



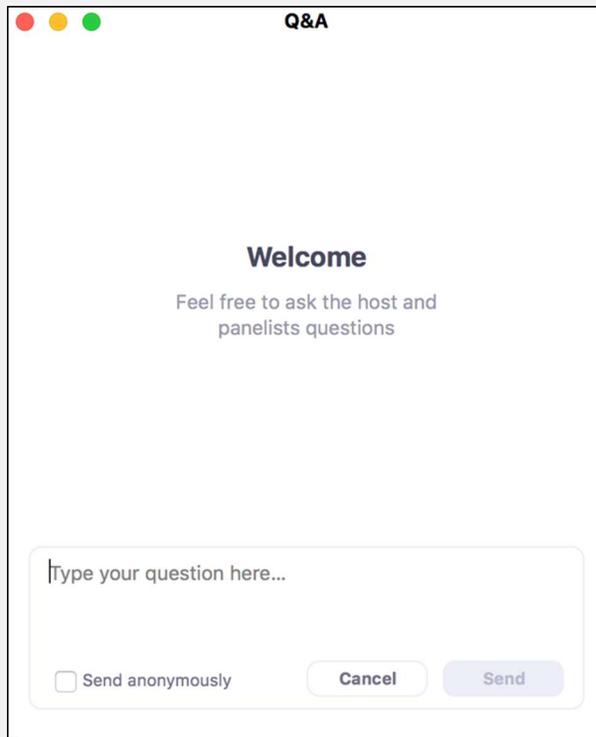
# Towards a science-based approach to net-zero in the corporate sector

Information webinar

*November 6, 2019*

**IMPORTANT:** This document is work-in-progress. It does not necessarily reflect the views of the SBTi or all of its partners. Because this document is a work-in-progress, it may still change, perhaps profoundly.

## Welcome



The screenshot shows a window titled "Q&A" with a standard macOS-style title bar (red, yellow, green buttons). The main content area contains the text "Welcome" and "Feel free to ask the host and panelists questions". At the bottom, there is a text input field with the placeholder "Type your question here...", a checkbox labeled "Send anonymously", and two buttons: "Cancel" and "Send".

- This webinar is being recorded.
- Slides and a recording will be posted to our website. They will also be emailed to you.
- **Please type your questions into the Q&A box.**
- There will be time for clarification questions at the end of the webinar.
- **Feedback on the open questions will be collected via a survey, details in the presentation.**

## Objectives

1. To share the latest thinking of the SBTi on corporate net-zero target-setting;
2. To describe the planned process and opportunities for engagement and feeding into the process;

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**Welcome** – agenda, objectives of the session and introduction of speakers

1

**Introduction** – the need to reach net-zero emissions and overview of 1.5°C campaign

2

**Net-zero foundations** – terminology, definition and principles

3

**Net-zero process** – overview, opportunities for engagement and next steps

4

**Q&A**

# speakers



**Heidi Huusko**  
Senior Manager  
Environment & Climate

UN Global Compact

**@HeidiHuusko**

**Alberto Carrillo Pineda**  
Director  
Science Based Targets

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**@acarrillopineda**

**Alexander Farsan**  
Global Lead  
Science Based Targets

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**@farsanalexander**

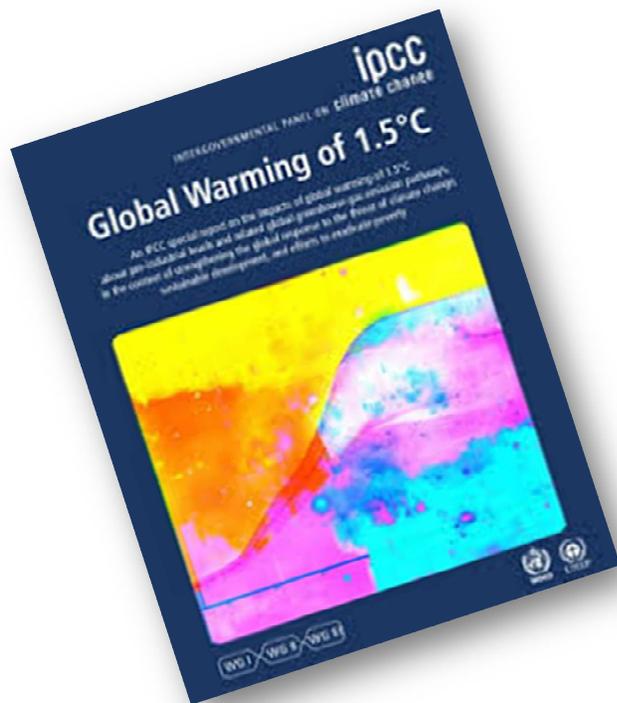
**John Sottong**  
Senior Associate  
Science Based Targets

WRI



## **Introduction – the need to reach net-zero emissions and overview of 1.5°C campaign**

## Introduction | Key takeaways from the IPCC Special Report on 1.5°C



1. There are significant climate impacts in going above 1.5°C, some of which may be irreversible.
2. According to the IPCC Special Report on 1.5°C, **reaching and sustaining net-zero** anthropogenic global emissions is necessary to halt anthropogenic global warming. Net-zero would have to be reached in the following timescales:
  - By **~2050** to keep warming below 1.5°C
  - By **~2070** to keep warming well-below 2°C
3. The longer it takes to reach net-zero emissions, the higher the reliance in carbon sequestration and carbon removal measures:
  - The feasibility of carbon removal at scale remains uncertain;
  - Possible additional mitigation costs in the longer-term;
  - Additional demand for land-use and trade-offs on other SDGs.
4. For the corporate sector, this means transitioning towards business models that are compatible with a net-zero economy within the next three to five decades.

# Introduction | Business stepping up ambition for 1.5°C

**ALIGN YOUR  
EMISSION REDUCTION  
GOALS WITH THE  
1.5°C PATHWAY**

**#OurOnlyFuture**

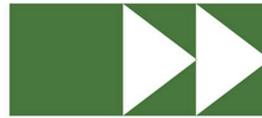
## Campaign supporters

- |   |  |  |   |   |  |  |  |  |   |  |
|---|--|--|---|---|--|--|--|--|---|--|
| <br><b>H.E. María<br/>Fernanda<br/>Espinosa Garcés</b><br>President of the<br>73rd Session of<br>the General<br>Assembly<br>United Nations | <br><b>Ambassador Luis<br/>Alfonso de Alba</b><br>UN Special Envoy<br>for the 2019<br>Climate Action<br>Summit | <br><b>Lise Kingo</b><br>CEO & Executive<br>Director<br>UN Global<br>Compact            | <br><b>Achim Steiner</b><br>Administrator<br>UN Development<br>Programme                                       | <br><b>Patricia Espinosa</b><br>Executive<br>Secretary<br>UNFCCC           | <br><b>Inger Andersen</b><br>Executive Director<br>UN Environment<br>Programme  | <br><b>Liu Zhenmin</b><br>Under-Secretary-<br>General<br>UN Department of<br>Economic and<br>Social Affairs | <br><b>Petteri Taalas</b><br>Secretary-General<br>World<br>Meteorological<br>Organization | <br><b>Li Yong</b><br>Director-General<br>UNIDO   | <br><b>Jayathma<br/>Wickramanayake</b><br>UN Secretary-<br>General's<br>Envoy on Youth |  |
| <br><b>Paul Simpson</b><br>Chief Executive<br>Officer<br>CDP   | <br><b>Andrew Steer</b><br>President & CEO<br>World Resources<br>Institute (WRI)                               | <br><b>Manuel Pulgar<br/>Vidal</b><br>Climate & Energy<br>Practice Leader<br>WWF        | <br><b>Nigel Topping</b><br>Chief Executive<br>Officer<br>We Mean<br>Business (WMB)                            | <br><b>Christiana<br/>Figueres</b><br>Co-Founder<br>Global Optimism        | <br><b>Nicholas Stern</b><br>Chair of the<br>Grantham<br>Research Institute<br>on Climate<br>Change and the<br>Environment<br>London School of<br>Economics | <br><b>John Denton</b><br>Secretary General<br>International<br>Chamber of<br>Commerce                      | <br><b>Paul Polman</b><br>Co-Founder &<br>Chair of Imagine<br>SDG Advocate                | <br><b>Professor Klaus<br/>Schwab</b><br>Executive<br>Chairman<br>World Economic<br>Forum | <br><b>Anand Mahindra</b><br>Chairman<br>Mahindra Group                                | <br><b>Tomasz<br/>Chruszczow</b><br>High Level<br>Champion for COP<br>24<br>Climate Champion<br>through the<br>Marrakech<br>Partnership |
| <br><b>Gonzalo Muñoz</b><br>High Level<br>Champion for COP<br>25<br>Climate Champion<br>through the<br>Marrakech<br>Partnership          | <br><b>Andrew Higham</b><br>Chief Executive<br>Officer<br>Mission 2020                                       | <br><b>Aron Cramer</b><br>President & CEO<br>Business for<br>Social<br>Responsibility | <br><b>Fiona Reynolds</b><br>Chief Executive<br>Officer<br>Principles for<br>Responsible<br>Investment (PRI) | <br><b>Halla Tómasdóttir</b><br>Chief Executive<br>Officer<br>The B Team | <br><b>Helen Clarkson</b><br>Chief Executive<br>Officer<br>The Climate Group  | <br><b>Hugh Evans</b><br>President & CEO<br>Global Citizen  | <br><b>Kathleen Rogers</b><br>President<br>arth Day Network                             | <br><b>Kathy Calvin</b><br>Chief Executive<br>Officer<br>United Nations<br>Foundation   | <br><b>Mindy Lubber</b><br>CEO & President<br>Ceres                                  | <br><b>Peter Bakker</b><br>President & CEO<br>World Business<br>Council for<br>Sustainable<br>Development                             |

