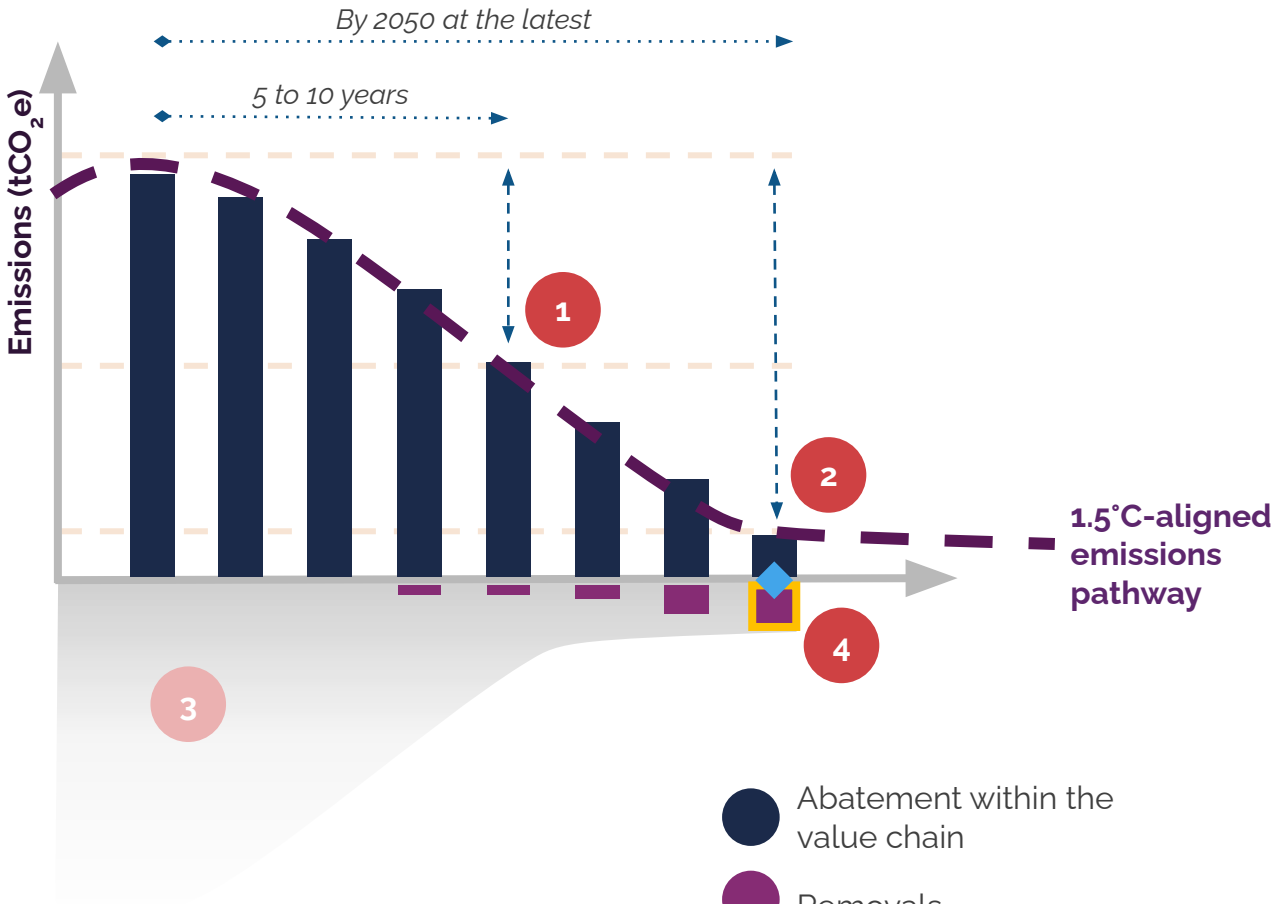
UN GLOBAL COMPACT
United Nations
Global Compact

WE MEAN
BUSINESS
COALITION

WORLD
RESOURCES
INSTITUTE

WWF

FOUR KEY ELEMENTS OF THE SBTi CORPORATE NET-ZERO STANDARD FRAMEWORK



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

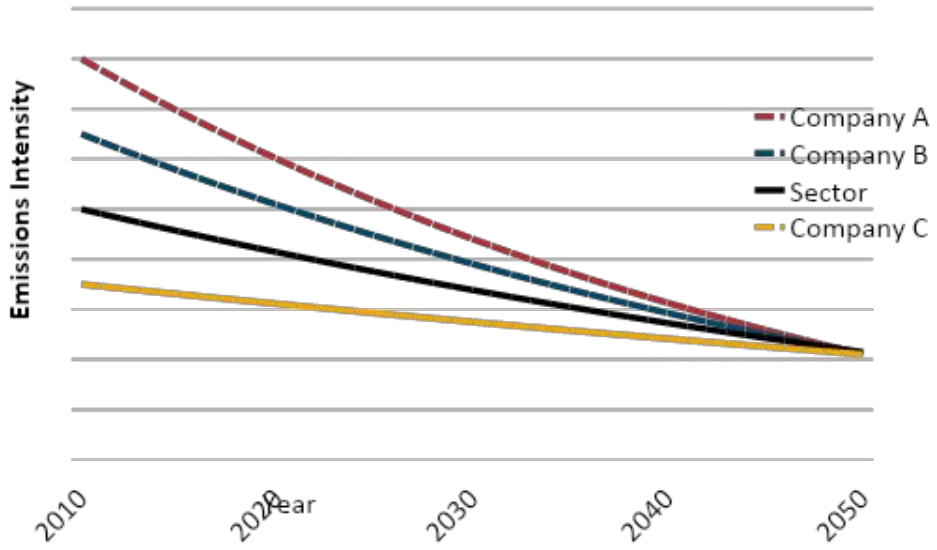
Required Recommended

TARGET-SETTING APPROACHES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Intensity-based approach

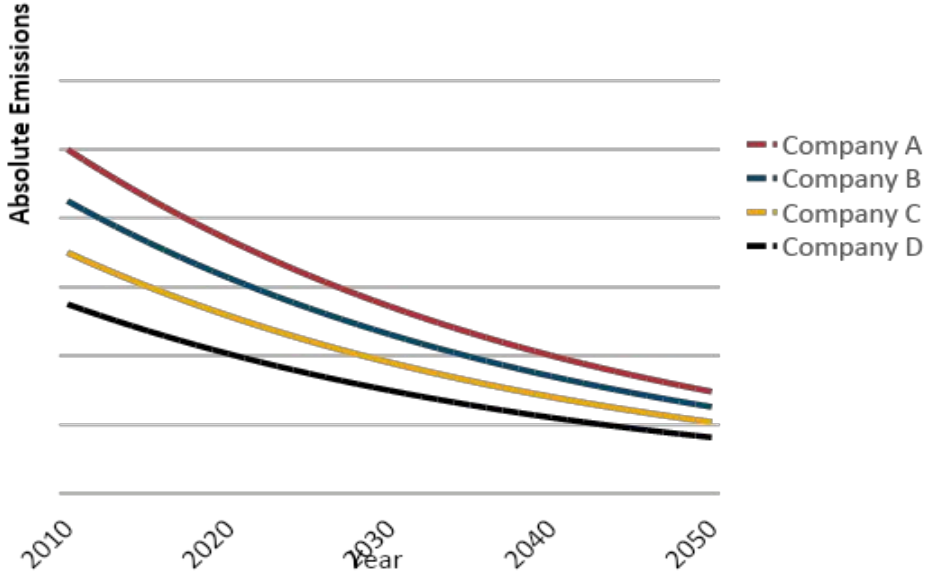
- Homogeneous sectors
- Different % of reduction
- Sectoral carbon budgets (e.g. IEA)



Sector-specific intensity convergence or Sectoral Decarbonization Approach (SDA)

Absolute-based approach

- All sectors (except power gen)
- Equal % of reduction
- IPCC carbon budgets scenarios



Absolute contraction

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

INTRODUCTION TO THE SBTi BUILDINGS CRITERIA

Poll #2

OBJECTIVES OF THE SBTi BUILDINGS PROJECT

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

1.5˚C in-use emissions pathways

Objective 1:
Granular 1.5˚C aligned pathways for in-use emissions of global buildings sector developed together with CRREM. Pathways published in January 2023.

