



ADVANCING NET ZERO: ESSENTIAL KNOWLEDGE

Thank you for joining – we'll get started shortly

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The voice of our sustainable
built environment

UK Green Building Council ukgbc.org



ADVANCING NET ZERO: ESSENTIAL KNOWLEDGE



AN OVERVIEW OF NET ZERO ORGANISATIONS



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22 SEPT

Advancing Net Zero in the Built Environment - An Introduction

29 SEPT

Net Zero in Organisations

13 OCT

Defining, Designing, and Delivering Net Zero Carbon Buildings

27 OCT

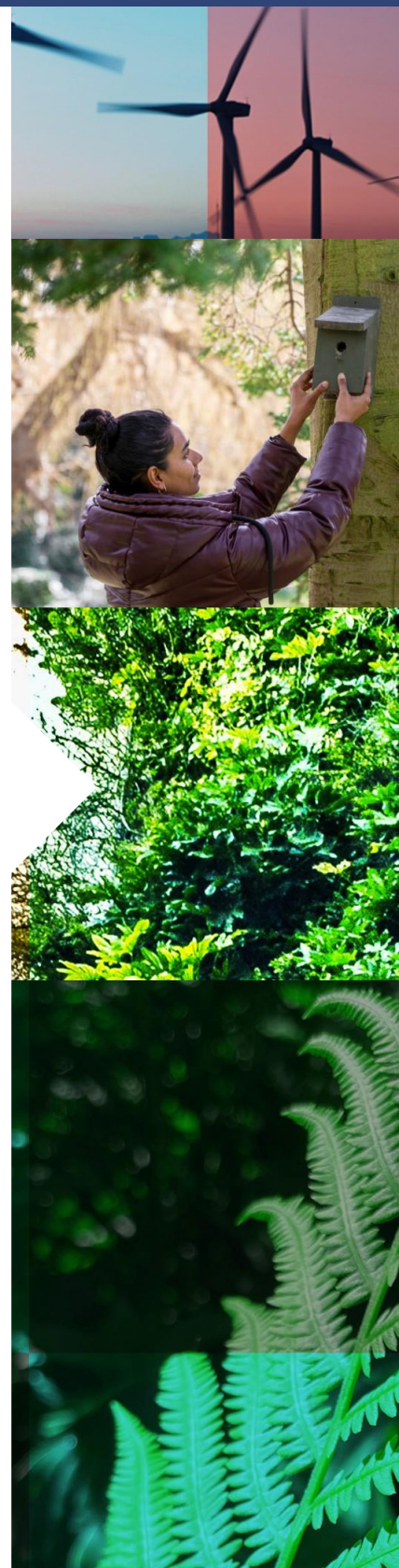
Whole Life Carbon and the Circular Economy

10 NOV

Procuring Renewable Energy and Carbon Offsets

24 NOV

Retrofitting the UK's Built Environment



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TODAYS SESSION



Joe Pitts-Cunningham
Experiential Learning
Manager, UKGBC



Lucy Rees
Head of Insights and
Innovation, UKGBC



Louise Clarke
Group Head of
Sustainability, Berkeley
Group



Duncan Price
Partner, Global Sustainability
& Climate Change Leader,
Buro Happold

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AGENDA

09:30	Welcome & setting the context
09:40	An introduction to net zero in the built environment - Lucy Rees
09:55	Louise Clarke, Group Head of Sustainability, Berkeley Group
10:05	Duncan Price, Global Sustainability & Climate Change Leader, Buro Happold
10:15	Q&A
10:25	Close and what next?
10:30	Extended Q&A (to 10:45)



The voice of our sustainable
built environment

To radically improve the sustainability of the built environment, by transforming the way it is planned, designed, constructed, maintained and operated.



WE COLLABORATE by convening diverse built environment organisations to engage in a common purpose

WE ADVOCATE by calling for ambitious commitments, stronger standards and progressive policy

WE ENABLE by developing guidance, showcasing solutions and stimulating innovation

WE INSPIRE by sharing knowledge and best practice, encouraging transformational leadership



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ADVANCING NET ZERO



ADVANCING
NET ZERO

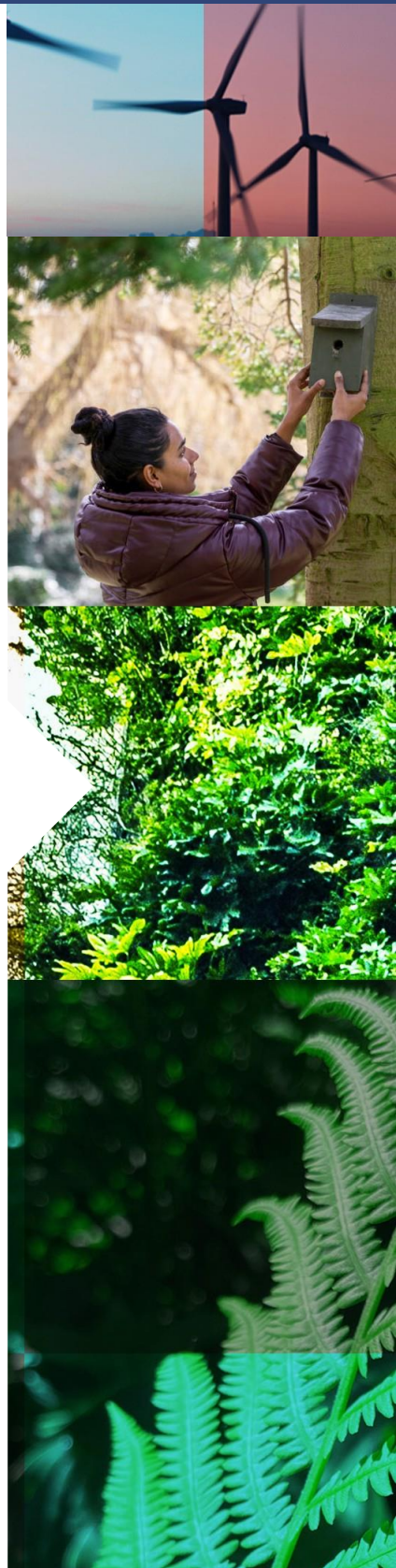


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WITH THANKS TO OUR PROGRAMME PARTNERS



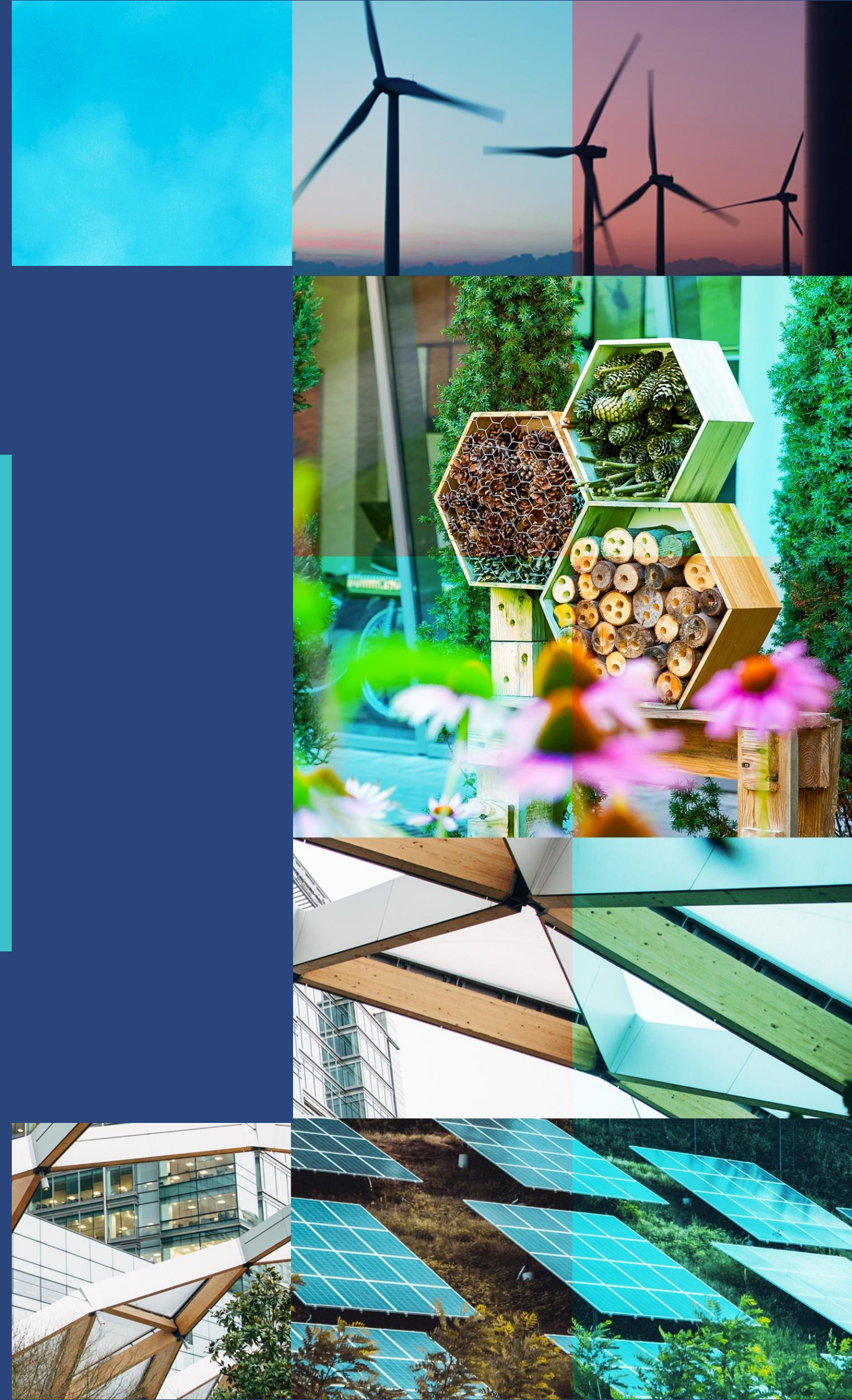
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YOUR ORGANISATION AND NET ZERO

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GETTING STARTED

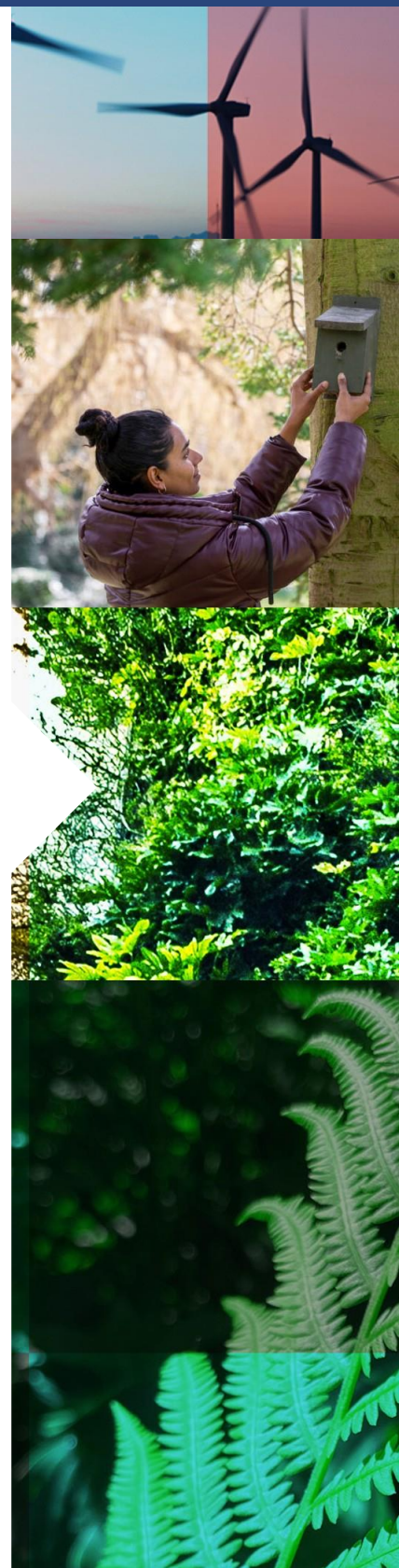
Setting the scene

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WHY IS THIS TOPIC IMPORTANT?