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## Introduction | Business stepping up ambition for 1.5°C

**BUSINESS  
AMBITION FOR 1.5°C**



**OUR ONLY  
FUTURE**

**104**

**Companies**

**Over \$2.3  
trillion**

market cap

**Over 4.2 million**

employees

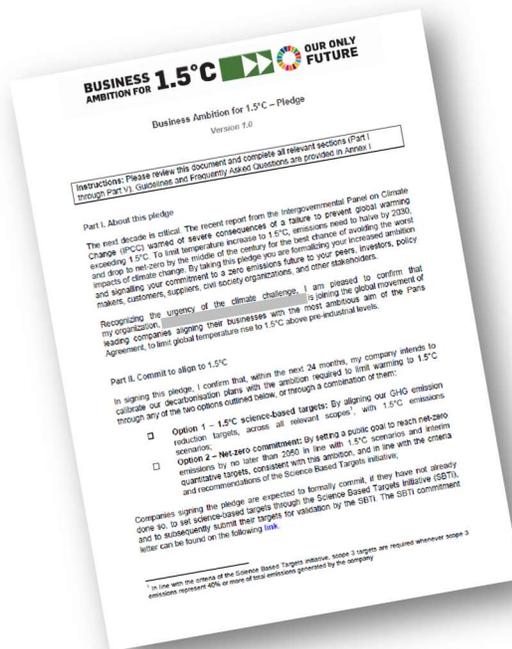
**33**

sectors

**29**

countries

## Introduction | Business stepping up ambition for 1.5°C



Companies can join the campaign by signing a pledge form. Through the pledge, companies commit to align to 1.5°C within 24 months through any of the following options:

- ▶ **Science-based targets:** By aligning GHG emission reduction targets, across all relevant scopes , with 1.5°C emissions scenarios;
- ▶ **Net-zero commitment:** By setting a public goal to reach net-zero emissions by no later than 2050 in line with 1.5°C scenarios and interim quantitative targets, consistent with this ambition, and in line with the criteria and recommendations of the Science Based Targets initiative;

## Introduction | Business stepping up ambition for 1.5°C



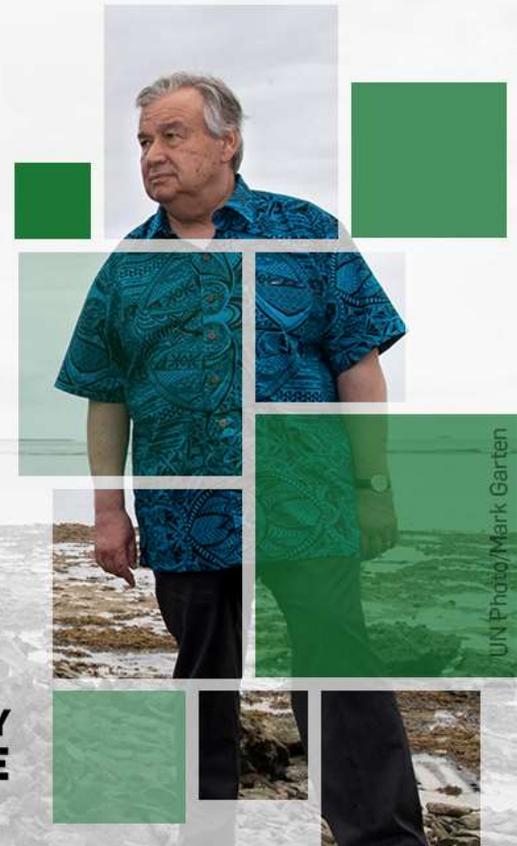
**Now we need many more companies to join the movement, sending a clear signal that markets are shifting.**

– António Guterres,  
UN Secretary-General

**BUSINESS  
AMBITION FOR 1.5°C**



**OUR ONLY  
FUTURE**

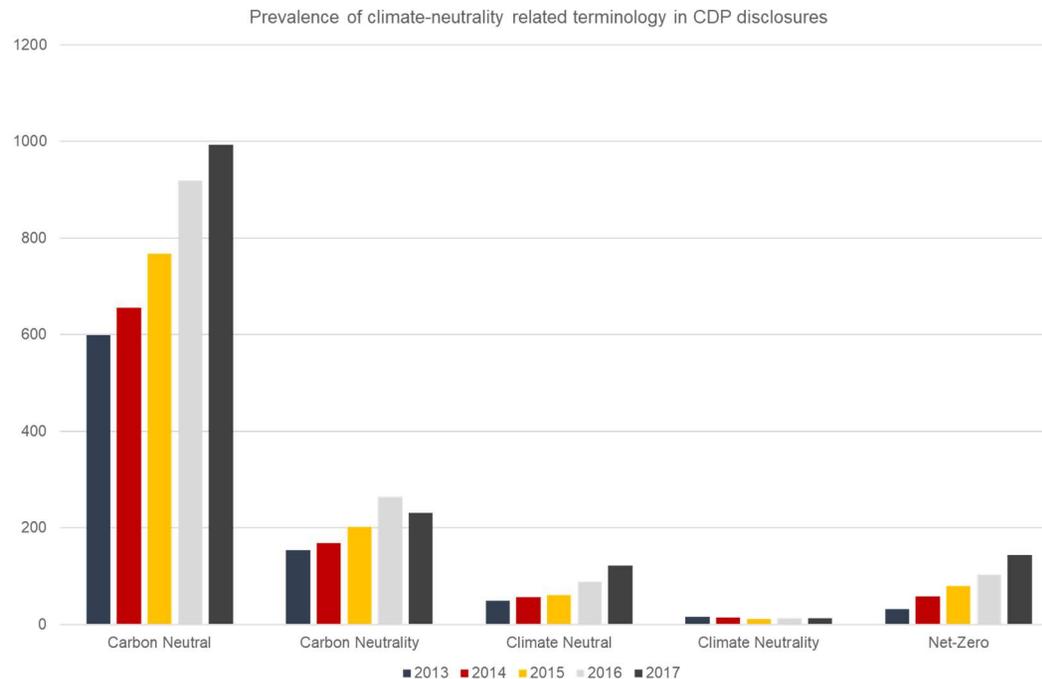


# 2

## Net-zero foundations – terminology, definition and principles

## Towards net-zero | Why do we need a standard framework for corporate net-zero targets?

According to data disclosed to CDP, the number of companies referring to strategies to neutralise their impact on the climate has been growing in the past few years. Yet, the terms carbon neutrality, climate neutrality and increasingly, net-zero, have often been used interchangeably and sometimes inconsistently.

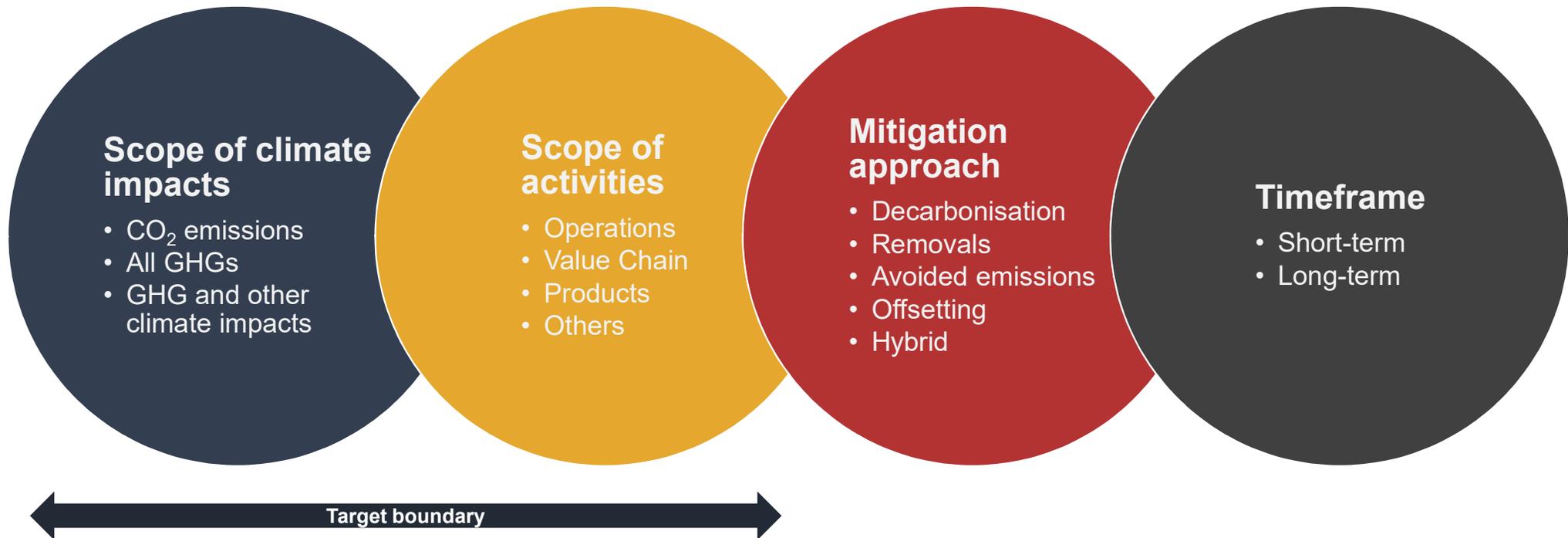


Source: P. Faria based on CDP data

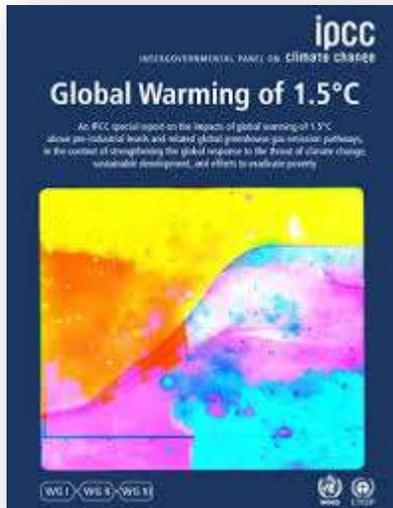
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## Towards net-zero | Why do we need a standard framework for corporate net-zero targets?