1.5˚C embodied emissions pathways

Objective 2:
Global 1.5˚C aligned pathways for embodied emissions of new construct buildings.

Emissions accounting & target-setting criteria and guidance

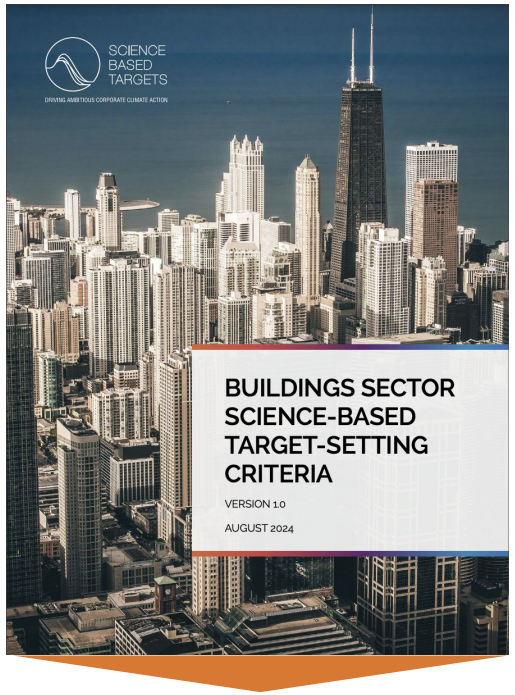
Objective 3:
Issue **criteria and guidance** for emissions accounting, reporting, and target-setting for all stakeholders within the sector.

A buildings-specific target-setting **tool** to calculate targets using the new buildings pathways.

SBTi BUILDINGS PROJECT: MAIN TECHNICAL OUTPUTS

AVAILABLE ON THE SBTi BUILDINGS PAGE

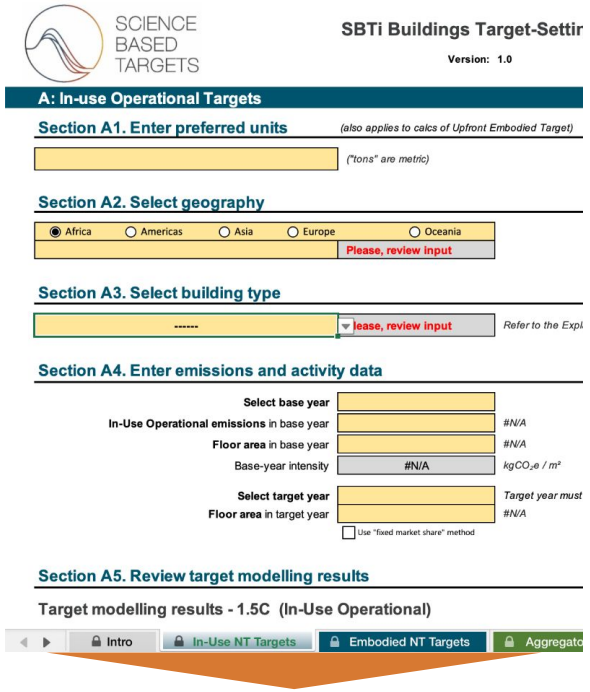
SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



[Normative criteria] that companies in the sector are **required to follow** when developing science-based targets and submitting them for validation.

[Informative guidance] providing further advice on how to set science-based targets. Does not include mandatory requirements.

[Background information] on how the **embodied emissions pathways were developed**. Does not include any mandatory requirements.

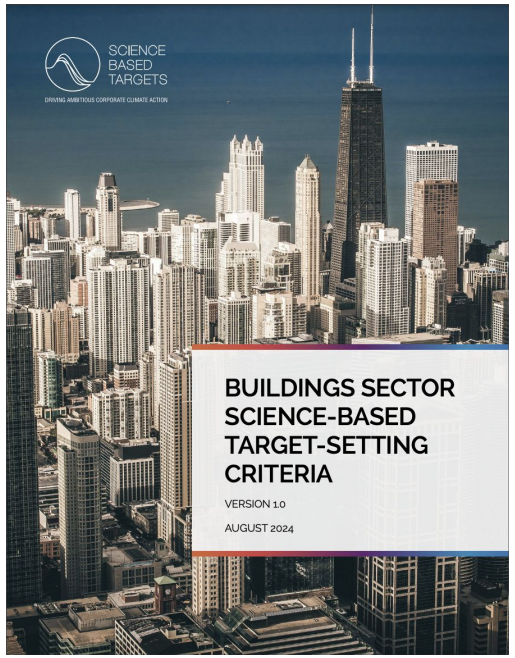


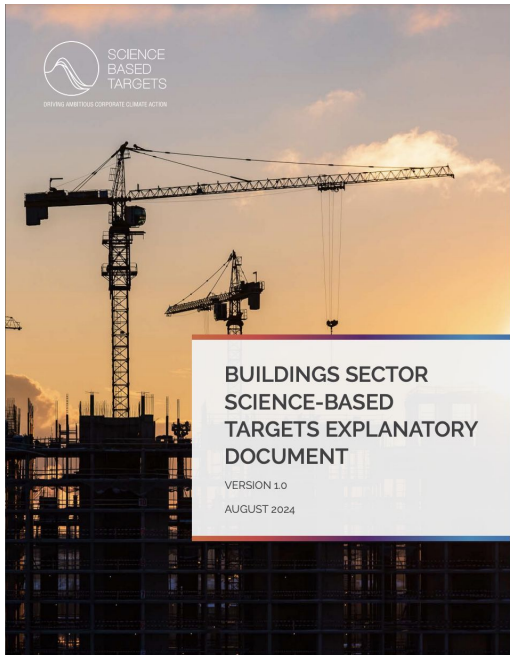
[Tool] to help to **formulate and aggregate SDA and sector-specific absolute reduction targets** using the sector-specific pathways.

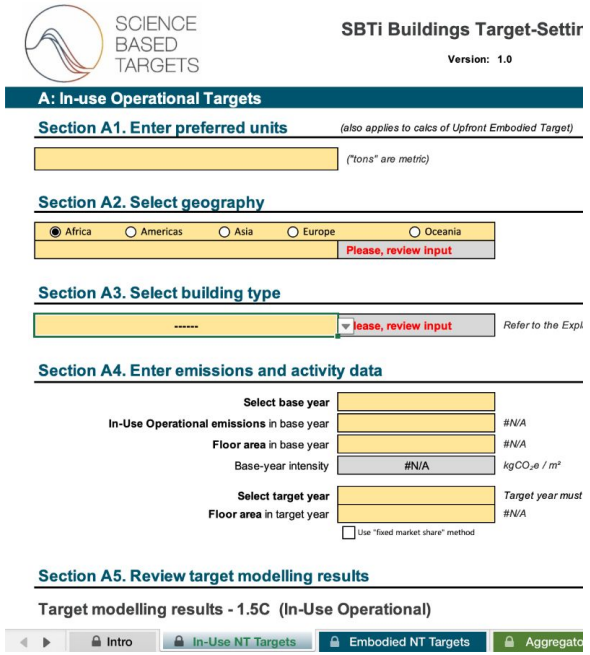
SBTi BUILDINGS PROJECT: MAIN TECHNICAL OUTPUTS