- UK must reach net zero by 2050
- Organizations must also reach net zero by 2050

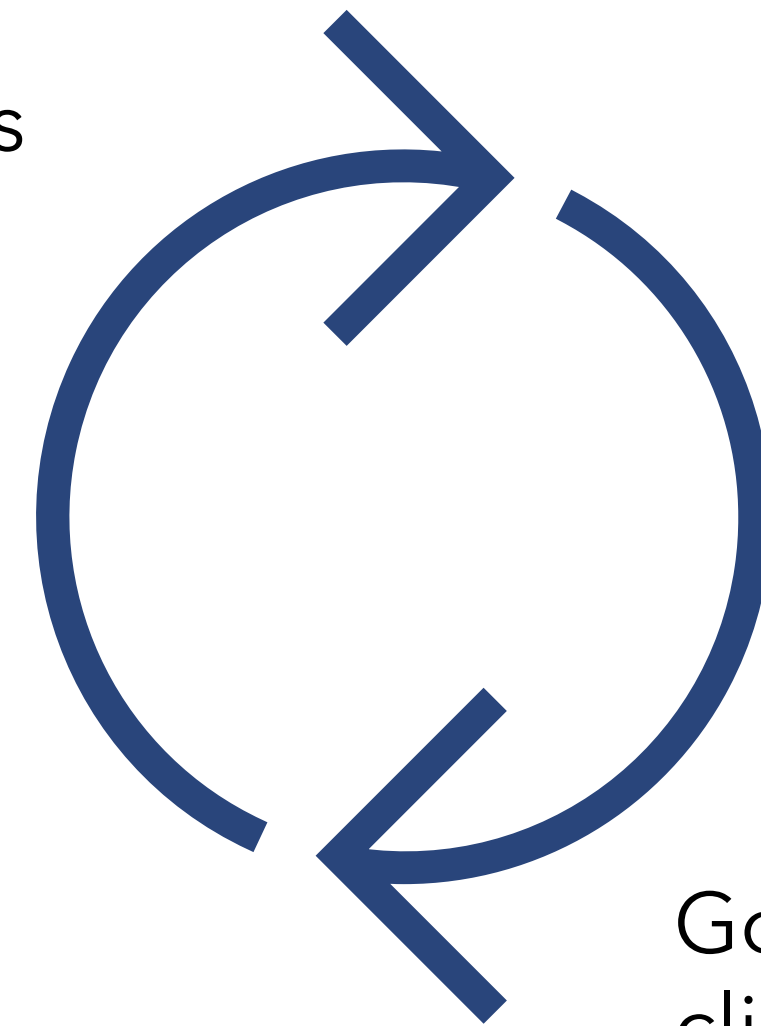


WHY IS THIS TOPIC IMPORTANT?

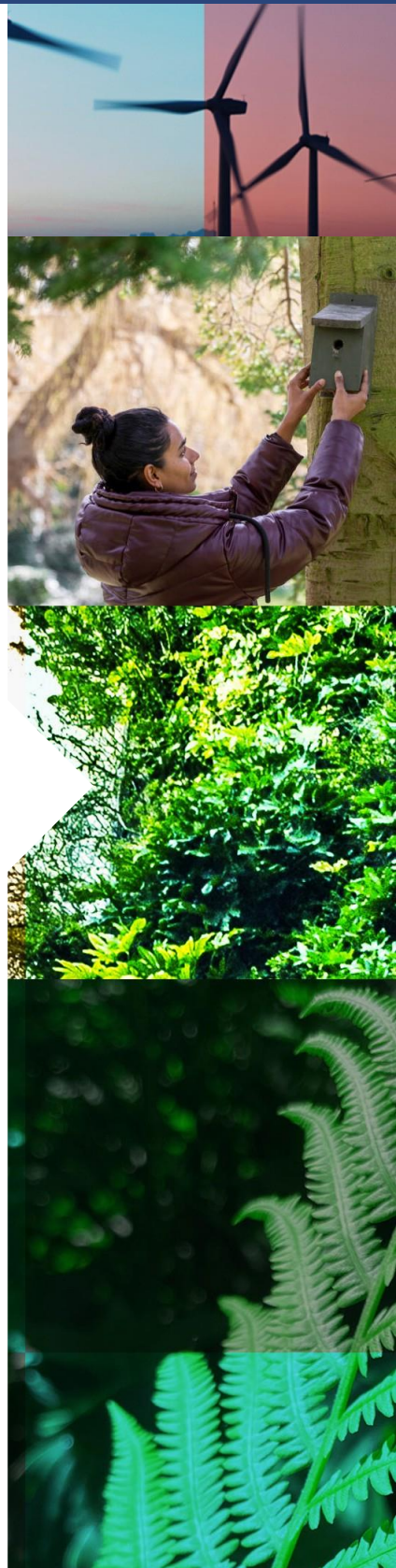
Greenwashing

Green hushing

Business
climate
action



Government
climate
policy



WHAT'S THE ROLE OF THE BUILT ENVIRONMENT?



25%

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INTRODUCTION TO NET ZERO ORGANISATIONS

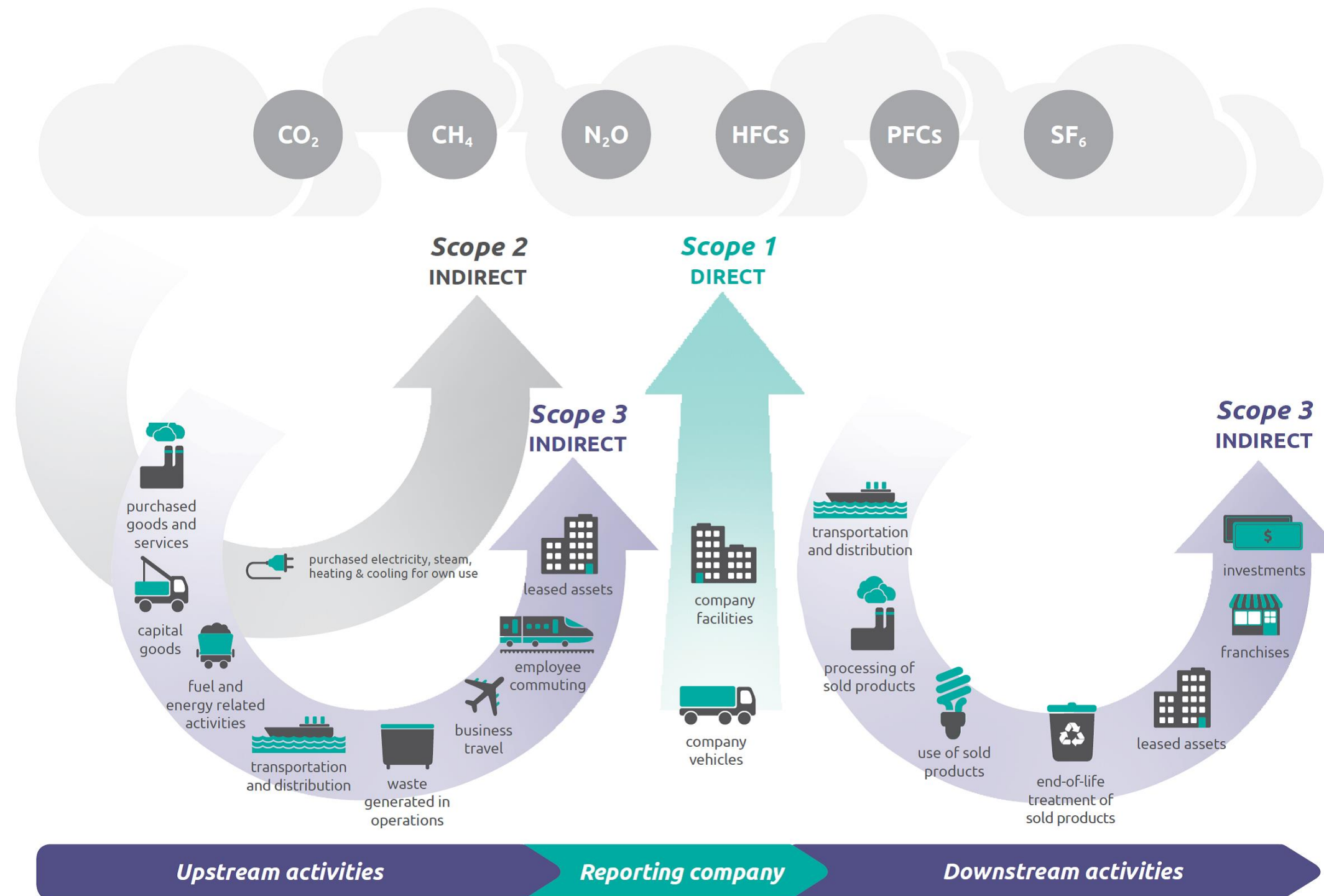
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Jargon Buster

Greenhouse Gas Emissions

Gases in the Earth's atmosphere that **trap heat**. The potential of each gas to cause warming is assessed in relation to a given weight of CO₂, so all GHG emissions are collectively measured as **carbon dioxide equivalents (CO₂e)**.



Greenhouse Gas Protocol

Standardised framework to **measure and manage** GHG emissions from private and public sector operations and value chains. One of the most used **accounting standards** that categorises emissions into 3 'scopes'.

Jargon Buster

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Greenhouse Gas Protocol

Standardised frameworks to measure and manage GHG emissions from private and public sector operations and value chains. It is one of the world's most widely used GHG accounting standards and categories emissions into three types of 'scope'.

Scope 1 Emissions

GHG emissions that a company makes directly, for example by running boilers and vehicles.

Scope 2 Emissions

GHG emissions that a company makes indirectly, for example by buying electricity or energy to heat and cool buildings.