A closer look into corporate climate neutrality targets shows that targets often differ across four key dimensions:



## Towards net-zero | Clarifying terms and definitions

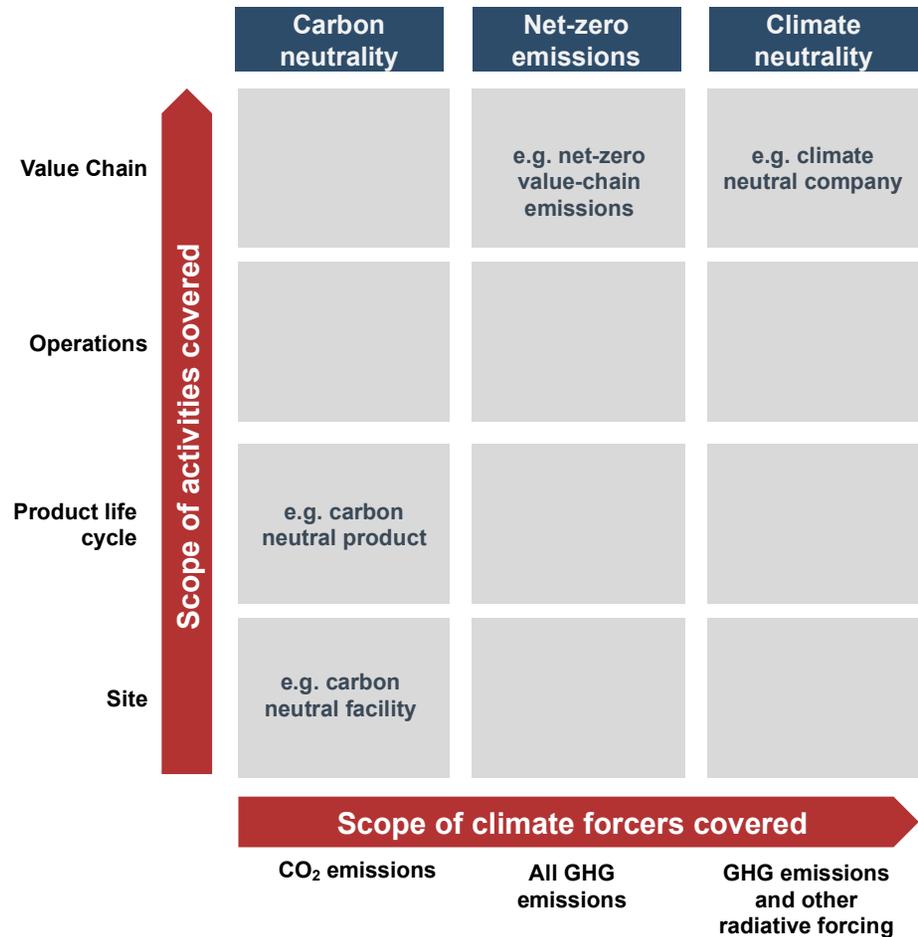


**Carbon neutrality:** Net zero carbon dioxide (CO<sub>2</sub>) emissions are achieved when anthropogenic CO<sub>2</sub> emissions are balanced globally by anthropogenic CO<sub>2</sub> removals over a specified period. Net zero CO<sub>2</sub> emissions are also referred to as carbon neutrality;

**Net-zero emissions:** Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon);

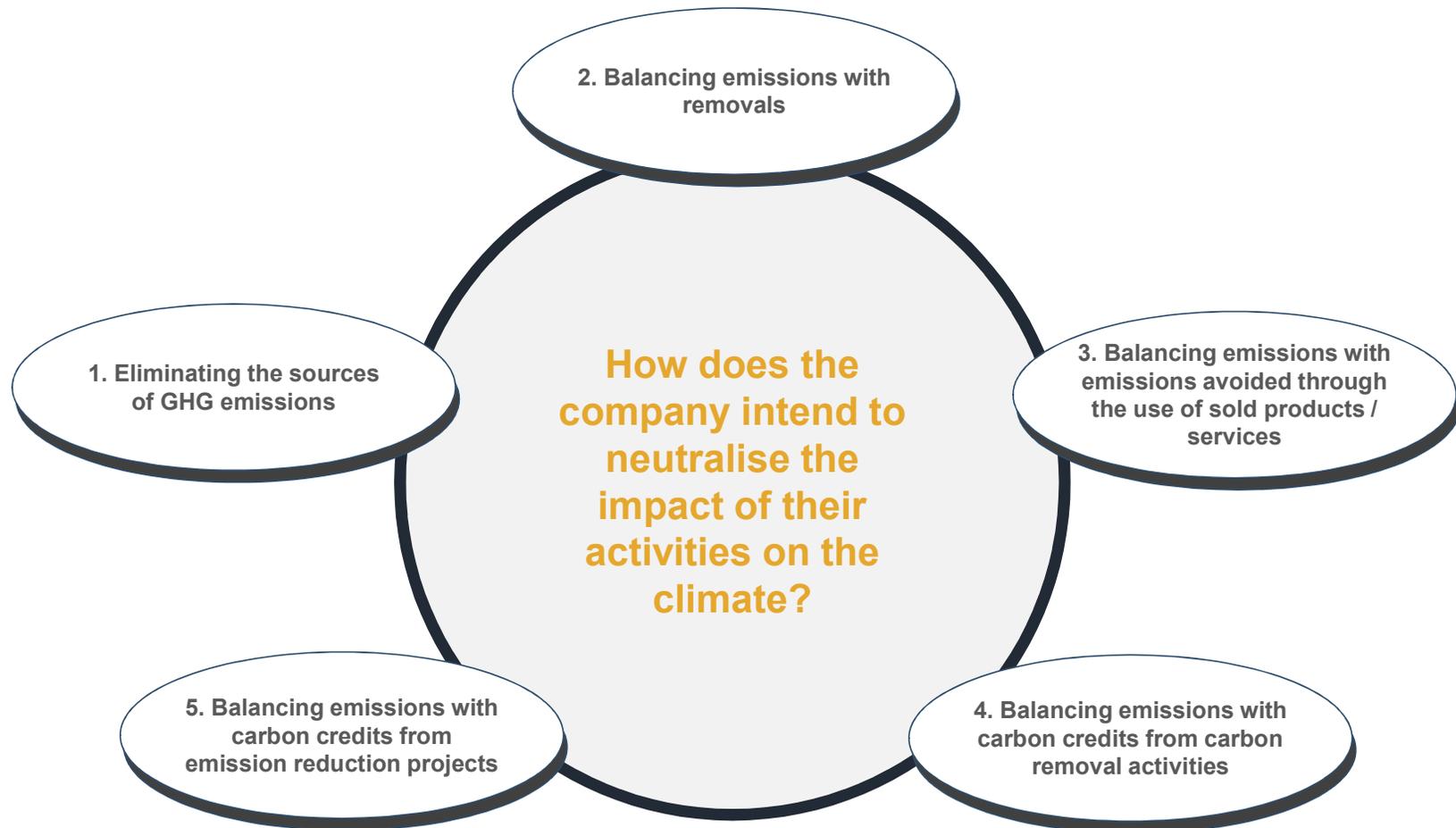
**Climate neutrality:** Concept of a state in which human activities result in no net effect on the climate system. Achieving such a state would require balancing of residual emissions with emission (carbon dioxide) removal as well as accounting for regional or local bio-geophysical effects of human activities that, for example, affect surface albedo or local climate;

## Towards net-zero | Clarifying terms and definitions



- For most sectors and companies, the release of GHG emissions into the atmosphere represents the most relevant impact on the climate. In these cases, net-zero emissions and climate neutrality can be considered equivalent;
- When non-CO<sub>2</sub> emissions are NOT relevant for a company, carbon neutrality, net-zero emissions and climate neutrality can be considered equivalent;

## Towards net-zero | Mitigation approaches



## Towards net-zero | Mitigation approaches



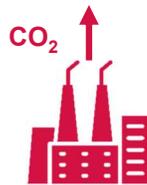
**1. Decarbonization** - Neutrality is achieved/claimed by eliminating the sources of emissions within the boundary of the target. This is often achieved by avoiding activities that generate emissions (e.g. avoiding combustion of fossil fuels) and/or by preventing the release of the emissions that continue to be generated (e.g. through the capture and permanent storage of emissions before they are released into the atmosphere).