AVAILABLE ON THE SBTi BUILDINGS PAGE

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION







ADDITIONAL RESOURCES »

- Buildings Criteria in Brief
- Validation services resources:
  - Buildings Criteria Assessment Indicators
  - Buildings Annex
- Other background documents

SBTi BUILDINGS PROJECT: CRITERIA AND RECOMMENDATIONS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

1.1 COMPANIES REQUIRED TO COMPLY WITH THE BUILDINGS CRITERIA
Buildings-C1 - Threshold for in-use operational emissions
Buildings-C2 - Threshold for upfront embodied emissions of new constructed buildings
Buildings-C3 - Intended user categorization
1.2 PERMITTED TARGET-SETTING METHODS
Buildings-C4 - Permitted target-setting methods
1.3 GHG ACCOUNTING AND TARGET BOUNDARIES
Buildings-C5 - Choosing pathway
Buildings-C6 - Whole building approach
Buildings-C7 - Fugitive emissions
Buildings-R1 - Location-based accounting approach
Buildings-C8 - Required scope 3 categories
Buildings-C9 - Base year for upfront embodied emissions targets
Buildings-R2 - Additional disclosure of upfront embodied emissions of completed developments
Buildings-R3 - Upfront embodied emissions of franchises
Buildings-C10 - Denominator for intensity-based targets
Buildings-R4 - Calculating floor area
Buildings-C11 - Building lifetime assumptions
Buildings-R5 - Recommendation for building lifetime assumptions
Buildings-R6 - Grid decarbonization
1.4 TARGET AGGREGATION AND VALIDATION
Buildings-C12 - Target aggregation
Buildings-R7 - Base years for upfront embodied and operational in-use emissions
1.5 ADDITIONAL DISCLOSURE TO INCREASE TRANSPARENCY
Buildings-C13 - Disclosing buildings-related emissions with the location-based approach
Buildings-R8 - Additional disclosure for increased transparency
Buildings-R9 - Disclosure of absolute emissions
1.6 ADDITIONAL COMMITMENTS
Buildings-C14 - No new fossil fuel equipment
Buildings-R10 - Energy efficiency commitments

1.1 COMPANIES REQUIRED TO COMPLY WITH THE BUILDINGS CRITERIA

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Thresholds and criteria was needed to filter the **companies with significant amount of emissions coming from buildings** and should therefore use the sector criteria. All other companies are invited to use the general Corporate Net-Zero Standard and/or Financial Insitutitions' Near-term Criteria.

1.1 COMPANIES REQUIRED TO COMPLY WITH THE BUILDINGS CRITERIA

BUILDINGS-C1 - THRESHOLD FOR IN-USE OPERATIONAL EMISSIONS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

In-use operational emissions of owned or managed buildings exceed 20% of total scope 1, 2 and 3 category 1-14 emissions in the base year.

- Company must follow the SBTi Buildings Criteria.
- Company must set a target on in-use operational emissions.

1.1 COMPANIES REQUIRED TO COMPLY WITH THE BUILDINGS CRITERIA

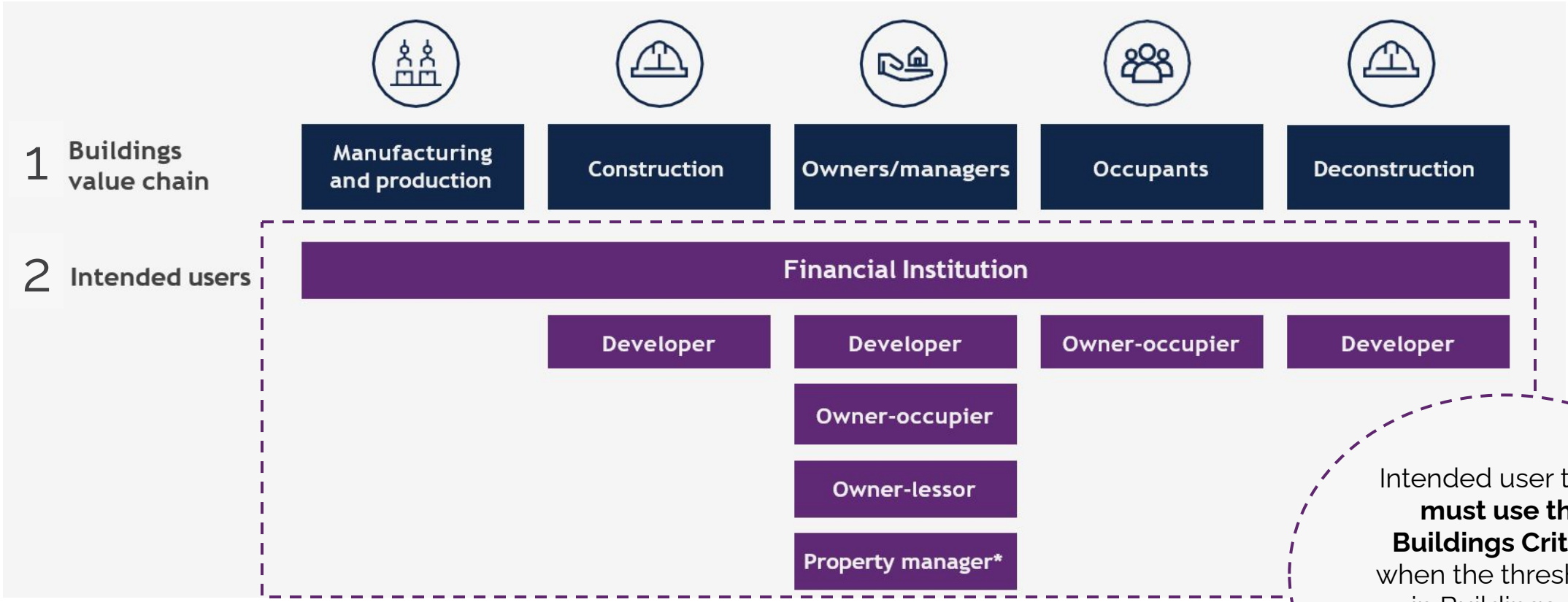
BUILDINGS-C2 - THRESHOLD FOR UPFRONT EMBODIED EMISSIONS OF NEW CONSTRUCTED BUILDINGS

Upfront embodied emissions of new constructed buildings exceed 20% of total scope 1, 2, and 3 category 1-14 emissions in any of the past three years.

- Company must follow the SBTi Buildings Criteria.
- Company must set a target on upfront embodied emissions of new buildings.

1.1 COMPANIES REQUIRED TO COMPLY WITH THE BUILDINGS CRITERIA

BUILDINGS-C3 - INTENDED USERS WITHIN THE BUILDINGS VALUE CHAIN



Intended user types **must use the Buildings Criteria** when the thresholds in Buildings-C1 and/or Buildings-C2 are met.

* This includes those managing investments in buildings on behalf of clients (e.g. real estate asset managers).