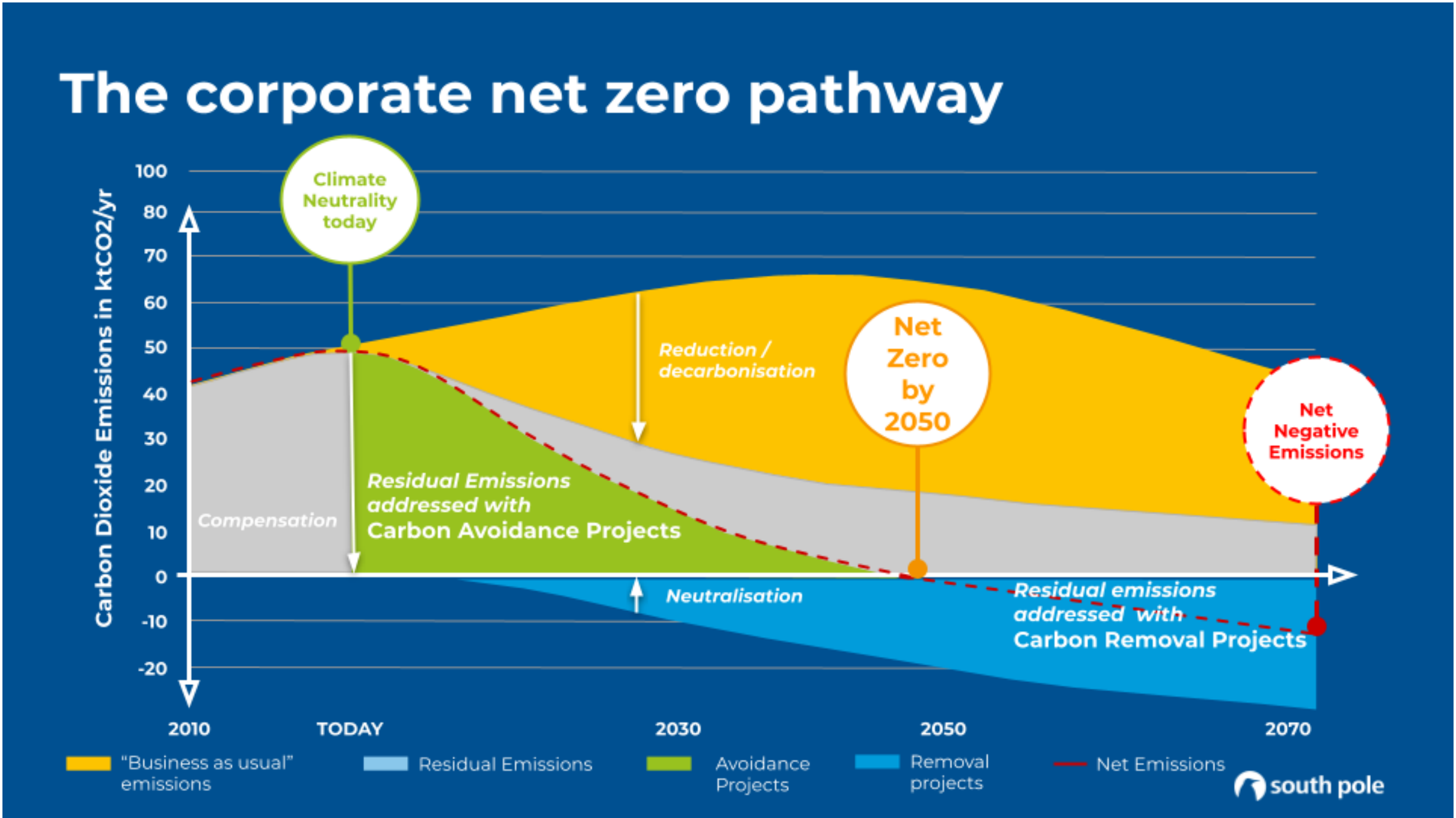
Scope 3 Emissions

All other GHG emissions associated not with the company itself, but with the value chain that it is responsible for. These can be 'upstream' emissions coming from the production of products or services used by an organisation, or 'downstream' emissions coming from the use and disposal of these.

Jargon Buster

NET ZERO CARBON
NET ZERO

CARBON NEUTRAL
CLIMATE NEUTRAL



CARBON NEGATIVE
NET NEGATIVE
CLIMATE POSITIVE

ZERO CARBON
ABSOLUTE ZERO
ZERO EMISSIONS

Jargon Buster

Climate Neutral Organisation

When an organisation compensates for all its GHG emissions with GHG reductions or removals elsewhere outside of its value chain.

Net Zero Organisation

When an organisation reduces its GHG emissions across all scopes as far as possible following science-based pathways, with a small portion of residual unavoidable emissions being fully neutralised using removals outside the value chain.

Net Negative / Climate Positive Organisation

When an organisation has reduced GHG emissions as far as possible in pursuit of net zero *and* its removals (internal and external) exceed the quantity of its residual emissions.

Absolute Zero Organisation

When there are no GHG emissions attributable to an organisation's activities across all scopes.

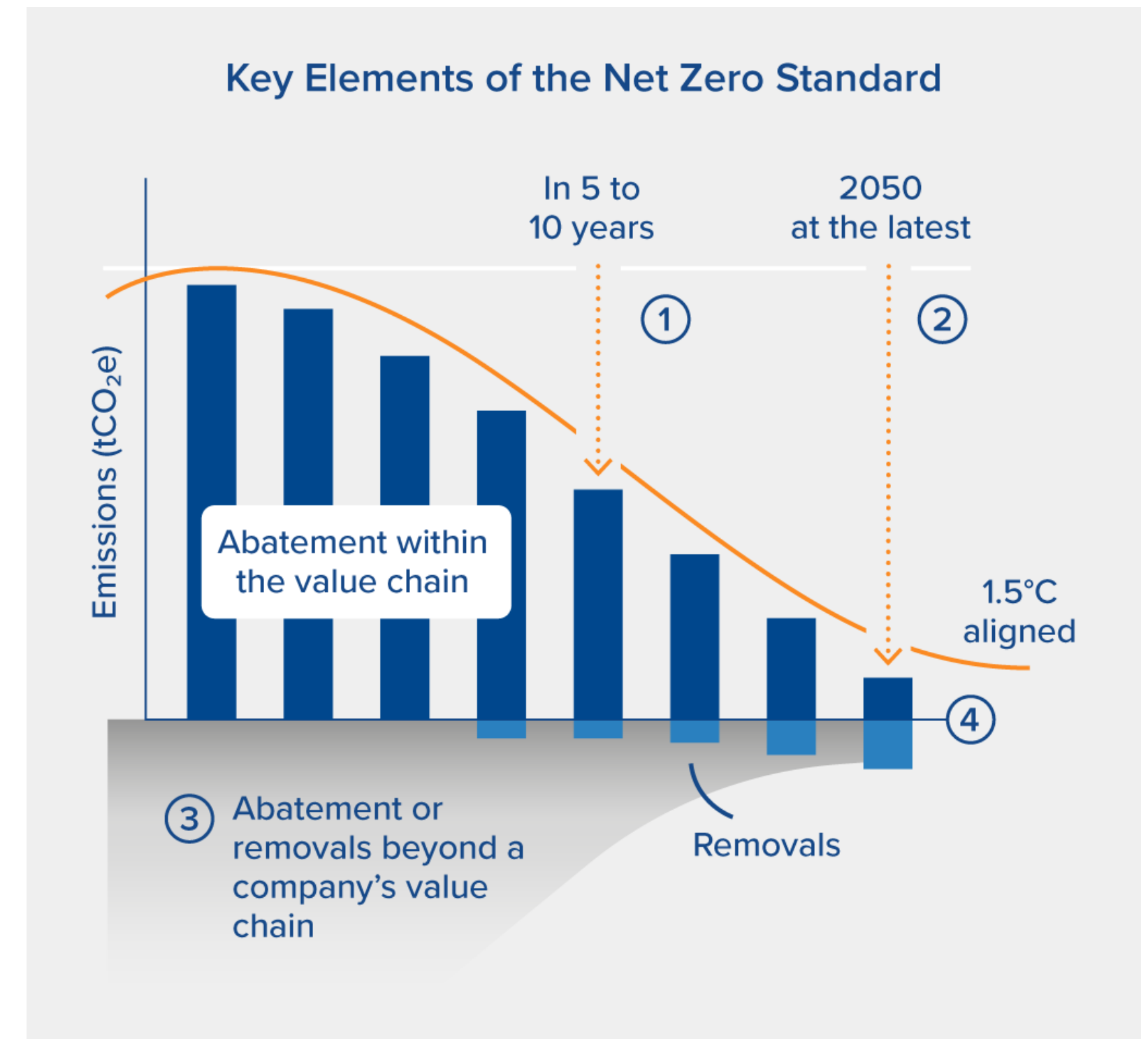
Science-Based Target (SBT)

Emissions reduction targets are considered most ambitious and credible when they are in line with what the latest climate science says is necessary to meet the Paris Agreement goal of limiting global warming to 1.5C. Organisations should set both near- and long-term SBTs.

Net Zero Organisations: science-based target setting

To reach net zero, companies should deeply reduce their GHG emissions following four key principles:

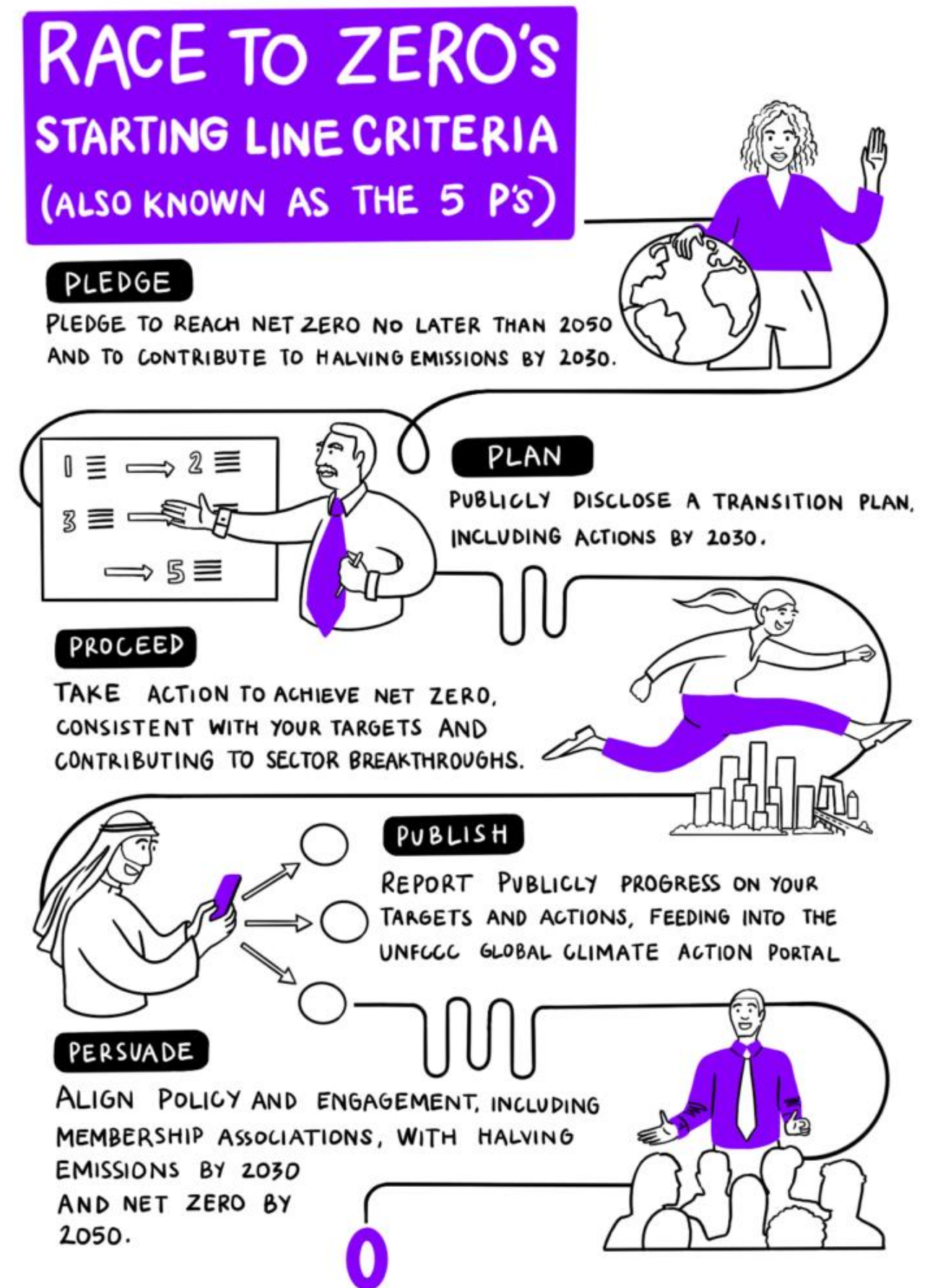
- (1) Set 5-10 year targets to reduce scope 1, 2 and 3 emissions by at least 50% before 2030.
- (2) Set a long-term (net zero) target to cut all possible GHG emissions by 2050. Most companies need to cut absolute scope 1, 2 and 3 emissions by >90%.
- (3) Take action to mitigate emissions beyond the company's own value chain.
- (4) Counterbalance residual <10% emissions through permanent carbon removal and storage.