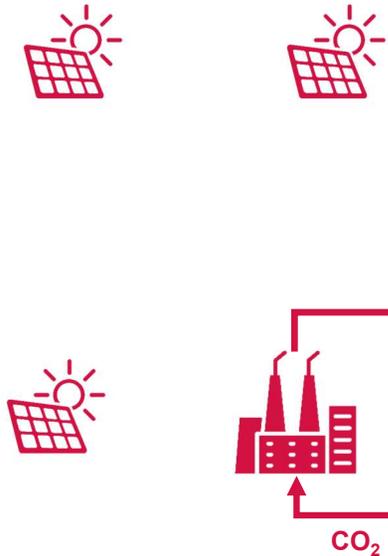
# Towards net-zero | Mitigation approaches



## 1. Decarbonization – Example



**Base year scenario:** Electric utility generates electricity with a mix of GHG emitting technologies (e.g. coal and gas)



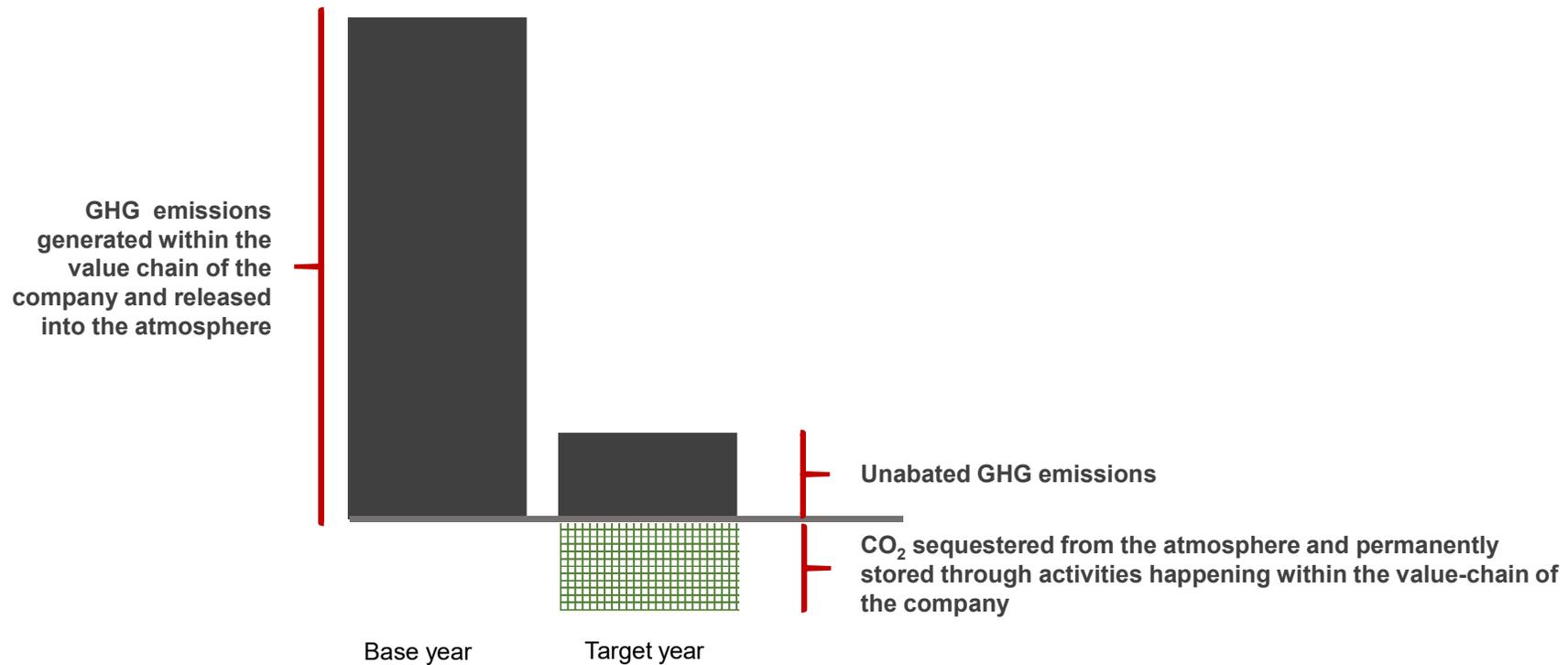
**Net-zero scenario 1:** Electric utility has shifted entire generation capacity from fossil to renewable technologies

**Net-zero scenario 2:** Electric utility has shifted some assets from emitting to non-emitting technologies and has retrofitted the remaining assets with carbon capture and storage capabilities

## Towards net-zero | Mitigation approaches



**2. Balancing emissions with removals within the value-chain** - Neutrality is achieved/claimed by balancing unabated emissions with an appropriate amount of carbon removals happening within the value-chain of the company.

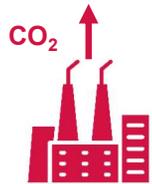


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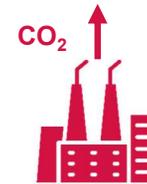
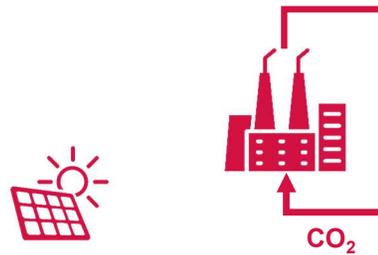
## Towards net-zero | Mitigation approaches



### 2. Balancing emissions with removals within the value-chain – Example



**Base year scenario:** Electric utility generates electricity with a mix of GHG emitting technologies (e.g. coal and gas)



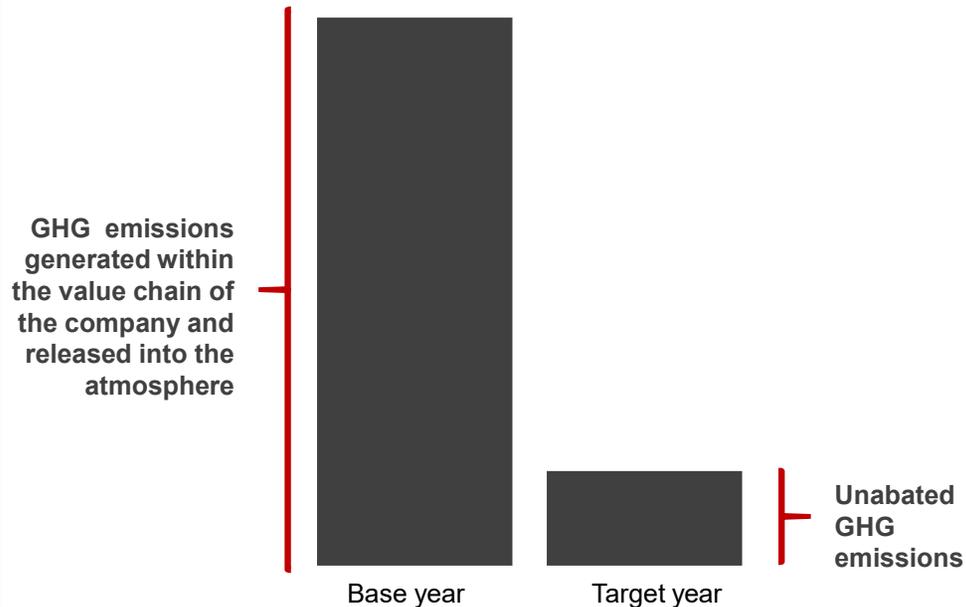
**Net-zero scenario:** Electric utility has shifted some assets from fossil to fossil-free technologies, has retrofitted some assets with carbon capture and storage capabilities, and is sequestering and storing an amount of carbon equivalent to the amount of carbon still released into the atmosphere by the remaining assets through land under operational or financial control by the company

## Towards net-zero | Mitigation approaches

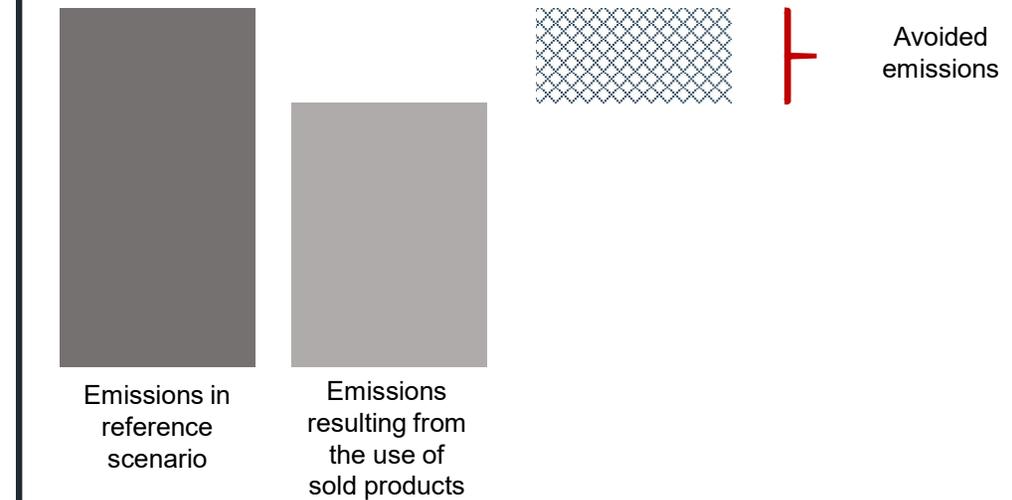


**3. Balancing emissions with emissions avoided through the use of sold products / services** - Neutrality is achieved/claimed by balancing unabated emissions with an equivalent amount of emissions avoided through the use of sold products or services

Within the value chain of the company



Within the boundary (e.g. market) where the use of sold products is deemed to have a positive climate impact