TARGET-SETTING METHODS

BUILDINGS-C4 - PERMITTED TARGET-SETTING METHODS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

The Buildings Criteria introduces two new target-setting methods for the sector:

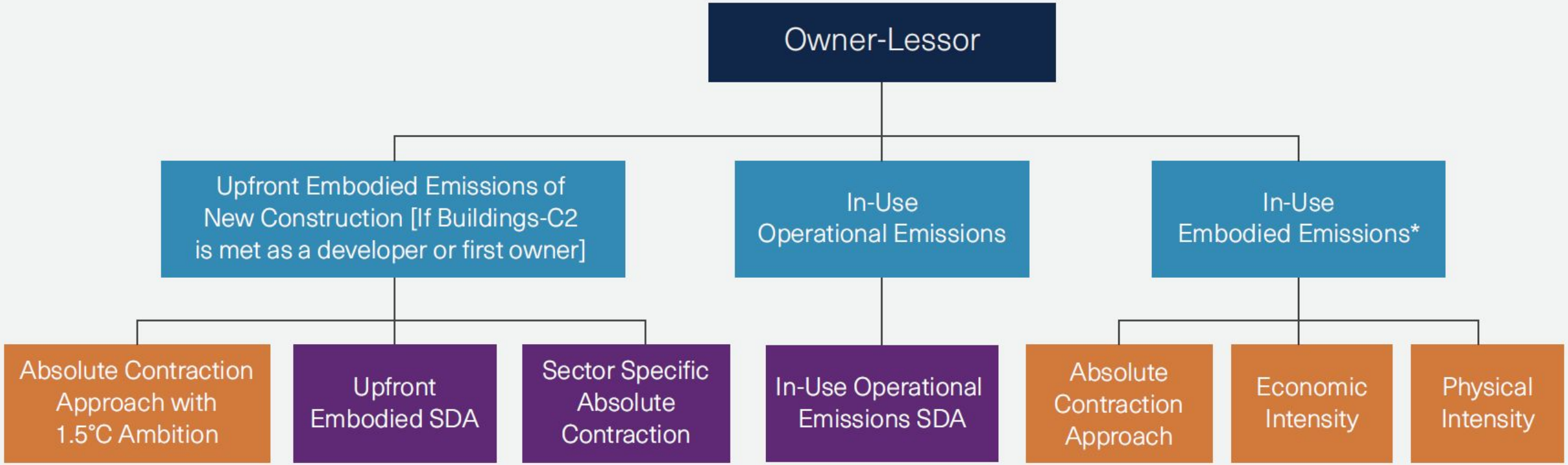
- **Sector-specific intensity convergence method (SDA).**
- **Sector-specific absolute reduction method.**
- Sector agnostic methods are also available as an option depending on the case.

Permitted target-setting methods are dependent on the user type and emissions categories. Businesses must select the user type that best describes their business activity and use all relevant criteria to set targets.

PERMITTED TARGET-SETTING METHODS

EXAMPLE: OWNER-LESSOR

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



To set targets with this method, companies shall refer to the SBTi Buildings Criteria and SBTi Buildings Target-Setting Tool

To set targets with this method, companies shall refer to the SBTi Corporate Standard and SBTi Cross-Sector Target-Setting Tool

* Note that some portion of the in-use embodied emissions occurring may not form part of the minimum boundary according to the GHG Protocol.

1.3 GHG ACCOUNTING AND TARGET BOUNDARIES

BUILDINGS-C6 - WHOLE BUILDING APPROACH

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Companies are required to report all building-related in-use operational emissions together despite the scope. This is called the '**whole building approach**'.

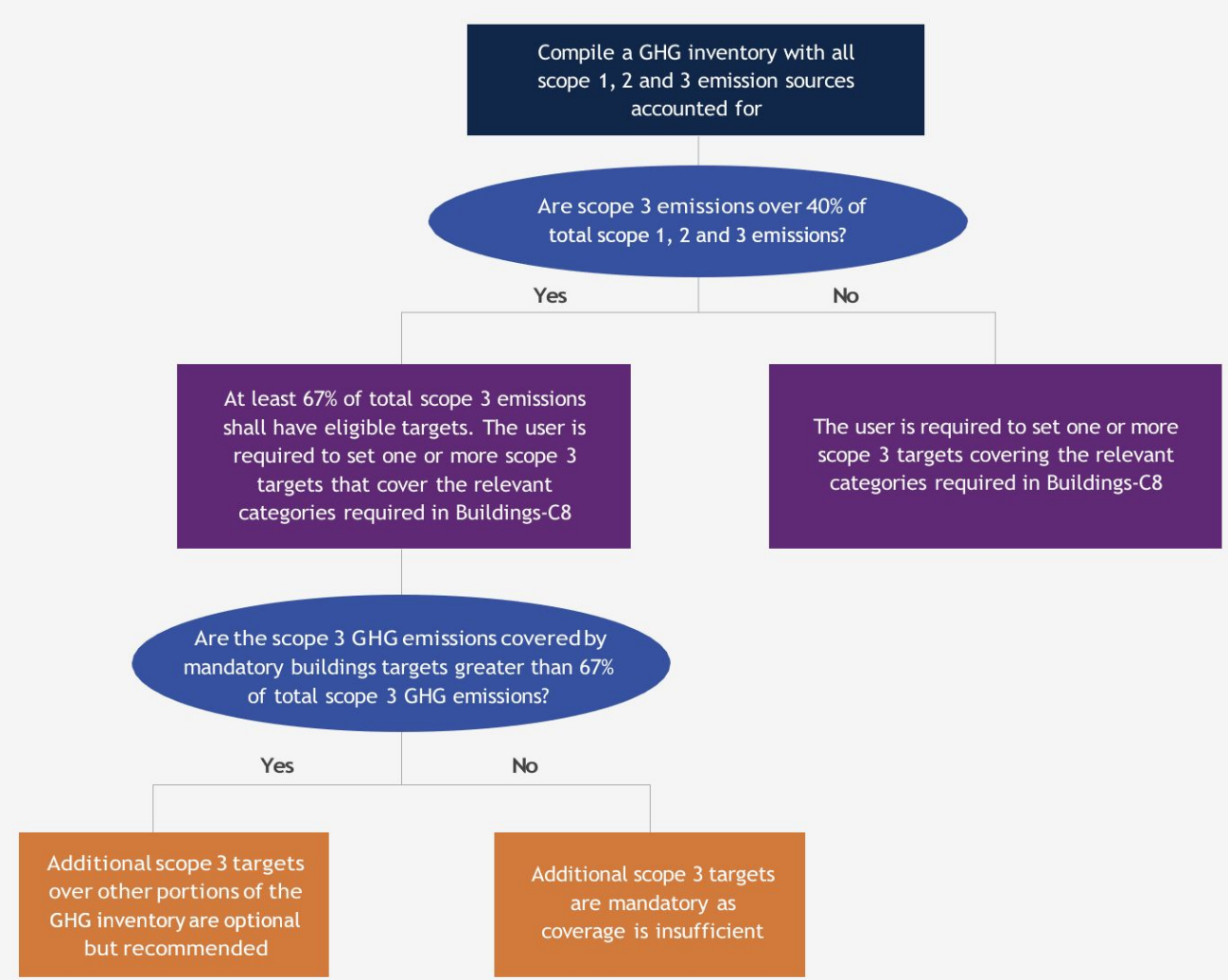
Traditional corporate GHG accounting:
Emissions of owner-controlled (scope 1 and 2) and tenant-controlled spaces are reported separately (scope 3).

Whole building approach: In-use operational emissions are expressed in kg CO_2e/m^2 for the whole building.

1.3 GHG ACCOUNTING AND TARGET BOUNDARIES

BUILDINGS-C8 - REQUIRED SCOPE 3 CATEGORIES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



- Companies are required to include all scope 3 categories in their GHG inventory as required by the GHG Protocol.
- Some **scope 3 categories are required to be included in the target boundary** irrespective of whether the general threshold for scope 3 targets in SBTi's Corporate Net-Zero Standard is met. Required categories depend on the intended user type.