SBTi Corporate Net Zero Standard

The Race to Zero

- Launched in June 2020 by the UNFCCC.
- Organisations join the Race via a 'Partner' initiative.
- Global campaign rallying non-state actors to take immediate action to halve global emissions by 2030 and deliver a healthier, fairer, zero carbon world by 2050.
- Robust, science-aligned criteria, requiring emission reduction targets across scopes 1, 2 and 3.
- Five mandatory 'Starting Line' criteria, known as the 5 P's, plus voluntary 'Leadership Practices'.



Taking Action

AVOID



REDUCE



INVEST

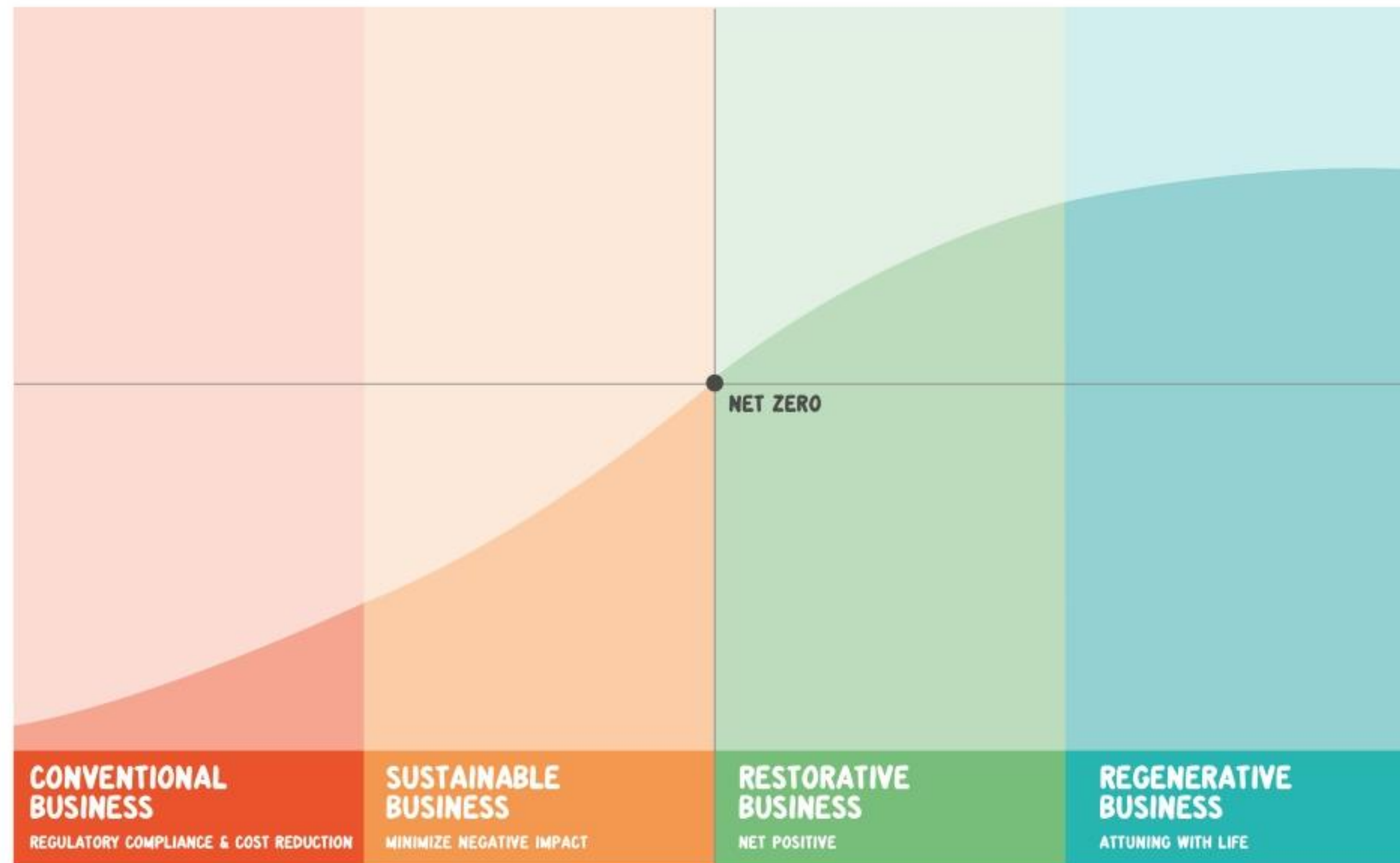


INNOVATE



Is Net Zero Enough?

PROGRESSIVE STAGES OF BUSINESS IMPACT





SOME QUESTIONS

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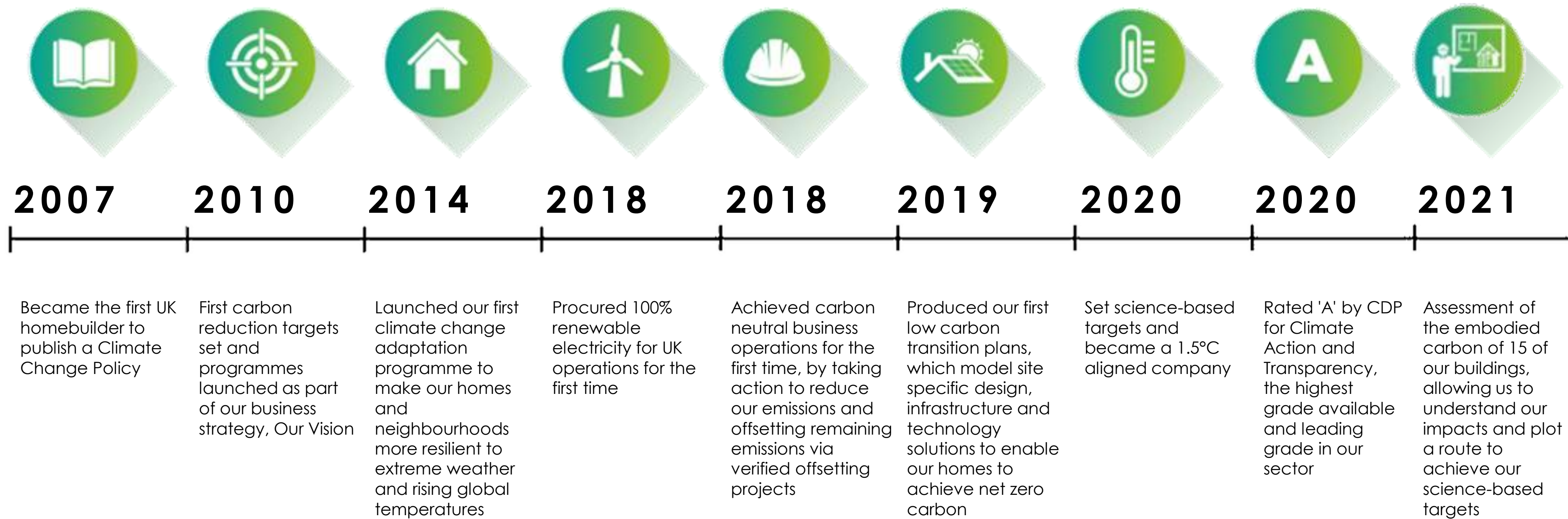


UKGBC webinar

Net Zero in Organisations

Berkeley Group

Our Journey and key achievements



Low carbon operations

- Reduce energy on our sites, offices and marketing suites
- Procure renewable energy directly
- Buy REGO's (Renewable Energy Guarantees of Origin)
- Offset our remaining emissions



Low carbon operations

- Most of our direct emissions are on our construction sites.
- Reducing these emissions has been a key focus for a number of years
- Our approach:
 1. Connect to the grid as soon as possible
 2. Use electric machinery, equipment and tools,
 3. We encourage the use of biodiesel HVO (Hydrotreated Vegetable Oil) which is derived from renewable raw materials such as vegetable oils
- We allocate carbon budgets on each site

Most
preferable
option

Prevent use of energy and
reduce demand

Go electric (TBS, electric tools and
on-site generation)

Hybrid systems (used with biofuel)

Biofuels (e.g., HVO)

Least
preferable
option

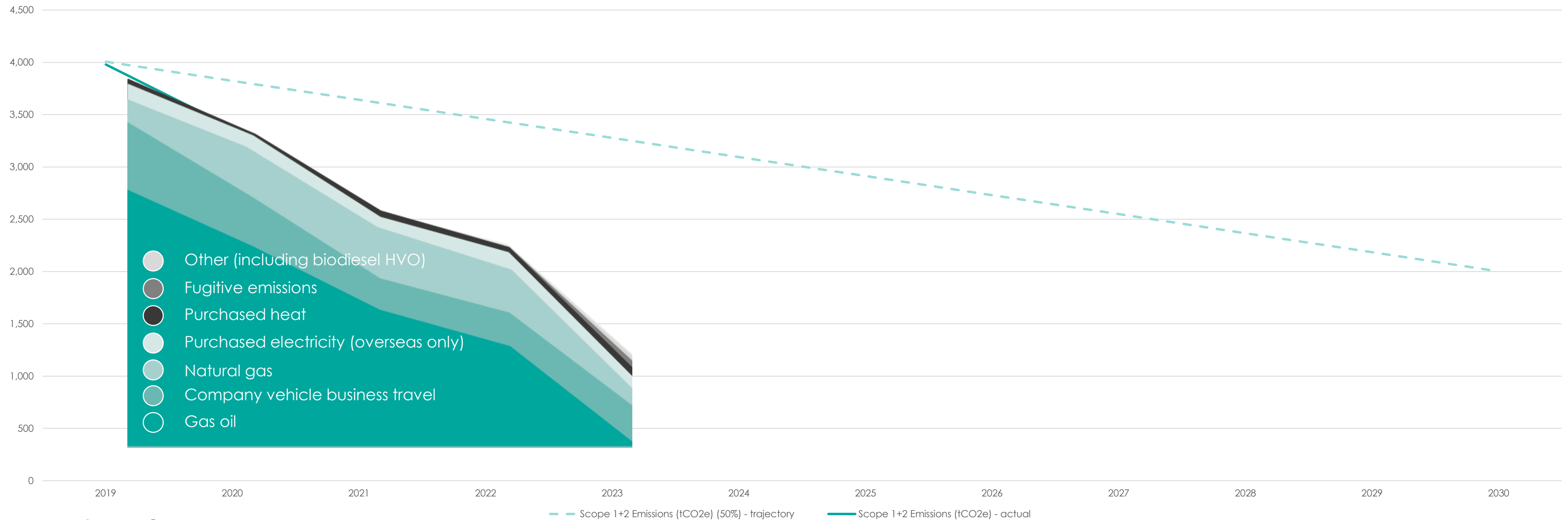
Fossil fuel

SBT for Scopes 1 and 2 (market-based) emissions

- **56% reduction** in Scopes 1 and 2 emissions in 2022/23 compared to 2021/22
- **76% reduction** in Scopes 1 and 2 emissions in 2022/23 compared to baseline, meaning **we have met our SBT for Scopes 1 & 2!**