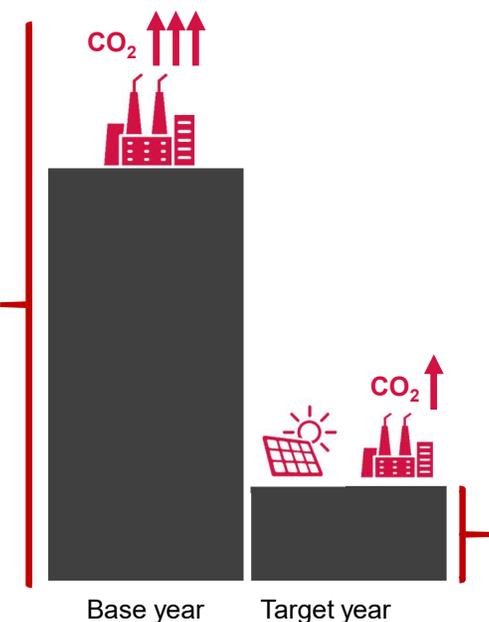
# Towards net-zero | Mitigation approaches

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## 3. Balancing emissions with emissions avoided through the use of sold products / services – Example

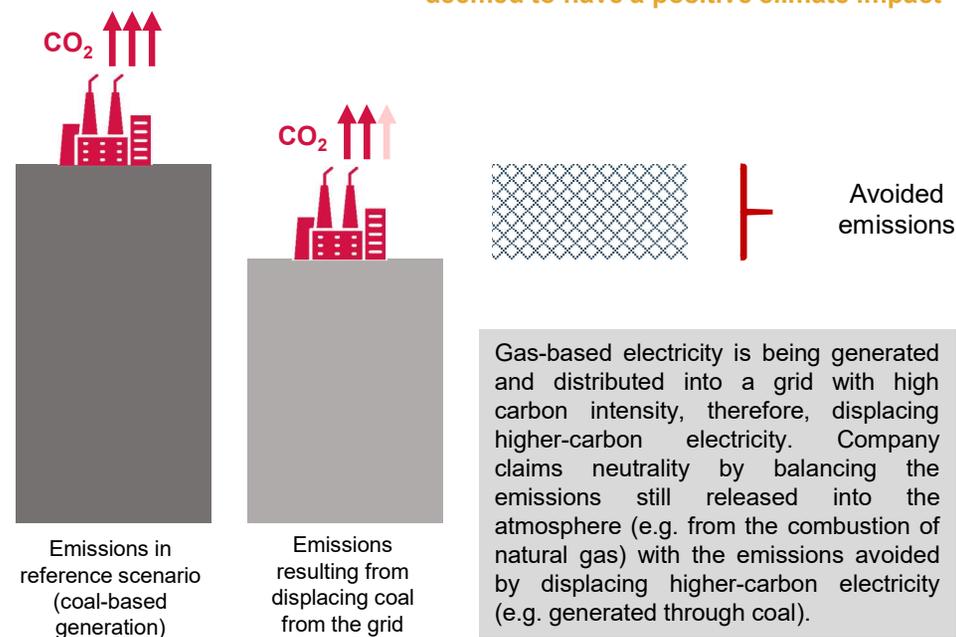
### Within the value chain of the company

**Base year scenario:**  
Electric utility generates electricity predominantly with high carbon fuels (e.g. coal)



**Net-zero scenario:**  
Electric utility has shifted some assets from coal to renewable technologies and has shifted the remaining assets from higher to lower carbon fuels (e.g. from coal to gas).

### Within the boundary (e.g. market) where the use of sold products is deemed to have a positive climate impact

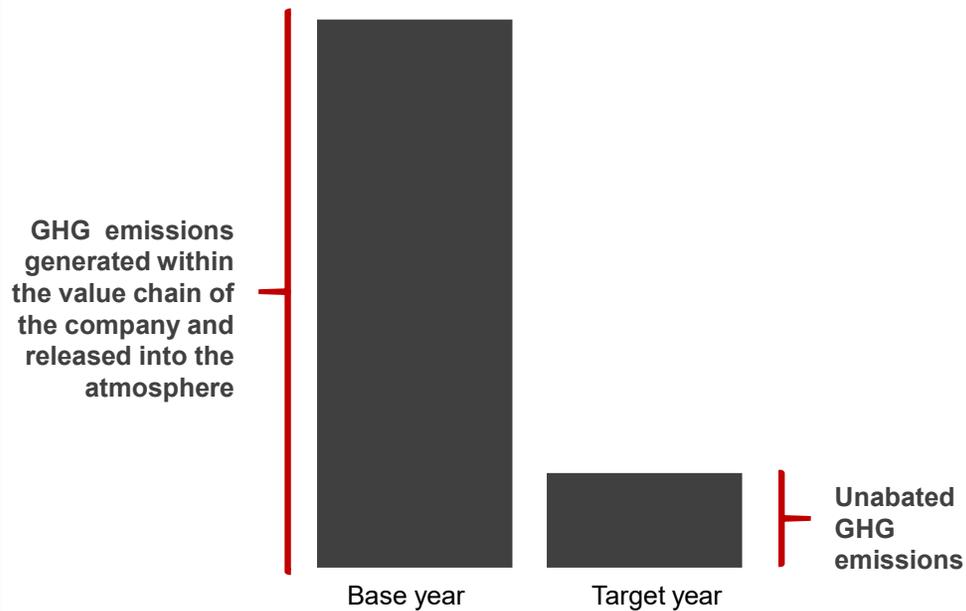


## Towards net-zero | Mitigation approaches

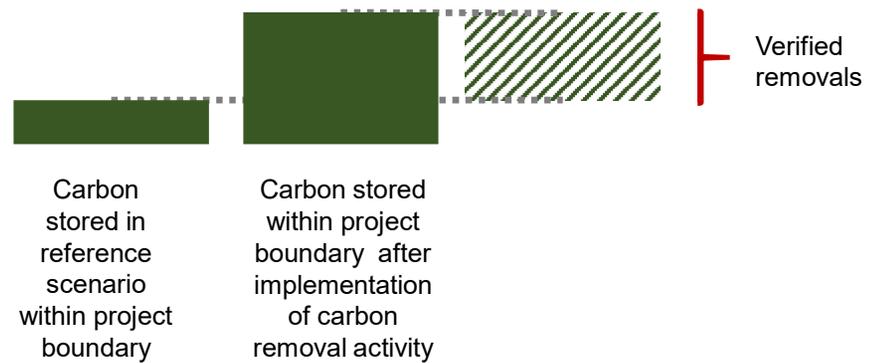


**4. Balancing emissions with carbon credits from carbon removal projects** - Neutrality is achieved/claimed by balancing unabated emissions with carbon credits generated from activities that remove carbon from the atmosphere outside of the value-chain of the company.

Within the value chain of the company



Within project boundary



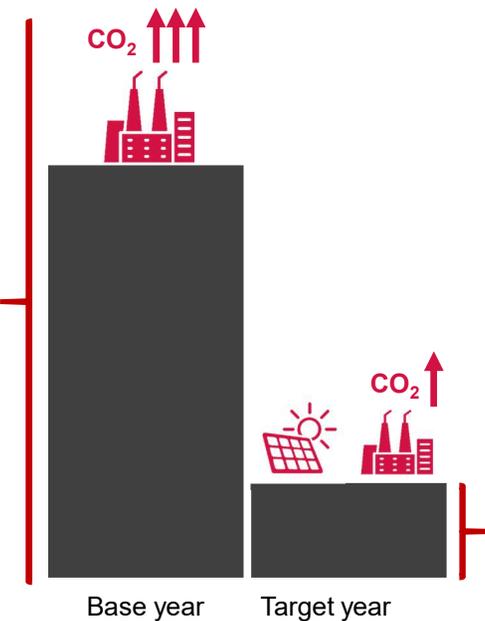
# Towards net-zero | Mitigation approaches

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## 4. Balancing emissions with carbon credits from carbon removal projects – Example

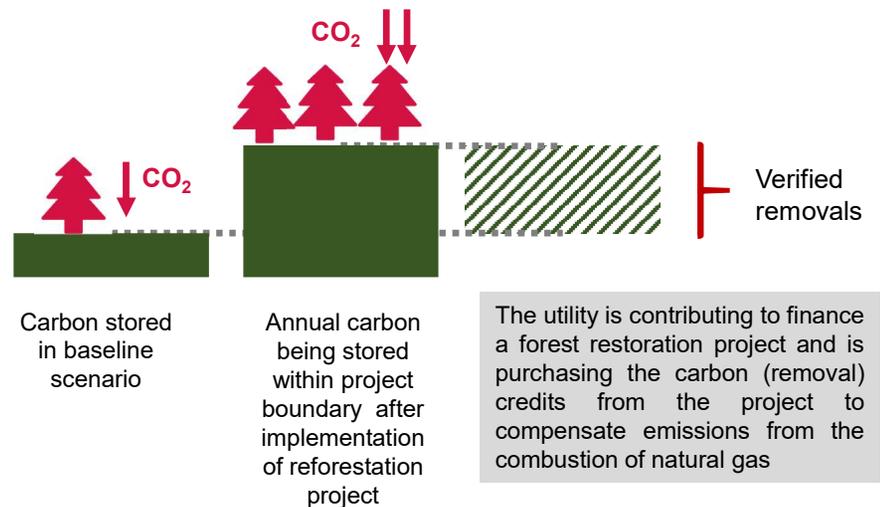
### Within the value chain of the company