Flow chart clarifying target setting for required scope 3 emissions for near-term targets.

1.6 ADDITIONAL COMMITMENTS

BUILDINGS-C14 - NO NEW FOSSIL FUEL EQUIPMENT

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Companies required to use the SBTi Buildings Criteria to set targets shall publicly **commit to install no new fossil fuel equipment that is owned or financially controlled** by the company in their buildings portfolios from **2030, at the latest.**

Companies need to include the commitment language as part of their annual reporting.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

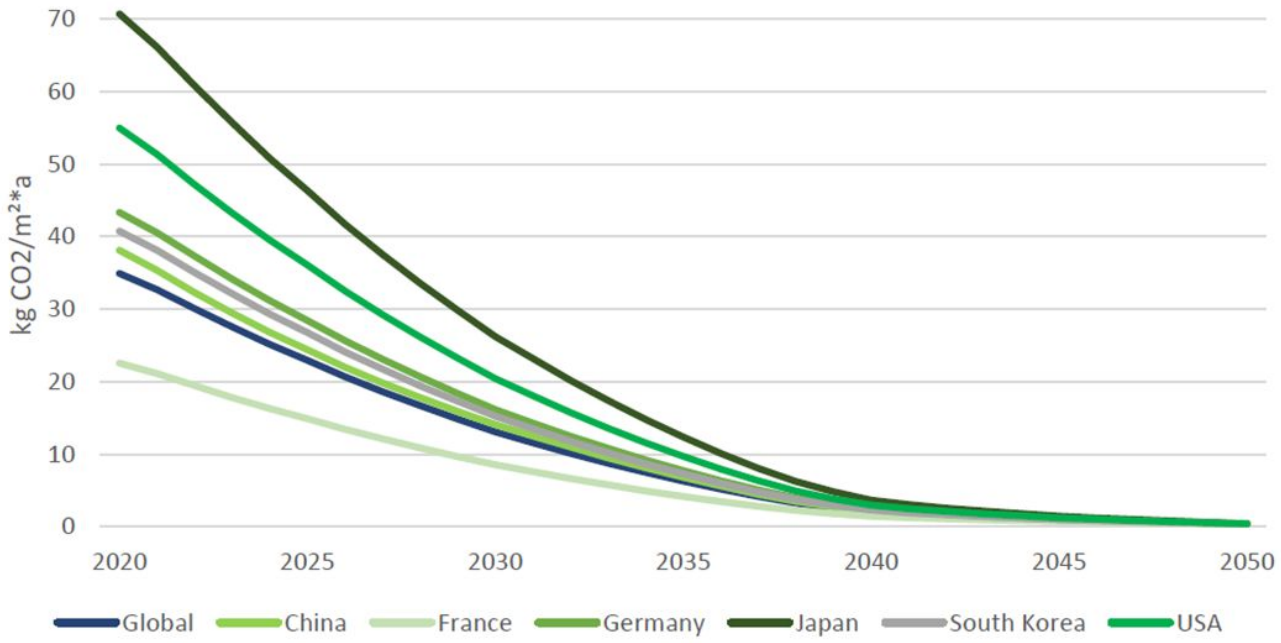
IN-USE OPERATIONAL TARGETS

Poll #3

SBTi-CRREM 1.5 °C-ALIGNED IN-USE OPERATIONAL EMISSIONS PATHWAYS

The in-use operational pathways included in the Buildings Target-Setting Tool, cover the **operational energy use and fugitive emissions** from refrigerants and cooling systems.

- Developed in collaboration with CRREM.
- Granular pathways: building typology and country specific.
- Whole building approach. Targets cannot be set without whole building emissions data.
- CRREM methodology: From global emission budgets to decarbonization pathways at property level.



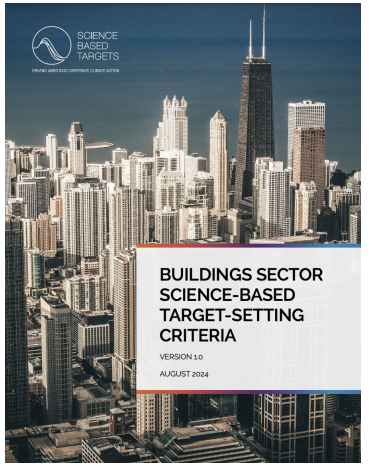
PERMITTED TARGET-SETTING METHODS

BUILDINGS-C4: PERMITTED TARGET-SETTING METHODS FOR IN-USE OPERATIONAL EMISSIONS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- Owner-occupier
- Owner-lessor
- (Developer)
- Financial institution
- Property manager

Sector-specific intensity convergence approach (SDA)



Other methods applicable as provided in the SBTi Financial Institutions' Near Term Criteria

If whole building emissions are not available, other 1.5C aligned methods as provided in the SBTi Corporate Net-Zero Standard may be used.

IN-USE SDA TARGET CALCULATIONS WITH THE BUILDINGS TOOL

SCIENCE BASED TARGETS

SBTi Buildings Target-Setting Tool

Version: 1.0 | Please refer to: Terms of Use, Disclaimer | Contact: info@sciencebasedtargets.org

A: In-use Operational Targets

Section A1. Enter preferred units

(also applies to calcs of Upfront Embodied Target)

m² & $kgCO_2e$	*("tons" are metric)*

Required Input | Results

Section A2. Select geography

○ Africa ○ Americas ○ Asia ◉ Europe ○ Oceania

Spain	OK

Sub-region	
	OK
N/A	

See "AUS zones" tab for climatic zones in Australia.

Section A3. Select building type

Office	OK

Refer to the Explanatory document for details on building types.

Section A4. Enter emissions and activity data

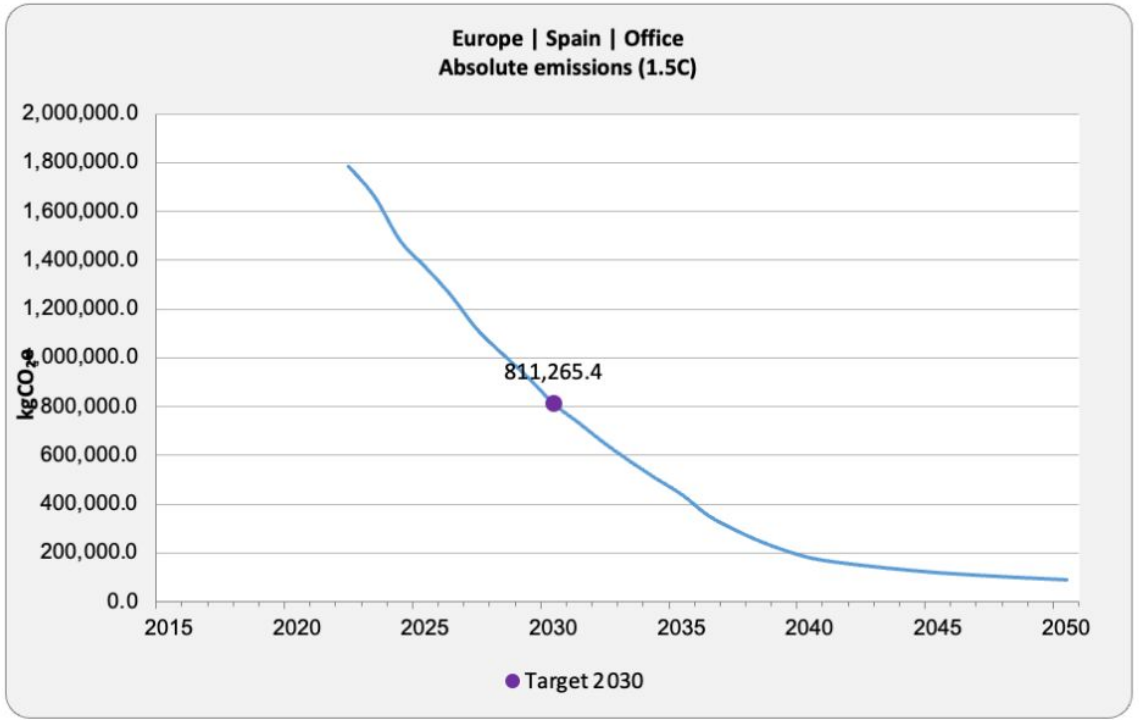
Select base year	2022			
In-Use Operational emissions in base year	1,784,000.0	$kgCO_2e$	1.784	kton CO_2e
Floor area in base year	65,300.0	m²	0.065	million m²
Base-year intensity	27.32	$kgCO_2e$ / m²		
Select target year	2030	*Target year must be at least 5 years and at most 10 years from the current year.*		
Floor area in target year		m²		
☑ Use "fixed market share" method			0.066	million m²