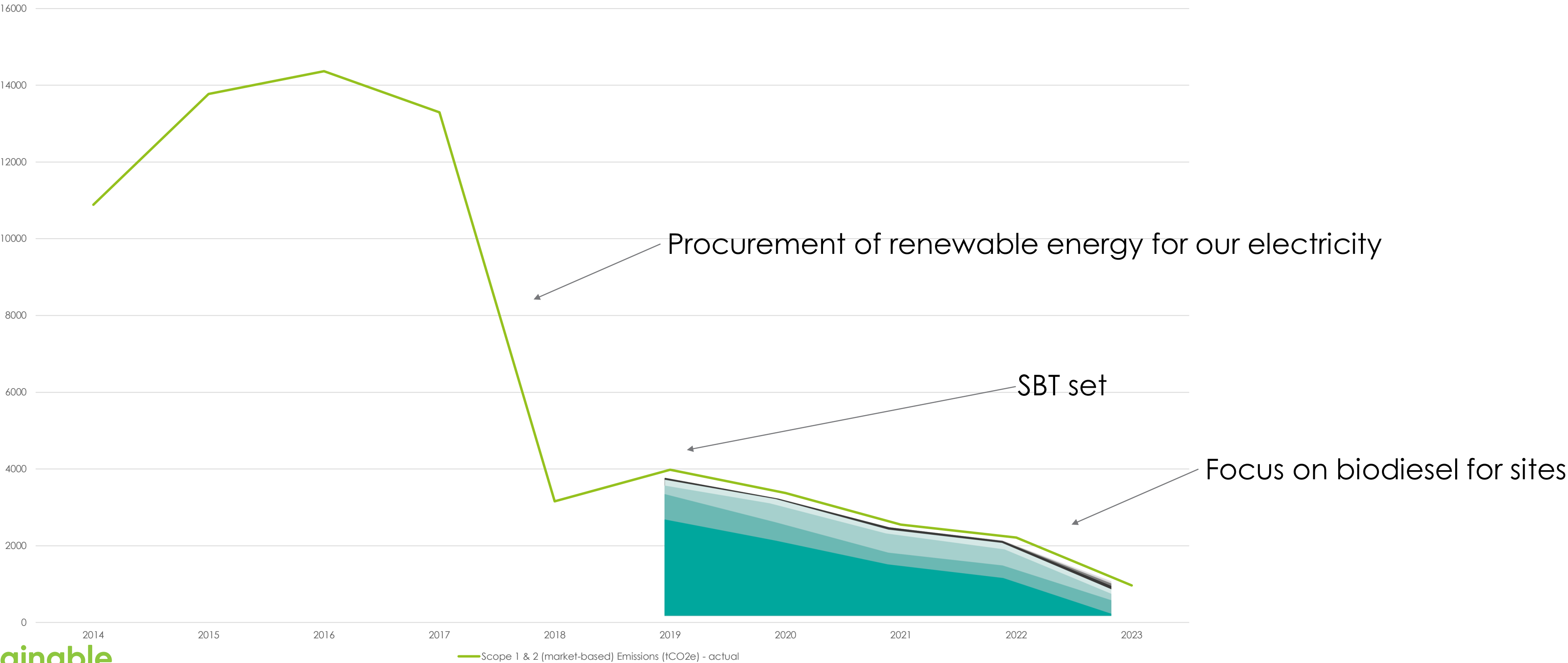


Scopes 1 and 2 emissions – Actual vs SBT trajectory



Scopes 1 and 2 (market-based) emissions

Actual performance vs Scopes 1 and 2 (market-based) SBT

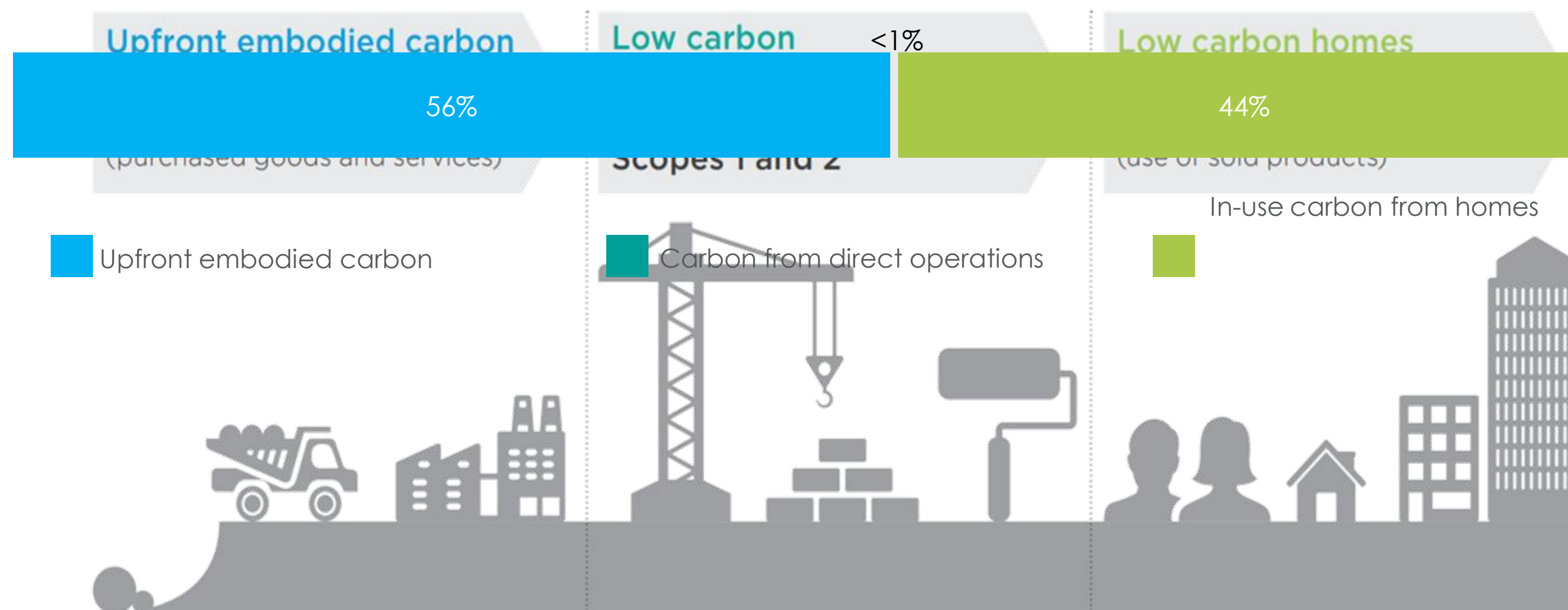


Berkeley's carbon reduction targets

40% Reduction in carbon impact of the materials and services Berkeley uses between 2019 and 2030

50% Reduction in Berkeley's emissions from its direct operations between 2019 and 2030

40% Reduction in the in-use carbon emissions of the homes Berkeley builds between 2019 and 2030