**Base year scenario:**  
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### Within project boundary

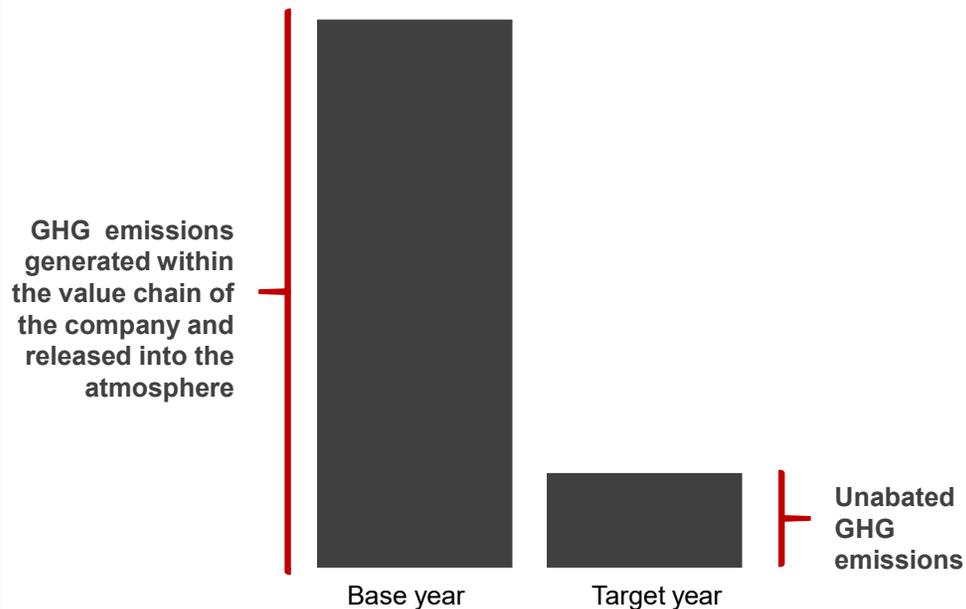


## Towards net-zero | Mitigation approaches

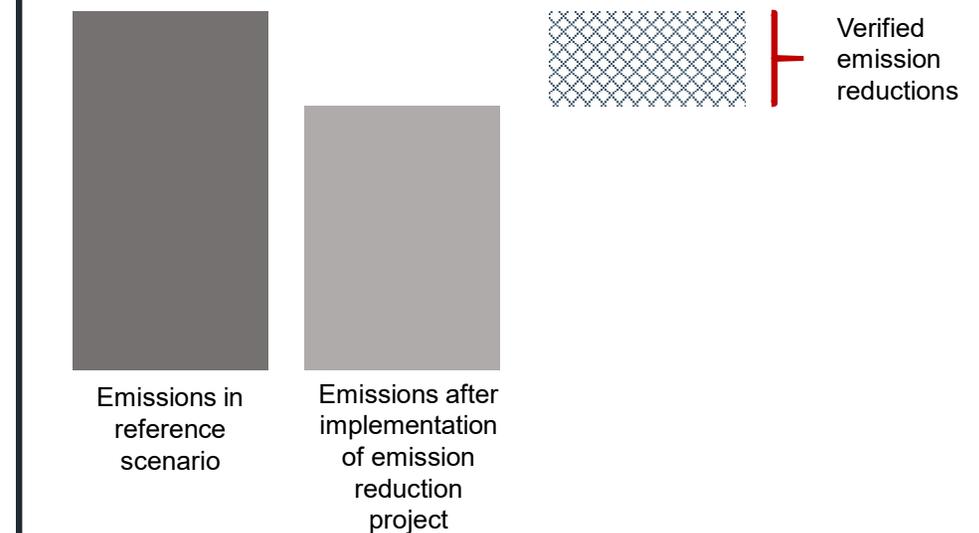


**5. Balancing emissions with carbon credits from emission reduction projects** - Neutrality is achieved/claimed by balancing unabated emissions with carbon credits generated from activities that reduce emissions outside of the value-chain of the company.

Within the value chain of the company



Within project boundary



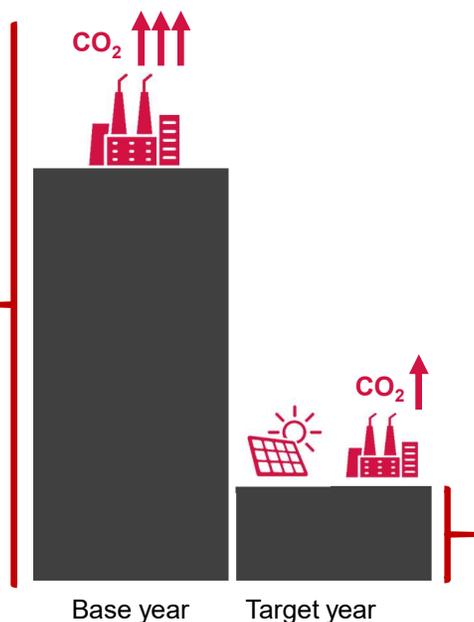
# Towards net-zero | Mitigation approaches

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## 5. Balancing emissions with carbon credits from emission reduction projects – Example

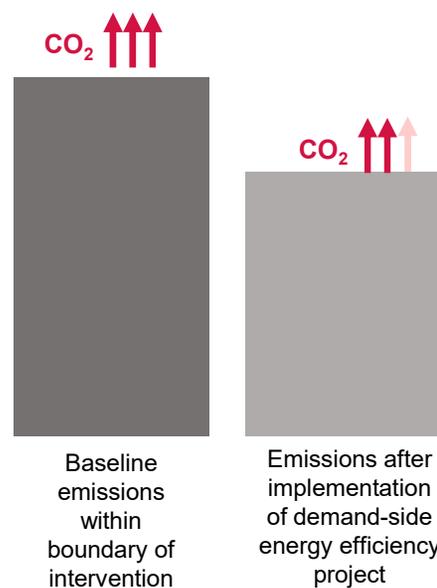
### Within the value chain of the company

**Base year scenario:** Electric utility generates electricity predominantly with high carbon fuels (e.g. coal)



**Net-zero scenario:** Electric utility has shifted some assets from coal to renewable technologies and has shifted the remaining assets from higher to lower carbon fuels (e.g. from coal to gas).

### Within project boundary



Verified emission reductions

The utility is contributing to finance an energy efficiency project that is avoiding emissions, amongst consumers, that would have been generated in the absence of such project. Carbon credits from the project are being used to balance unabated gas-combustion emissions.

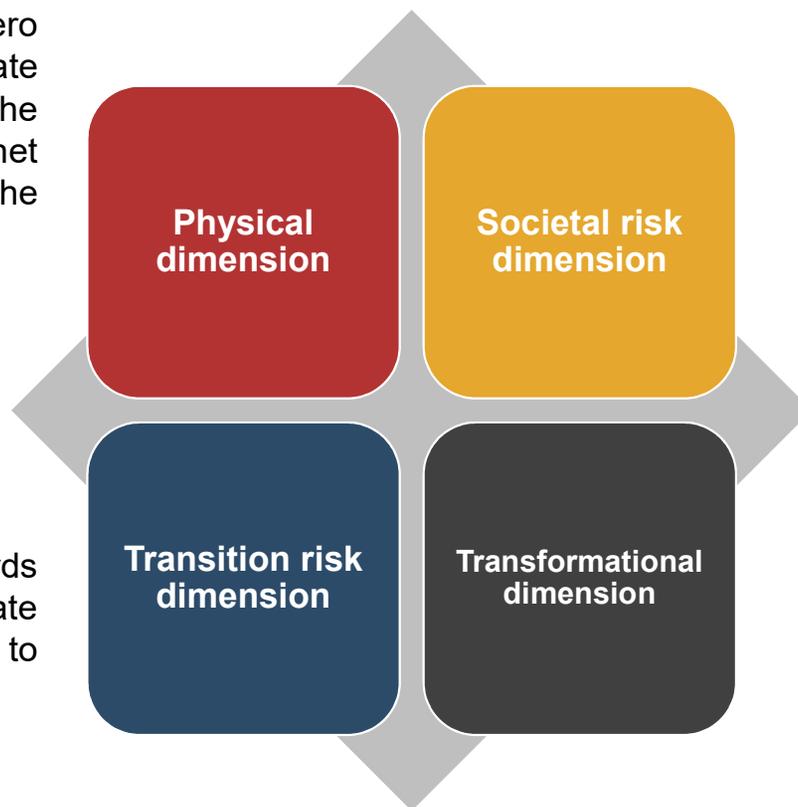


**How do we assess the strengths and weaknesses of these different mitigation approaches? How do we design a framework for driving and assessing long-term net-zero targets that is informed by science?**

## Towards net-zero | Guiding principles

**Principle 1:** Reaching net-zero emissions involves achieving a state in which the business model of the company results in no net accumulation of GHG in the atmosphere;

**Principle 3:** Transitioning towards net-zero should effectively mitigate the climate-related transition risks to which the company is exposed;



**Principle 2:** Companies should transition towards net-zero in line with mitigation pathways that limit global warming to 1.5°C with no or limited overshoot;