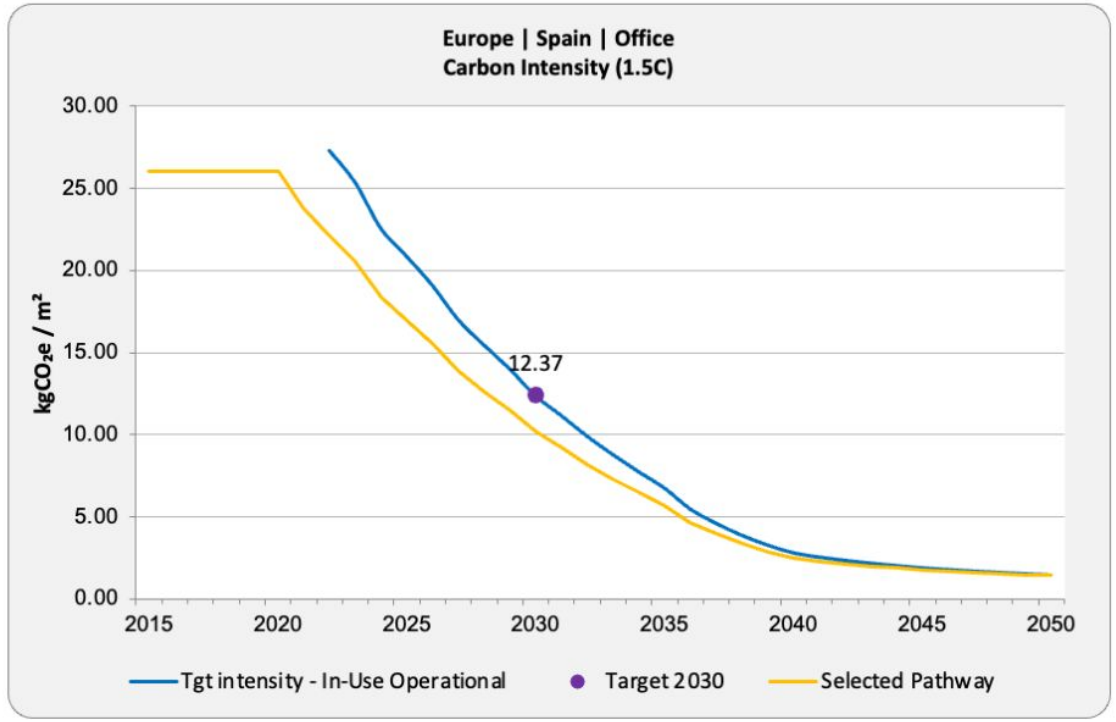
IN-USE SDA TARGET CALCULATIONS WITH THE BUILDINGS TOOL

Section A5. Review target modelling results

Target modelling results - 1.5C (In-Use Operational)

			Base year 2022	Target year 2030	% Reduction 2022 - 2030
Europe | Spain | Office	Total in-use emissions	$kgCO_2e$	1,784,000.00	811,265.36	54.5%
	Overall in-use emissions intensity	$kgCO_2e / m^2$	27.32	12.37	54.7%





TARGET AGGREGATION WITH THE BUILDINGS TOOL

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Near Term Target Aggregation Input tables

In-Use Operational Emissions

copy & paste these **In-Use** VALUES:

Europe | Spain | Office	1,784,000.0	65,300.0	27.32	65,593.1	811,265.4	54.5%	12.37	54.7%

Upfront Embodied Emissions

copy & paste these **Embodied** VALUES:

buildings	0.0	0.0	0.00	0.0				

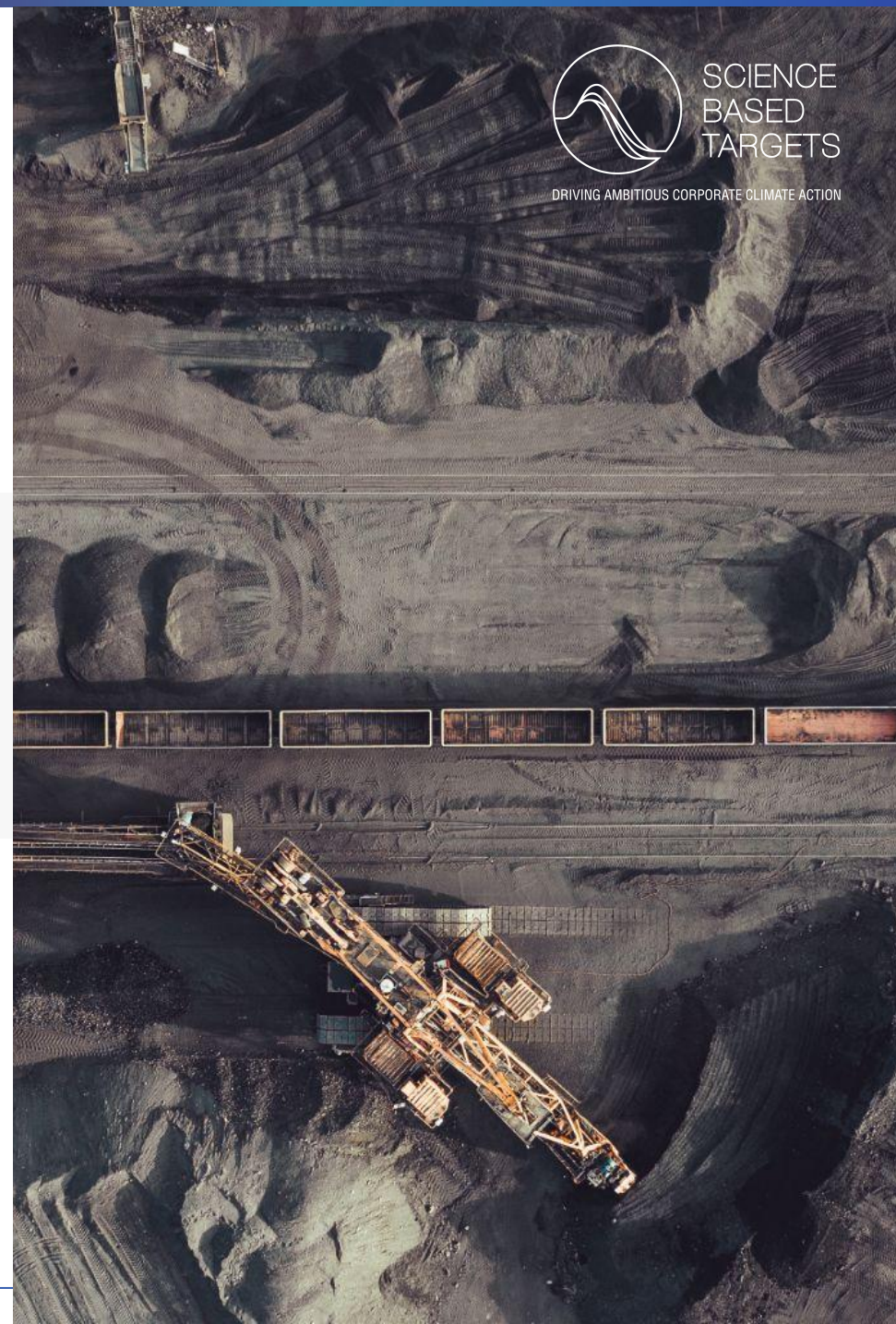
Near Term Target Aggregation repository tables