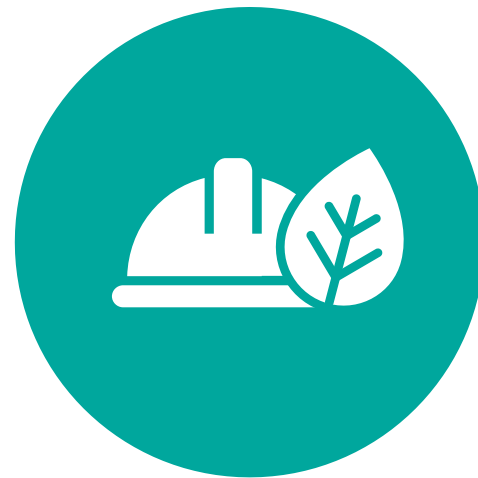
Climate Change Action Plan



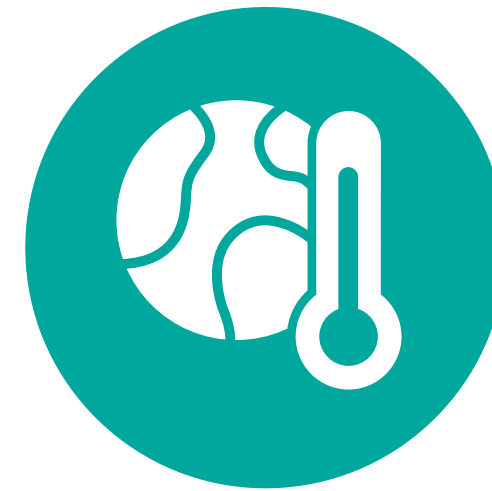
Embodied
Carbon



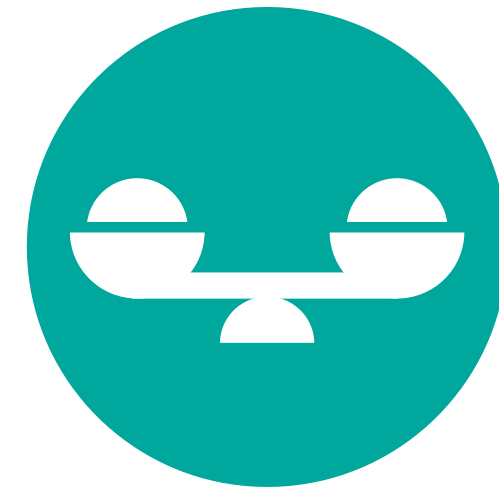
Low Carbon
Homes



Low Carbon
Construction Site



Climate Change
Resilience



Balancing Our
Impacts

Net Zero in Organisations

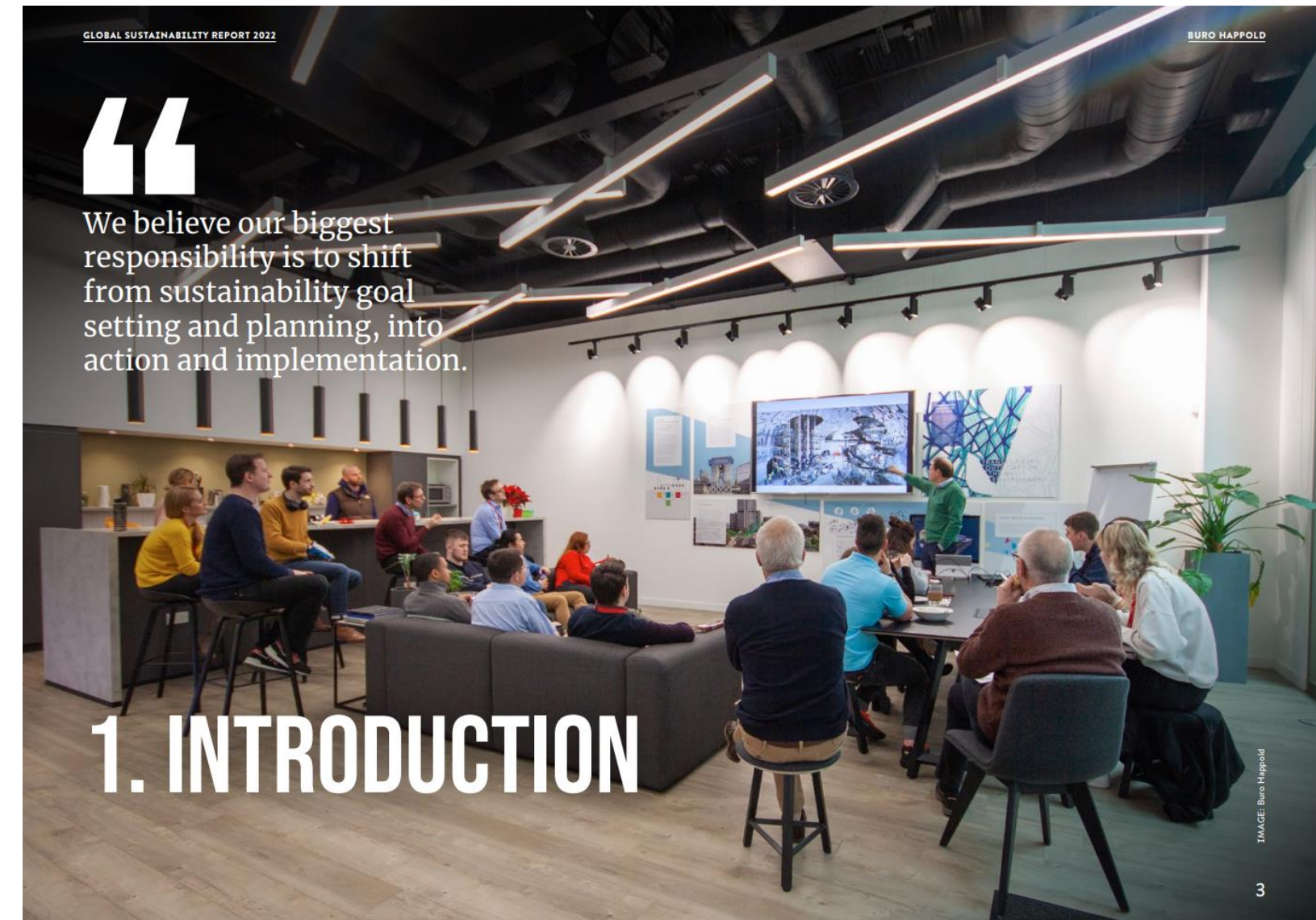
UKGBC Advancing Net Zero – Essential Knowledge Series

Duncan Price, Partner, Global Sustainability / Climate Lead

29 September 2023

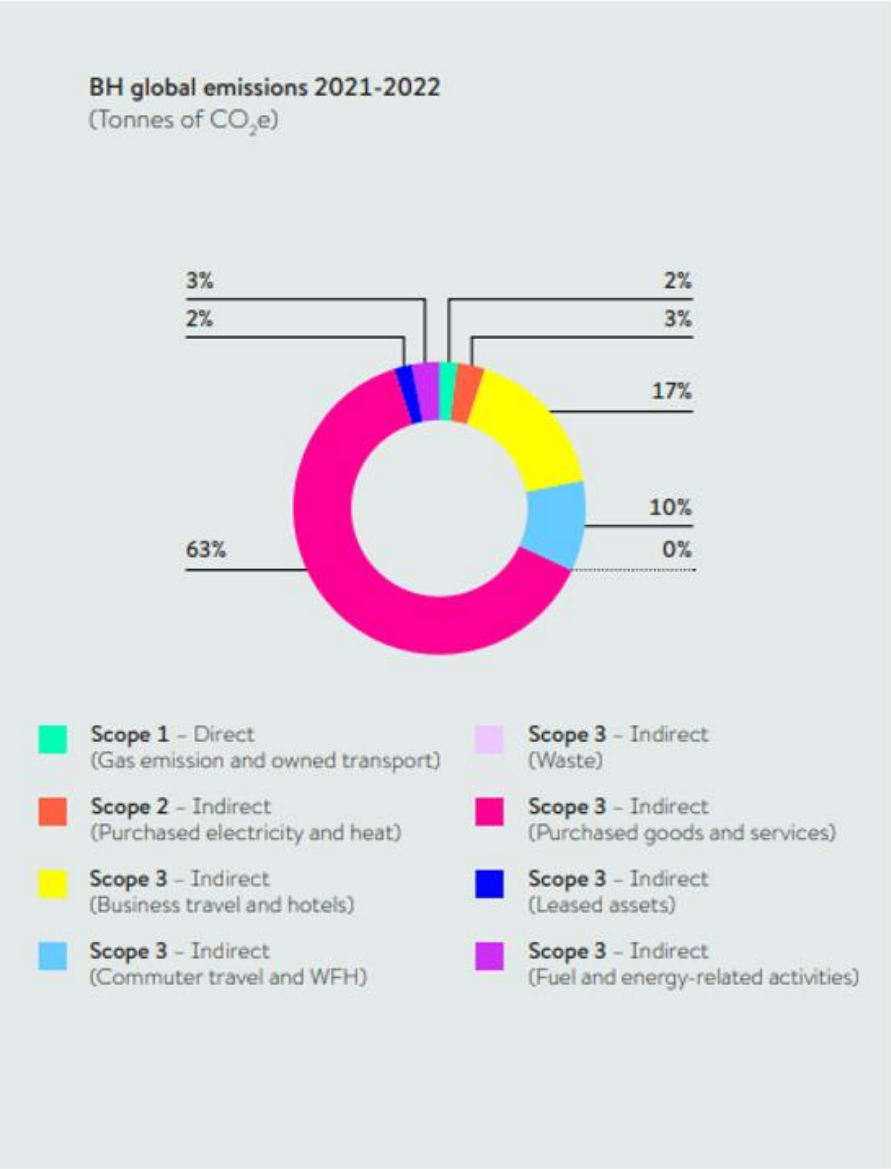
Sustainability reporting

Annual disclosure of targets, progress and insights



Decarbonising our operations

Validated Net Zero Science based targets




Long-term Buro Happold operational decarbonisation goal set, to achieve

NET ZERO


by 2045





SCIENCE
BASED
TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

How it worksSet a targetTarget dashboardSector guidanceResourcesNet-Zero



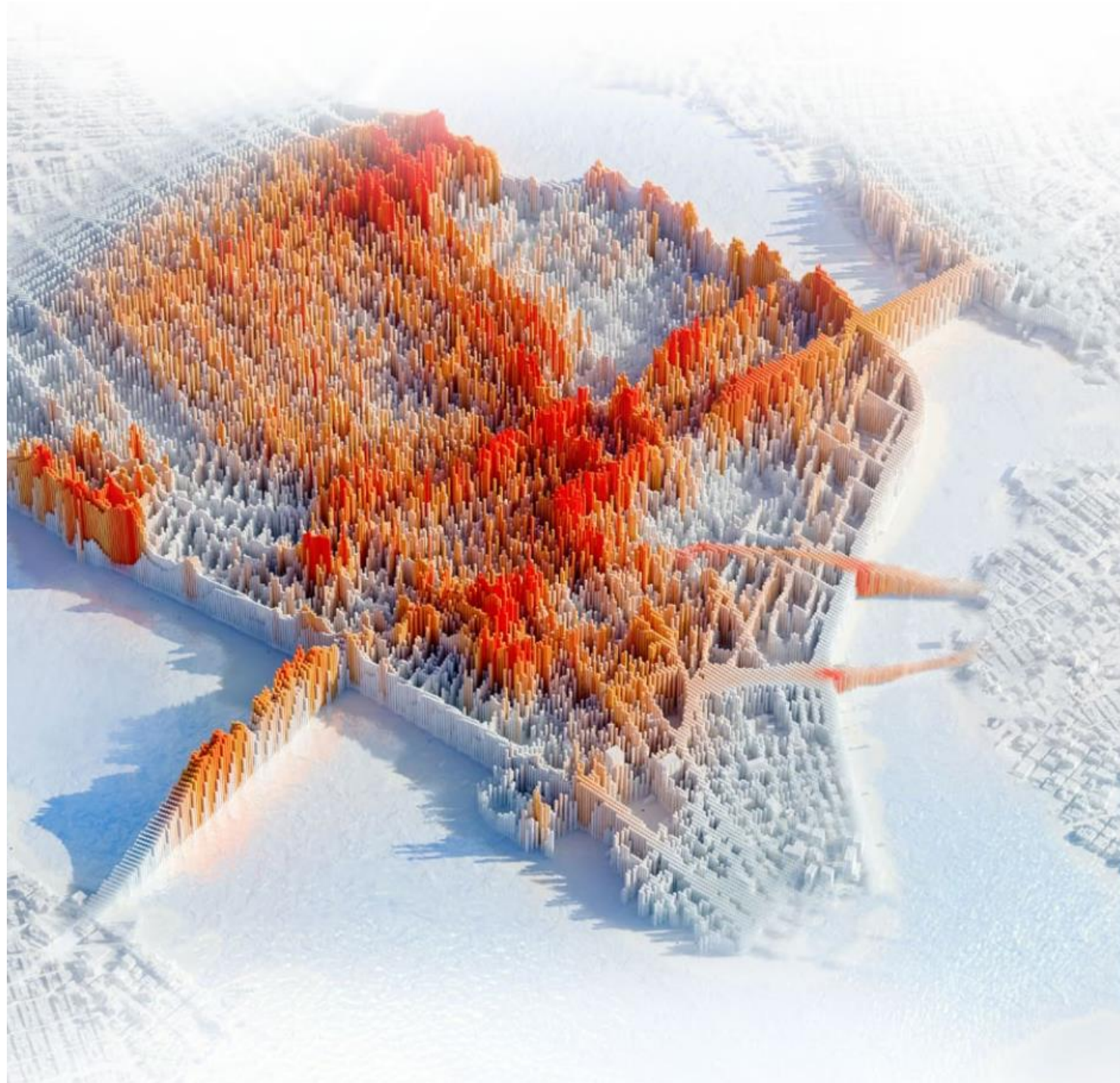
AMBITIOUS CORPORATE CLIMATE ACTION

Lead the way to a zero-carbon economy, boost innovation and drive sustainable growth by setting ambitious, science-based emissions reduction targets

SET A TARGETLEARN MORE

COMPANY/FINANCIAL INSTITUTION ▲	TARGETS			ORGANIZATION TYPE ▾	
	NEAR TERM ▾	LONG TERM ▾	NET-ZERO ▾		
Buro Happold ★ United Kingdom (UK), Europe	1.5°C	1.5°C	FY2045	Company	View less ^
Date published/updated 2023	Target summary			Target	
Sector Professional Services	<p>Near term: 1.5°C by FY2025</p> <p>Long term: 1.5°C by FY2045</p> <p>Net zero: Committed by FY2045</p> <p>★ Business Ambition for 1.5°C campaign member</p>			<p>Buro Happold commits to reach net-zero greenhouse gas emissions across the value chain by 2045. Near-Term Targets Buro Happold commits to reduce absolute scope 1 and 2 GHG emissions 21% by FY2025 from FY2020. Buro Happold commits to increase annual sourcing of renewable electricity from 40% in FY2020 to 100% by FY2025. Buro Happold also commits to reduce scope 3 GHG emissions from business travel and employee commuting by 52.6% per FTE by FY2028 from FY2020. Buro Happold finally commits that 50% of its suppliers by spend will have sciencebased targets by 2028. Long-Term Targets Buro Happold commits to reduce absolute Scope 1, 2 and 3 GHG emissions 90% by FY2045 from a FY2020 base year.</p>	

Decarbonising our projects



We delivered ESG consulting and decarbonisation advice to clients covering real assets and developments worth over £250bn.