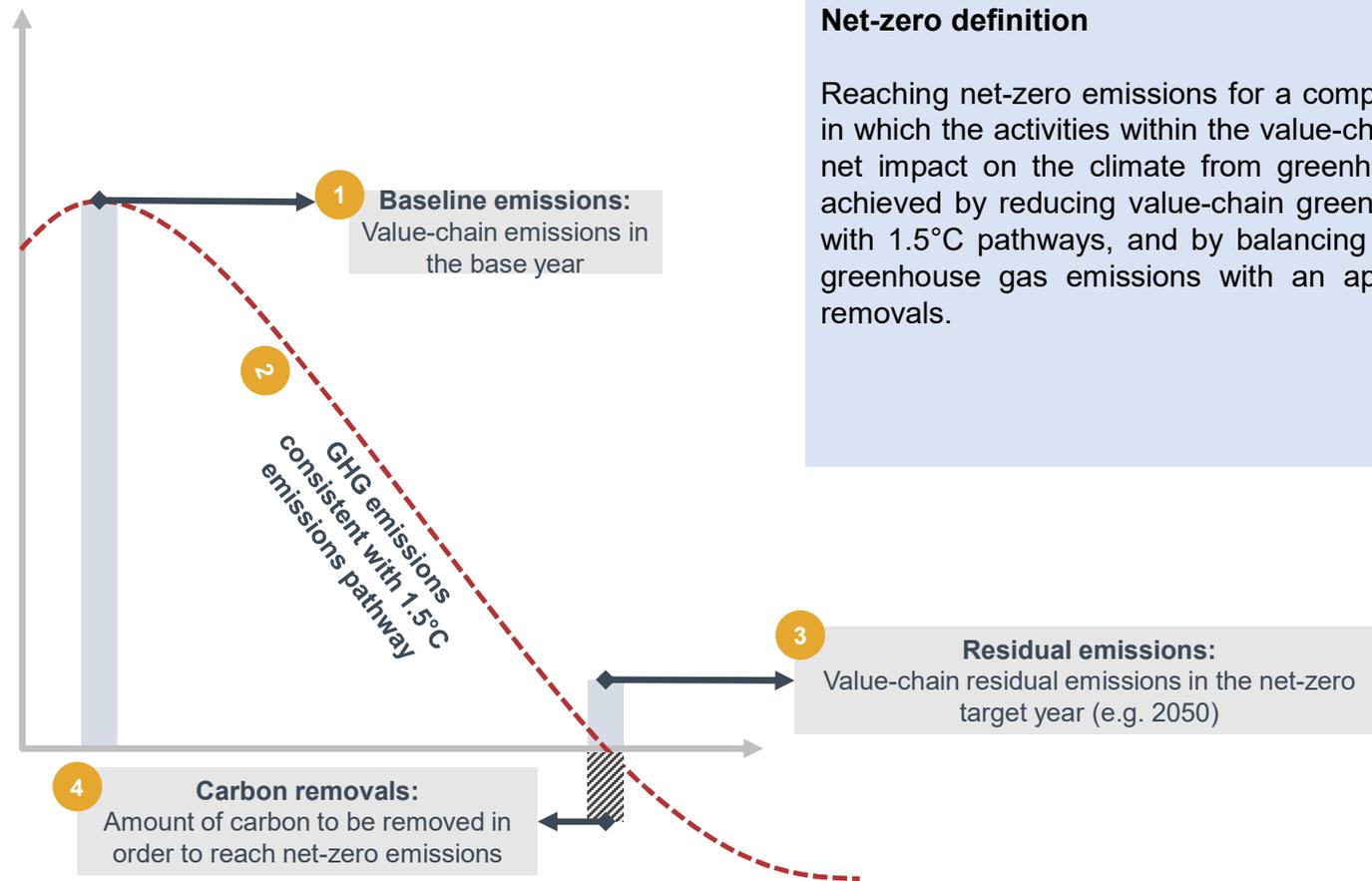
**Principle 4:** The approach followed by the company to reach net-zero emissions should inform long-term strategies and investments and should provide certainty to investors, and other stakeholders, that the business model of the company will continue to be viable in a net-zero carbon economy;

## Towards net-zero | Assessment of mitigation approaches against guiding principles

	Effectiveness to neutralise impacts from the company on the climate	Consistency with 1.5°C mitigation pathways	Effectiveness to mitigate climate-related transition risks	Effectiveness to drive transformation and to inform long-term strategies and investments
<b>Decarbonisation</b>	High	As long as decarbonisation happens in line with 1.5°C pathways	High	High
<b>Balance of emissions with removals within the value chain</b>	Depending on the permanence of sequestration	Consistent only when removals are permanent and limited to balancing residual emissions	In some cases	In some cases
<b>Balance of emissions with carbon credits from removal activities</b>	Depending on the permanence of sequestration	Consistent only when removals are permanent and limited to balancing residual emissions	Limited	Limited
<b>Balance of emissions with avoided emissions through the use of sold-products</b>	Limited	Not consistent	In some cases	Limited
<b>Balance of emissions with carbon credits from reduction activities</b>	Limited	Not consistent	Limited	Limited

Note: The assessment has been conducted applying the GHG balance sheet to the different mitigation approaches

## Towards net-zero | Definition



### Net-zero definition

Reaching net-zero emissions for a company means achieving a state in which the activities within the value-chain of a company result in no net impact on the climate from greenhouse gas emissions. This is achieved by reducing value-chain greenhouse gas emissions, in line with 1.5°C pathways, and by balancing the impact of any remaining greenhouse gas emissions with an appropriate amount of carbon removals.



## **Net-zero process – overview, opportunities for engagement and next steps**

## Towards net-zero | Building blocks



## Towards net-zero | Key milestones for net-zero process under the SBTi



### Guiding principles

Overarching principles to inform net-zero definition and the development of net-zero guidance and criteria

### Definition

Net-zero definition in the corporate sector in line with guiding principles

### Net-zero guidance

Practitioner's guidance to inform the formulation and implementation of net-zero targets in the corporate sector

### Criteria

Criteria to inform the formulation and assessment of corporate net-zero targets

## Towards net-zero | Next steps

### 1. Business ambition for 1.5°C pledge

Including net-zero working definition

(Q2, 2019)



### 2. Net-zero definition & principles

Net-zero foundations paper

(Q4, 2019)

Initial public consultation  
focused on definition, principles  
and inputs for net-zero guidance



### 3. Draft corporate net-zero guidance & consultation

Draft business guide to net-zero and public consultation process

(Q1, 2020)

Second public consultation  
focused on draft net-zero  
guidance



### 4. Final corporate net-zero guidance & criteria

Including recommendations and qualitative and quantitative criteria  
to assess corporate net-zero targets

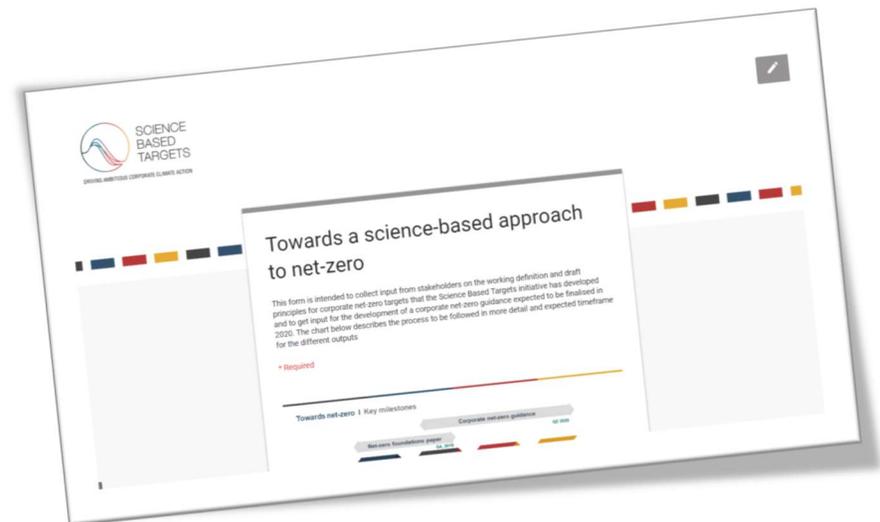
(Q2, 2020)



## Towards net-zero | Get involved



Net-zero foundations paper –  
draft for consultation ([link](#))

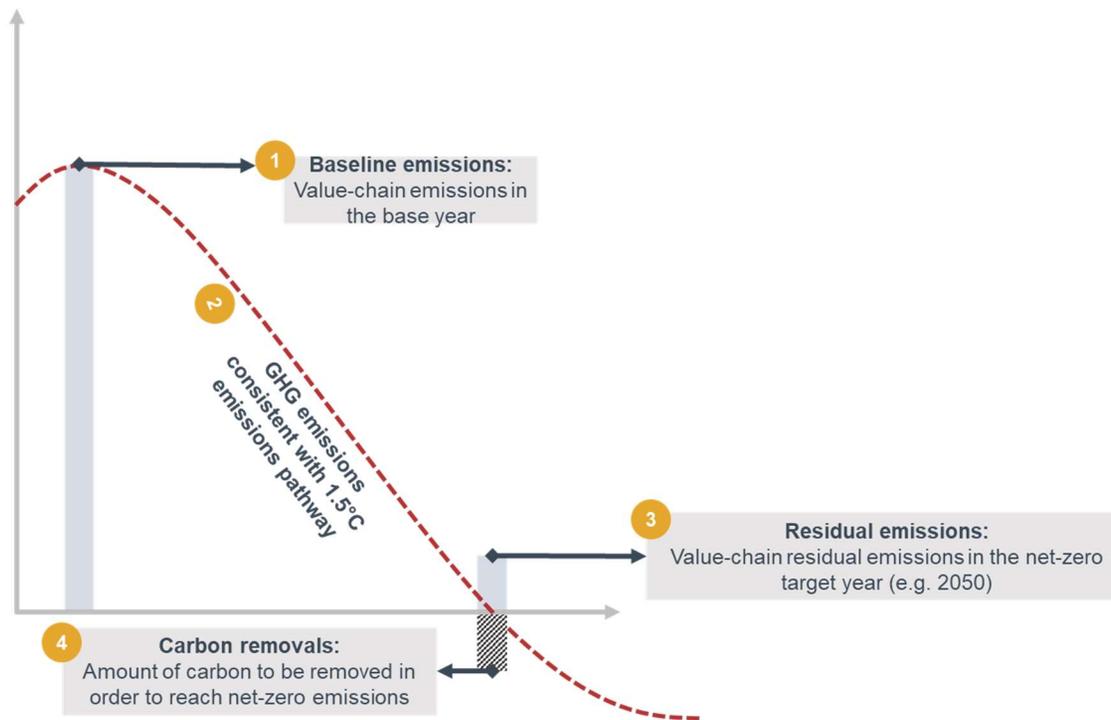


Online survey ([link](#))  
Please complete by Nov 15

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## Towards net-zero | Key open questions

(to be answered through the survey)



### The role of removals

The sequestration and storage of atmospheric carbon plays an important role in integrated assessment model (IAM) scenarios. However, there are uncertainties about the scale at which removals can occur, and concerns about deterring short or long-term decarbonisation by relying on the ability to remove carbon at scale in the future. The SBTi is taking a precautionary approach on this and is recommending that the use of removals is limited to balancing the impact of residual emissions as per 1.5°C consistent scenarios with no or limited overshoot. Do you agree with this approach?