In-Use Operational Emissions

		Emissions and Floor Area data			Target - 1.5C				
		Base year :	2022		Target year :	2030			
	Building Type & Location	In-Use Emissions [$kgCO_2e$]	Floor Area [m^2]	Carbon Intensity [$kgCO_2e/m^2$]	Floor Area [m^2]	In-Use Emissions [$kgCO_2e$]	% reduction	Carbon Intensity [$kgCO_2e/m^2$]	% reduction
1	Europe | Portugal | Retail High Street	655,000.0	19,000.0	34.47	17,347.1	273,146.0	58.3%	15.75	54.3%
2	Europe | Portugal | Retail Warehouse	549,000.0	15,000.0	36.60	13,695.1	217,883.6	60.3%	15.91	56.5%
3	Europe | Portugal | Office	2,096,200.0	60,000.0	34.94	90,000.0	1,023,020.1	51.2%	11.37	67.5%
4	Europe | Spain | Retail High Street	723,000.0	25,300.0	28.58	25,413.6	332,071.1	54.1%	13.07	54.3%
5	Europe | Spain | Office	1,784,000.0	65,300.0	27.32	65,593.1	811,265.4	54.5%	12.37	54.7%
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
		5,807,200.0	184,600.0	31.46	212,048.9	2,657,386.2	54.2%	12.77	59.4%

TARGET LANGUAGE

Company X commits to reduce scope 1, 2 and 3 in-use operational GHG emissions of owned buildings by 59.4% per m² by 2030 from a 2022 base year.



SPECIAL CONSIDERATIONS IN IN-USE TARGET SETTING

FIXED INTENSITY TARGETS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Companies and FIs with a high level of turnover in their portfolios may find portfolio-level target-setting methods challenging.

The SBTi Buildings Criteria allows intended users whose business model results in a high turnover of assets to set **fixed intensity targets aligned to sectoral decarbonization pathways without applying the SDA**.

- Company sets an in-use operational emissions intensity target in line with the in-use operational emissions pathways for a chosen target year.
- Target year shall be five years from the base year.
- Company commits to reporting portfolio emissions intensity annually for transparency.

Details of the method and conditions to qualify to use the option are outlined in the Buildings Explanatory Document section 6.4.3.

SPECIAL CONSIDERATIONS IN IN-USE TARGET SETTING

MAINTENANCE TARGETS

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

The maintenance target method aims to accommodate **corporates and FIs that have already achieved, at a portfolio level, the emissions intensity required to align with the 2050 sector intensity level in a 1.5˚C pathway.**

- Companies commit to maintain the base year portfolio emissions intensity through 2030.
- Companies commit to only finance and/or own 1.5˚C-aligned real estate assets.
- Companies with diverse buildings portfolios can choose the lowest target year intensity of the relevant pathways.

Details of the method are outlined in the Buildings Explanatory Document section 6.4.4.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Q&A: IN-USE OPERATIONAL TARGETS

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

UPFRONT EMBODIED EMISSIONS TARGETS OF NEW CONSTRUCTED BUILDINGS

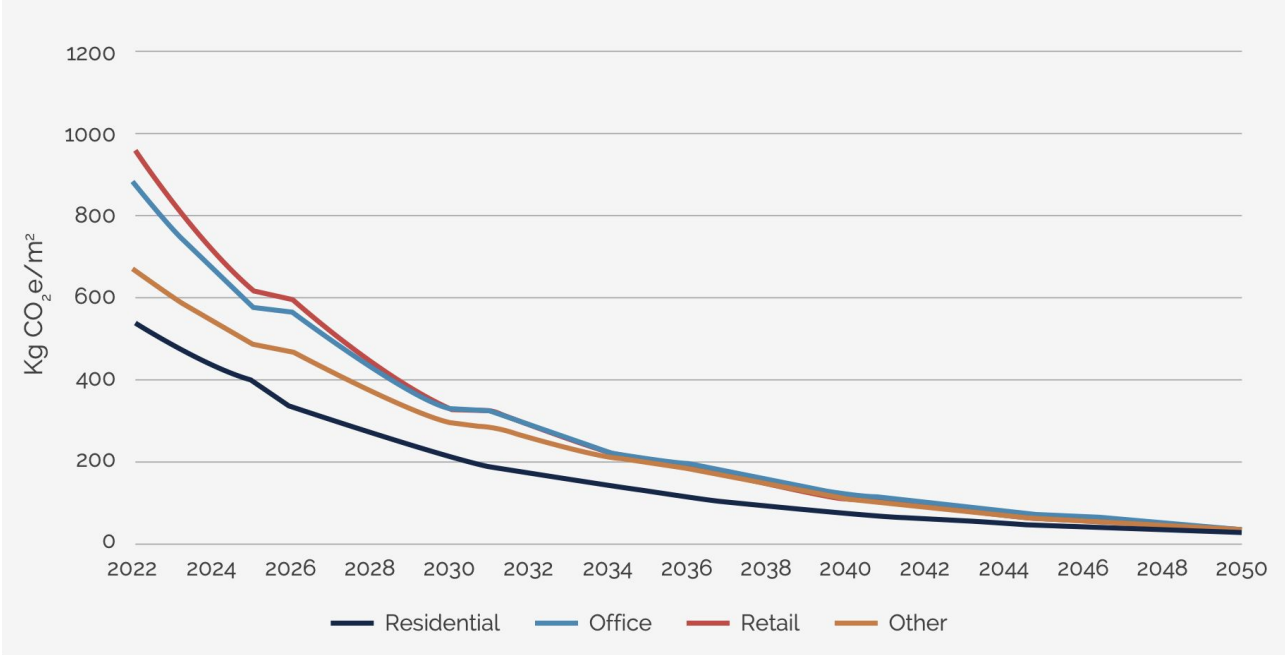
Poll #4

UPFRONT EMBODIED EMISSIONS PATHWAYS FOR NEW CONSTRUCTION

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

The upfront embodied emissions pathways cover modules A1-A5 in a building's life cycle, for **new constructions measured at practical completion.**

- **Low granularity:** Global pathways
- **Buildings elements:** The life cycle assessment scope shall include at least structural elements, building envelope, internal walls, finishes. Including technical equipment in the assessment scope recommended.
- Embodied emissions pathway development description document.



PERMITTED TARGET-SETTING METHODS

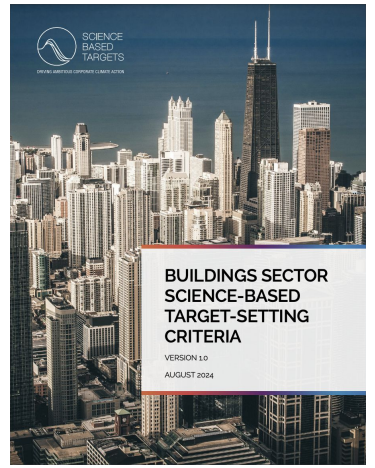
BUILDINGS-C4: PERMITTED TARGET-SETTING METHODS FOR UPFRONT EMBODIED EMISSIONS OF NEW BUILDINGS

- Owner-occupier as first owner
- Owner-lessor as first owner
- Developer
- (Financial institution)

→ Sector-specific intensity convergence approach (SDA)

→ Sector-specific absolute reduction

If upfront embodied emissions are reported on an annual basis, other 1.5°C aligned methods as provided in the SBTi Corporate Net-Zero Standard must be used.