BURO HAPPOLD

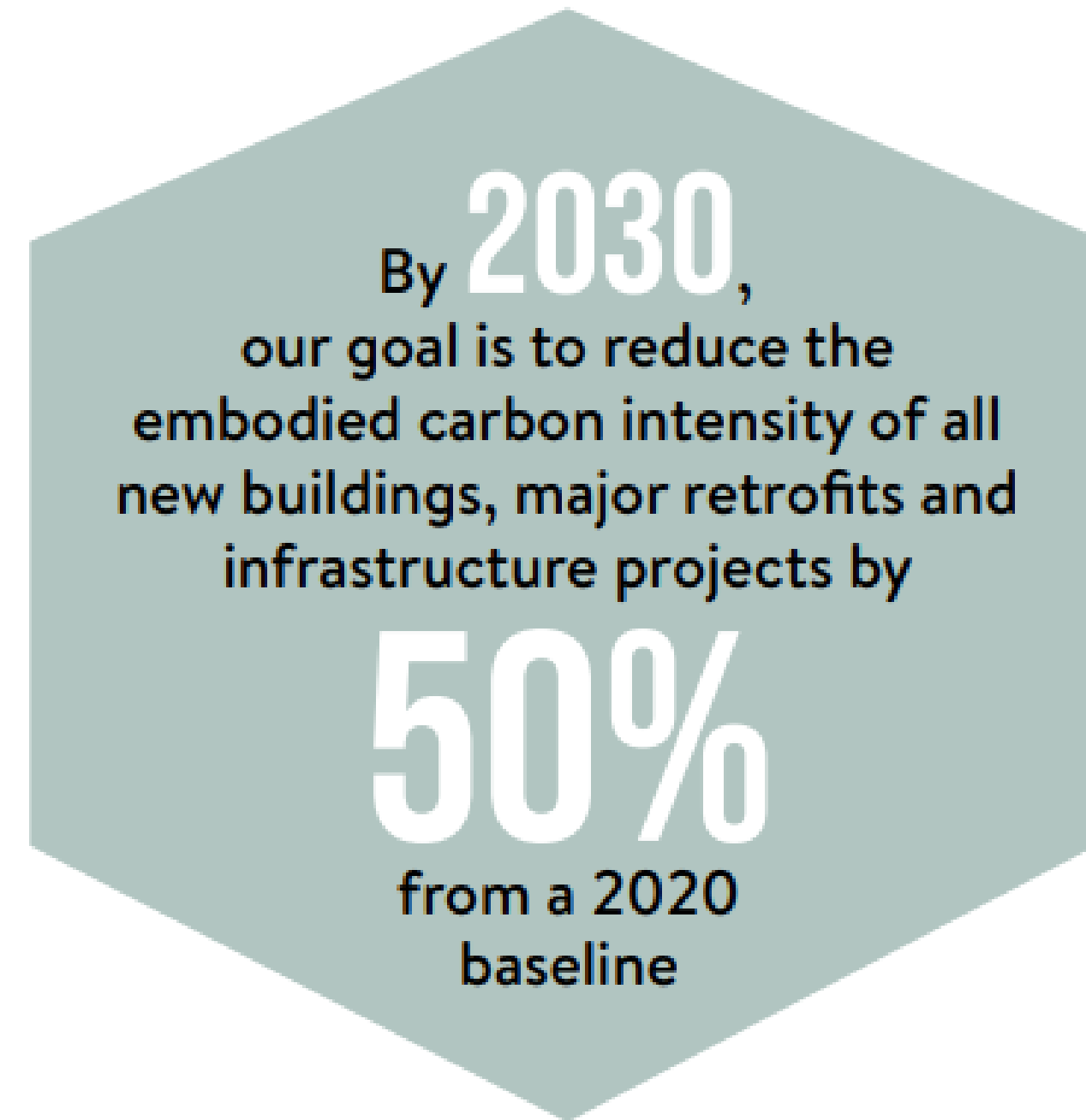
Net zero routemap

Delivering for people, places and planet

2023

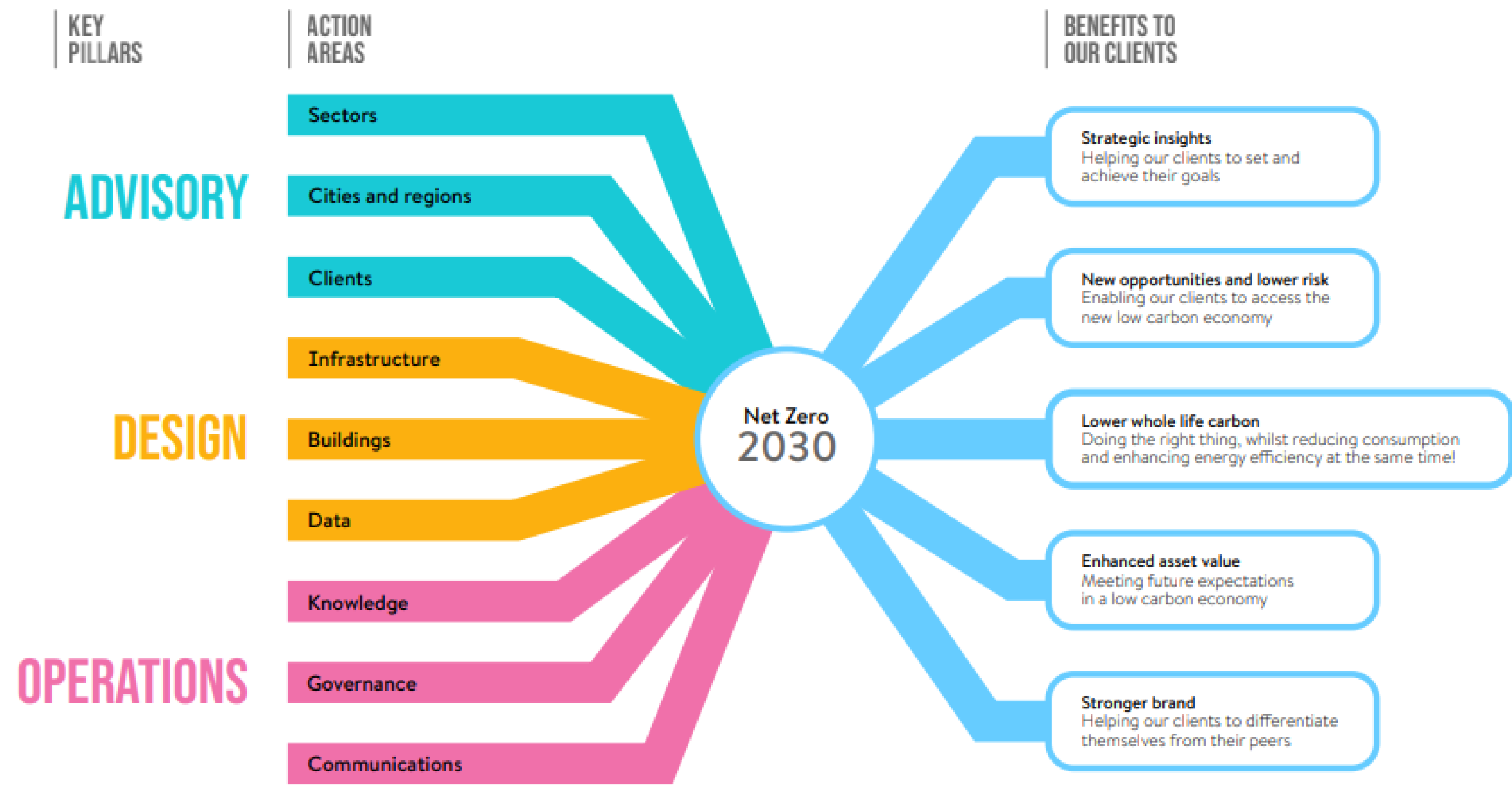
Our Net Zero design goals

Across operational and embodied carbon



The routemap provides a framework and strategic direction

Across three pillars – advisory, design and operations



Each action area has annual impact and financial KPIs

Backed by strategies and current examples

2 Strategy for meeting our advisory actions

	ACTIONS	IMPACT KPI	FINANCIAL KPI	STRATEGY
SECTORS	Understand and/or contribute to net zero roadmaps in each sector we operate in.	Demonstrable industry thought leadership or acknowledged contribution in key sectors in each region.	Advisory revenue (or investment) in industry initiatives, standards, and platforms.	Support industry and civil society built environment decarbonisation initiatives . Contribute to development and implementation of voluntary standards and net zero verification . Share data and insights through industry platforms .
CITIES AND REGIONS	Understand and/or contribute to net zero climate policy and strategy in each of the cities and regions we operate.	Demonstrable city-region-based thought leadership or acknowledged contribution in cities/ regions we operate in.	Advisory revenue connected to city/region net zero strategies and/or policy research and recommendations.	Deliver city and region-scale net zero strategies . Deliver policy research and recommendations that support net zero. Provide expertise and evidence base in support of initiatives that move legislation towards net zero .
CLIENTS	Provide strategic net zero advice across client portfolios.	Strategic advisory and/or engagement at portfolio level for clients.	Advisory revenue in line with Buro Happold's growth plan.	Work with and for clients and collaborators to deliver net zero corporate and portfolio strategies . Articulate benefit case of pursuing validated science-based targets to clients and collaborators. Regularly engage with clients and collaborators to share knowledge, data, and insights that support net zero.

Advisory impact KPI programme

	KPI	2023-24 TARGET	2024-25 TARGET	2025-26 TARGET	2026-27 TARGET	2027-28 TARGET	2028-29 TARGET	2029-30 TARGET
SECTORS	Demonstrable industry thought leadership or acknowledged contribution in key sectors in each region.	5 (or 20%)	10 (or 40%)	15 (or 60%)	20 (or 80%)	25 (or 100%)	25 (or 100%)	25 (or 100%)
CITIES AND REGIONS	Demonstrable city-region-based thought leadership or acknowledged contribution in cities/ regions we operate in.	10	20	30	100%	100%	100%	100%
CLIENTS	Strategic advisory and/or engagement at portfolio level for clients.	10	25	50	75	100	125	150

There is pathway to 2030

We will monitor progress and adjust business levers as we go

6. DESIGN IMPACT KPI PROGRAMME

	KPI	2023-24 TARGET	2024-25 TARGET	2025-26 TARGET	2026-27 TARGET	2027-28 TARGET	2028-29 TARGET	2029-30 TARGET
INFRASTRUCTURE	Value of net zero infrastructure / systems advised.	£1bn	£1.25bn	£1.56bn	£1.95bn	£2.44bn	£3.05bn	£3.81bn
BUILDINGS	% portfolio achieving net zero targeted, in design, enabled, and verified.*	20% buildings projects recorded**	100% Targeted 1% In design 0% Enabled 0% Verified	100% Targeted 10% In design 1% Enabled 0% Verified	100% Targeted 20% In design 5% Enabled 1% Verified	100% Targeted 50% In design 10% Enabled 5% Verified	100% Targeted 80% In design 30% Enabled 15% Verified	100% Targeted 95% In design 50% Enabled 30% Verified
DATA	% data coverage and calculation of average energy use intensity (EUI)/ embodied carbon intensity reduction by typology and region compared with 2020 baseline.	20%	50%	75%	100%	100%	100%	100%



* Targeted measured at concept; in design measured at detailed design; enabled at PC; verified at PC and POE. ** 1 year of mobilisation and piloting before design targets apply.