# Towards net-zero | Key open questions

(to be answered through the survey)

**NOTE:** The upcoming GHG Protocol guidance development will determine how emissions and removals need to be publicly reported by companies. The aggregation of emissions presented in the table below is included with the sole purpose of illustrating the different components potentially involved in the determination of net GHG emissions at the corporate level.

	Gross GHG emissions (tCO <sub>2</sub> e/year) <small>Annual GHG emissions released into the atmosphere</small>	Carbon removals (tCO <sub>2</sub> /year) <small>Net annual CO<sub>2</sub> removed from the atmosphere and permanently stored</small>	Net GHG emissions (tCO <sub>2</sub> e/year) <small>Net annual GHG emissions</small>
<b>(1) Direct emissions</b>			
Scope 1	(A)	(B)	(G) = (A) – (B)
<b>(2) Indirect emissions</b>			
Scope 2	(C)	(D)	(H) = (C) – (D)
Scope 3	(E)	(F)	(I) = (E) – (F)
<b>(3) Total value-chain emissions</b>	(J) = (A) + (C) + (E)	(K) = (B) + (D) + (F)	(L) = (J) – (K)
<b>(4) Removals outside of the value-chain of the company</b>		(M)	
<b>(5) Net balance of emissions and removals</b>			(N) = (L) – (M)

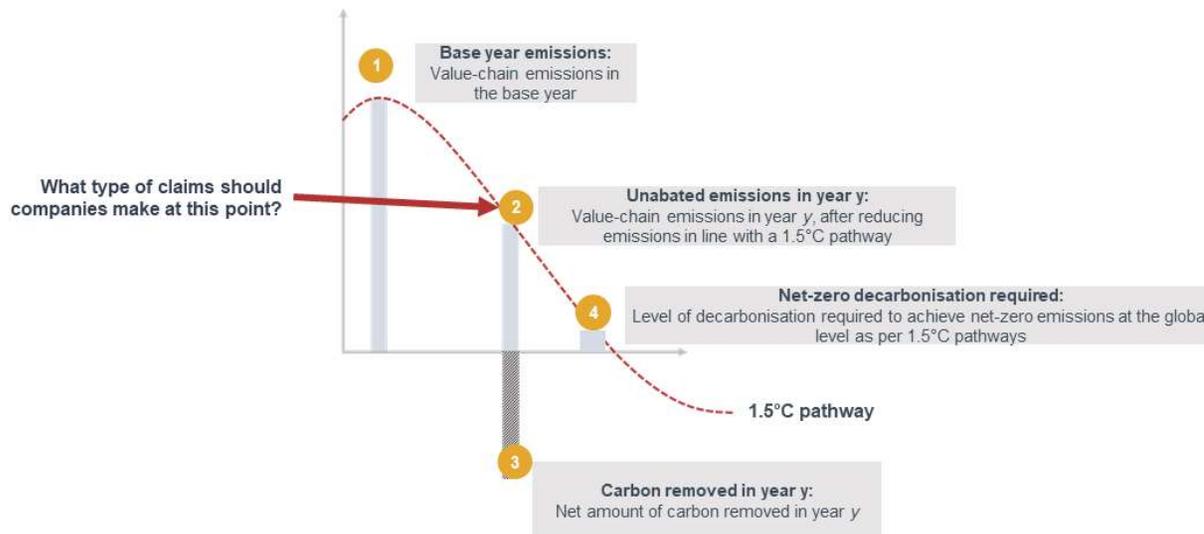
Should removals outside of the value-chain be used to achieve net-zero emissions?

## Removals outside of the value-chain

Carbon removal activities could potentially occur within the value-chain of companies (e.g. for companies with land-related activities) but also outside of the value-chain of companies (e.g. through market mechanisms). The SBTi has not adopted a position on this yet. Please share your views about the source of removals for corporate net-zero targets recognised by the SBTi

## Towards net-zero | Key open questions

(to be answered through the survey)

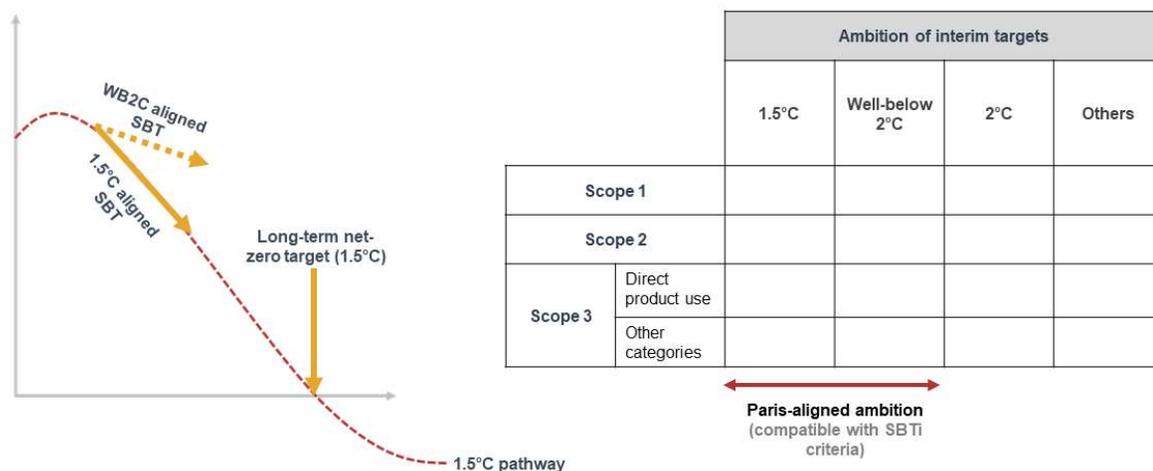


### Net-zero claims

Companies may start balancing their unabated emissions with removals before achieving the level of decarbonisation that is compatible with achieving net-zero emissions at the global level. In your view, what type of claims should companies make in these cases?

## Towards net-zero | Key open questions

(to be answered through the survey)



### Ambition of interim targets

Net-zero targets are generally long-term targets (exceeding a 15 year timeframe). For this reason, the SBTi recommends supplementing long-term net-zero targets with interim targets. In your opinion, what should be the ambition required for interim targets to be recognised by the SBTi? (Note: interim targets refer to short or mid-term targets that supplement long-term net-zero targets)

## GHG Protocol update | Need for new guidance



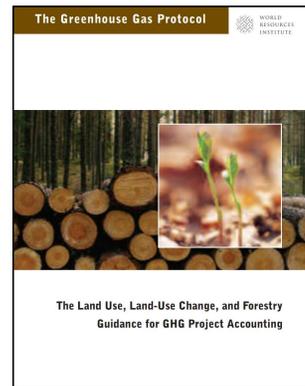
WORLD  
RESOURCES  
INSTITUTE



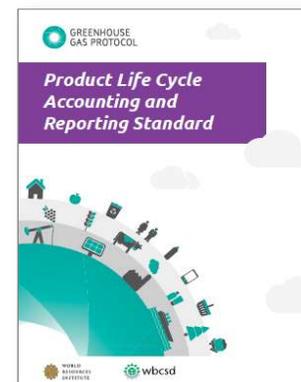
Limited guidance for corporate GHG inventories on accounting for emissions and removals from land use, land use change and forestry across the scopes



Agriculture sector  
guidance for  
companies



Project accounting:  
Guidance for quantifying and  
reporting GHG reductions  
from LULUCF project  
activities



Product-level inventories:  
Includes guidance on  
accounting for land use  
change (Appendix B)

Increasing questions about how  
to account for activities such as:

- Land use and management
- Land use change
- Carbon removals
- Bioenergy

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## GHG Protocol update | Need for new guidance



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- New Greenhouse Gas Protocol guidance will be developed on how to account for:
  - Land use
  - Land use change
  - Carbon removals
  - Bioenergy
- Guidance will build on existing GHG Protocol standards, covering scopes 1, 2 and 3
- Guidance will be used by the Science Based Targets initiative

### Get involved:

- ✓ Scoping survey (early 2019)
- Convene technical working group and review group (Q4 2019)
- Develop first draft (Q3 2020)
- Review and pilot testing (Q4 2020)
- Publish guidance (Q3 2021)

Click [here](#) to learn more about the project

If you are interested in participating, please fill out the expression of interest form by Sunday, November 10.

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Q&A

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