SECTOR-SPECIFIC ABSOLUTE REDUCTION TARGET CALCULATION WITH THE BUILDINGS TOOL

UPFRONT EMBODIED EMISSIONS OF NEW BUILDINGS

SCIENCE BASED TARGETS

SBTi Buildings Target-Setting Tool

Version: 1.0 **Please refer to:** Terms of Use, Disclaimer **Contact:** info@sciencebasedtargets.org

B: Upfront Embodied Targets

Section B1. Select building type

Refer to the Explanatory document for details on building types.

Required Input | Results

Section B2. Select target-setting approach

Sector-specific Absolute Contraction

Refer to the Explanatory document for details on approaches.

Section B3. Enter emissions and activity data

(Units of measure specified in In-Use Targets - section A1)

Select base year	2022			
Upfront Embodied emissions in base year	9.000.000,0	$kgCO_2e$	9,000	kton CO_2e
Floor area in base year		*not applicable*		
Base-year intensity		$kgCO_2e / m^2$		
Select target year	2030	*Target year must be at least 5 years and at most 10 years from the current year.*		
Floor area in target year		*not applicable*		
☐ Use "fixed market share" method		*not applicable*		

SECTOR-SPECIFIC ABSOLUTE REDUCTION TARGET CALCULATION WITH THE BUILDINGS TOOL

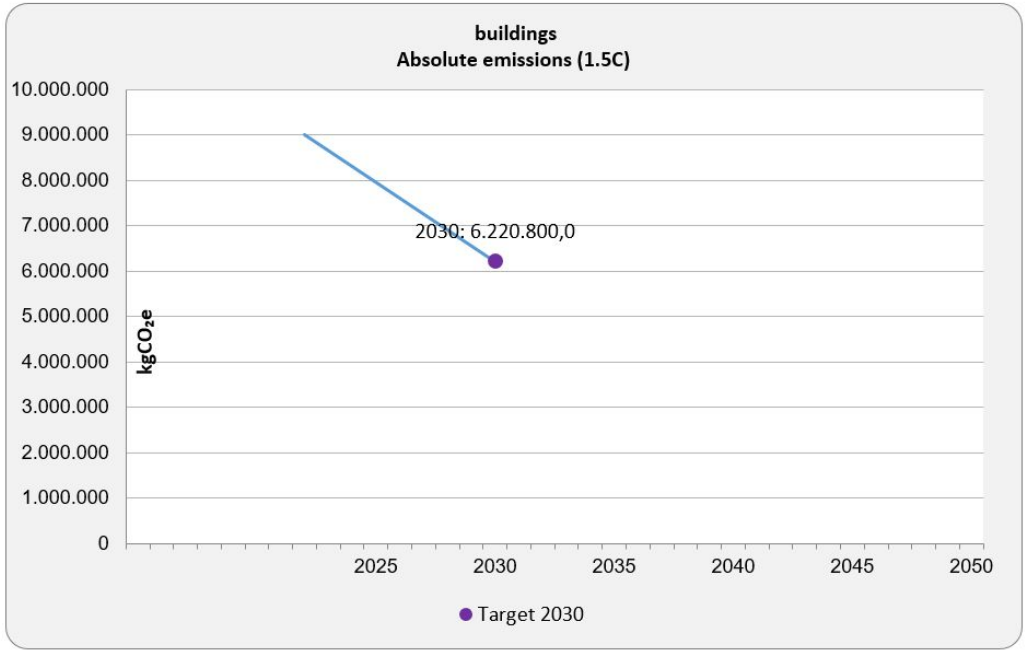
UPFRONT EMBODIED EMISSIONS OF NEW BUILDINGS

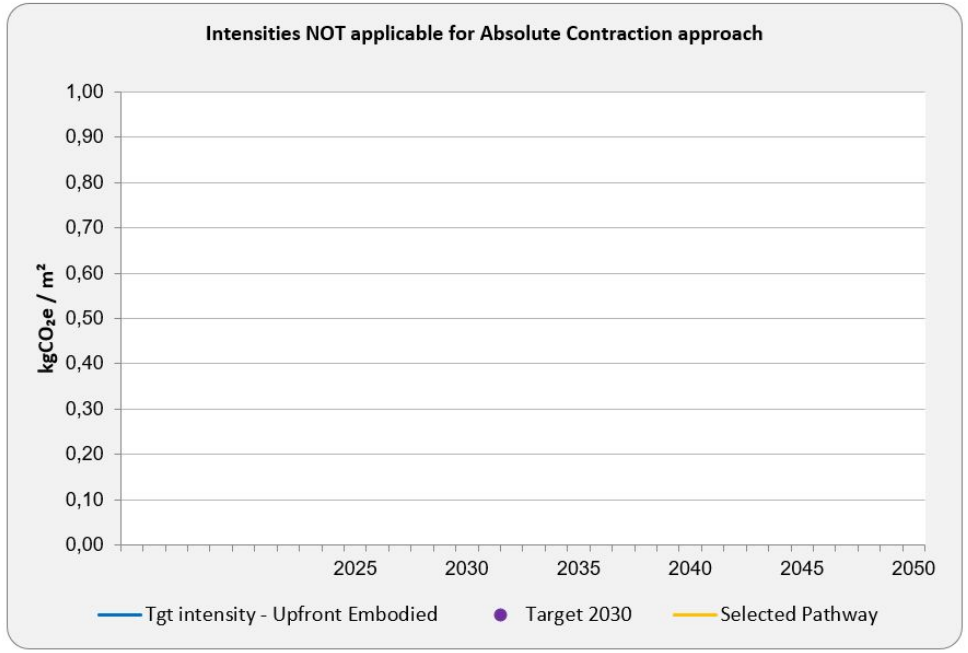
Section B4. Review target modelling results

Target modelling results - 1.5C (Upfront Embodied)

Note that with the absolute reduction targets, the SBTi assesses "forward-looking" ambition of target(s) by using the year the target is submitted to the initiative (or the most recent completed GHG inventory. Please refer to the Criteria Assessment Indicators for more information on forward-looking ambition.

			Base year 2022	Target year 2030	% Reduction 2022 - 2030
buildings	Total embodied emissions	$kgCO_2e$	9.000.000,00	6.220.800,00	30,9%
	Overall embodied emissions intensity	$kgCO_2e / m^2$	N/A	N/A	





TARGET LANGUAGE

Company X commits to reduce absolute scope 3 upfront embodied GHG emissions of new buildings by 30.9% by 2030 from a 2020 base year.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Q&A: UPFRONT EMBODIED EMISSIONS TARGETS

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CLOSING REMARKS

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THE TIME TO ACT IS TODAY!

- **All the resources** introduced during this webinar and more, including these slides and a recording of the webinar are **available on the SBTi buildings page**.

- **SBTi's Buildings Criteria is now final** and ready to be used for target setting.

We are urgently **calling on all buildings sector businesses to set science-based reduction targets** and lead the net-zero transformation.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THANK YOU!

sciencebasedtargets.org

@ScienceTargets

Science Based Targets

/science-based-targets

info@sciencebasedtargets.org