Definitions of net zero

Reflecting emerging industry standards

8. PROPOSED DEFINITIONS: NET ZERO CARBON – OPERATIONAL

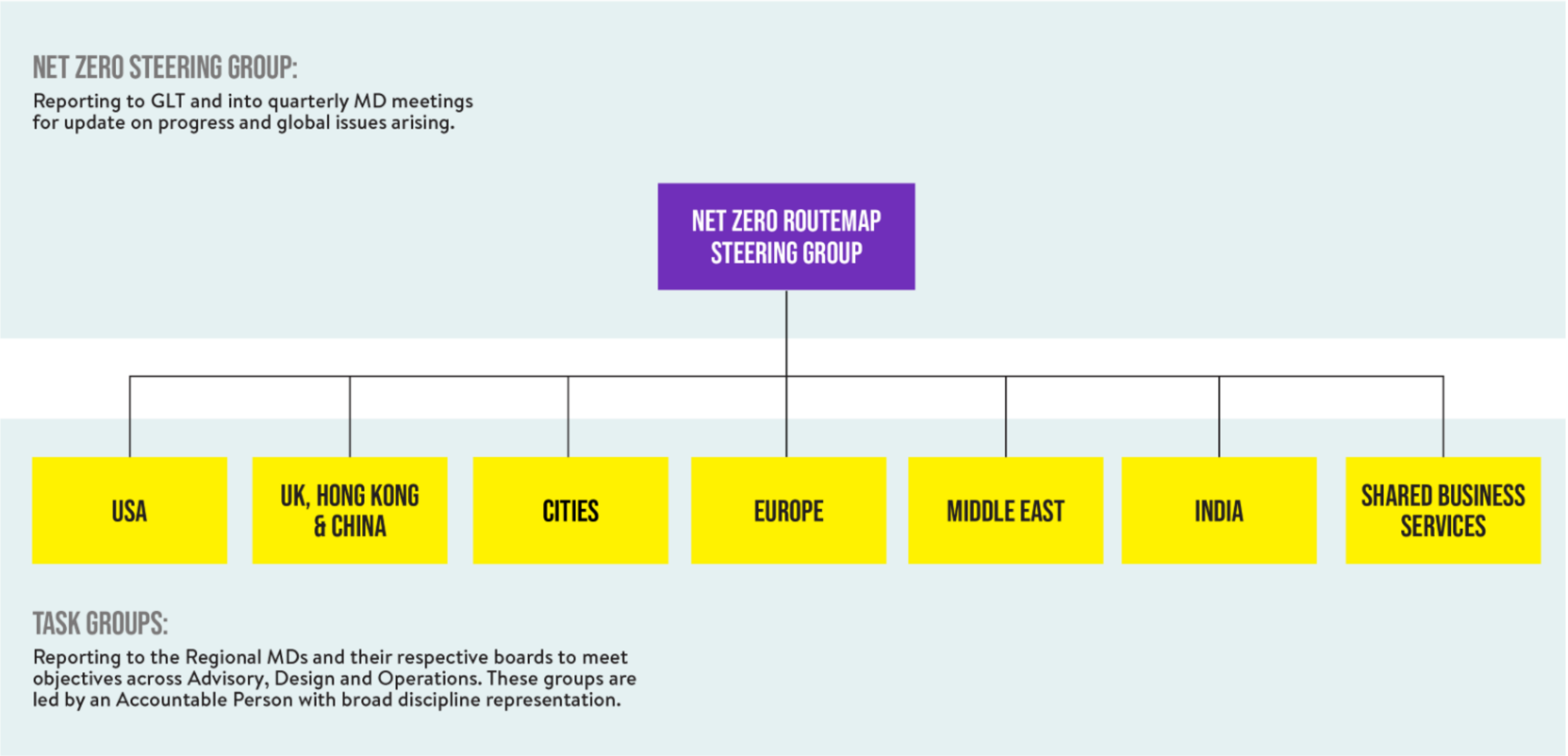
	NET ZERO IS TARGETED	NET ZERO “IN DESIGN”	NET ZERO “ENABLED”	NET ZERO “VERIFIED”
TARGETS ADVISED	Net zero targets identified based on regional benchmarks.	Net zero targets identified based on regional benchmarks.	Net zero targets identified based on regional benchmarks.	Net zero targets identified based on regional benchmarks.
TARGETS MET	A design is presented at concept stage that could meet net zero target(s) for operational energy and carbon.	Design is predicted to meet net zero targets in operation based on specific values.	Design is predicted to meet net zero targets in operation based on as built information.	In use targets met and third party verified annually.
ENERGY	Client is recommended to seek advice on renewable energy generation and/or procurement advice.	Client advised on how to generate/procure renewable energy.	Understand and/or contribute to net zero climate policy and strategy in each of the cities and regions we operate.	Renewable energy generated or procured.
OFFSETS	Client is recommended to seek advice on offsets.	Client advised on carbon offsets.	Client advised on carbon offsets.	Client offsets procured through recognised scheme.
DISCLOSURE	Data entered into Buro Happold building performance dashboard.	Data entered into Buro Happold building performance dashboard.	Data entered into Buro Happold building performance dashboard.	Data disclosed via third party database or other public platform.
	 All Buro Happold projects should achieve	 Meets Buro Happold goal for net zero in operation		

9. PROPOSED DEFINITIONS: NET ZERO CARBON – EMBODIED

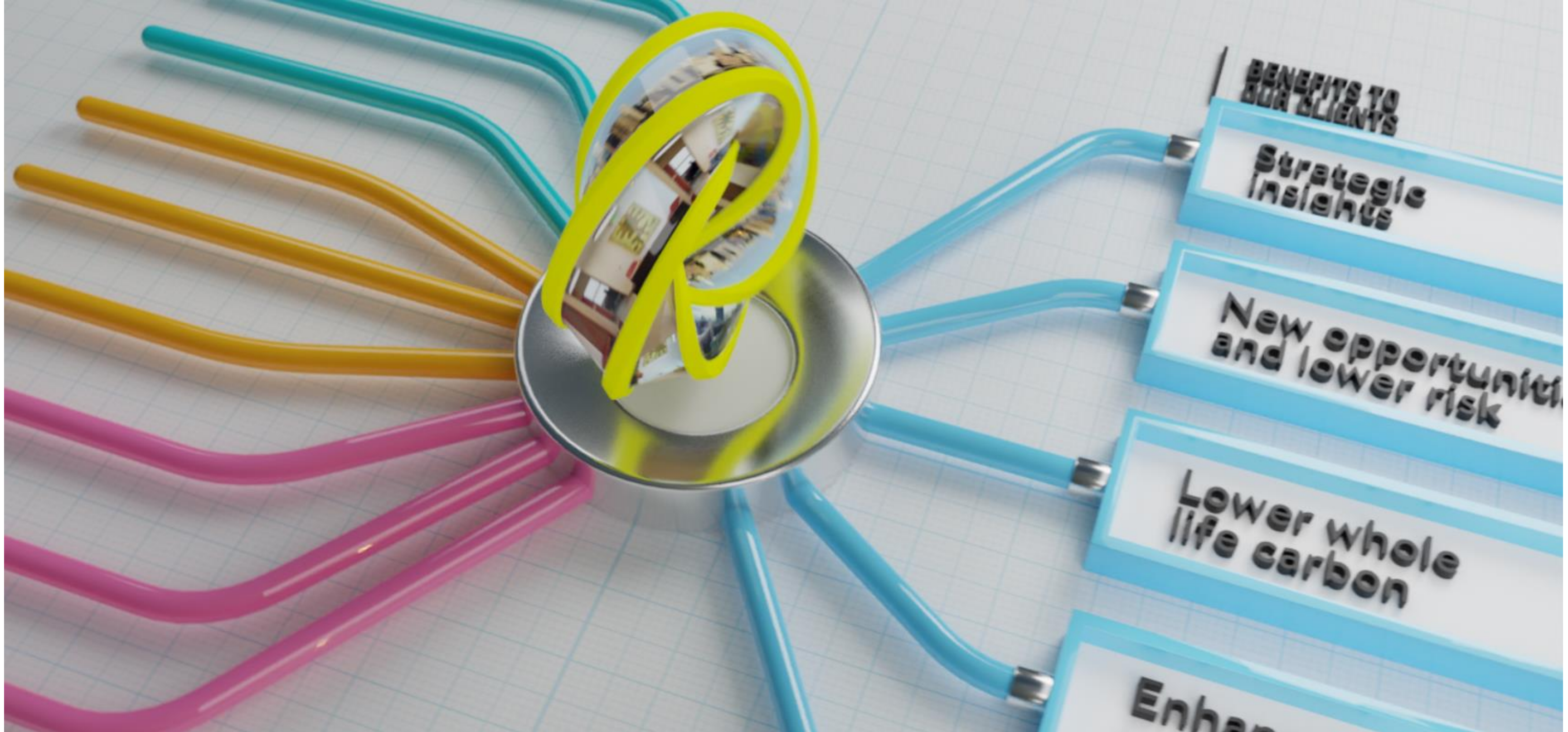
	NET ZERO IS TARGETED	NET ZERO “IN DESIGN”	NET ZERO “ENABLED”	NET ZERO “VERIFIED”
TARGETS ADVISED	Net zero targets identified based on regional benchmarks (aligning with a 50% reduction from 2020-2030).	Net zero targets identified based on regional benchmarks (aligning with a 50% reduction from 2020-2030).	Net zero targets identified based on regional benchmarks (aligning with a 50% reduction from 2020-2030).	Net zero targets identified based on regional benchmarks (aligning with a 50% reduction from 2020-2030).
TARGETS MET	A design is presented at concept stage that could meet the targets.	Design is predicted to meet the targets.	Up front targets met. Design is predicted to meet in use and end of life targets based on as built information.	Up front targets met and third party verified. In use targets met and third party verified annually. End of life targets met in design.
ENERGY	Client is recommended to seek advice on renewable energy generation and/or procurement advice.	Client advised on how to generate/procure renewable energy.	Understand and/or contribute to net zero climate policy and strategy in each of the cities and regions we operate.	Renewable energy generated or procured.
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	 All Buro Happold projects should achieve	 Meets Buro Happold goal for net zero in operation		

Global oversight by Net Zero Routemap Steering Group

Implementation by regional task groups



Let's go





Q&A

Please post questions in the Q&A section of the webinar

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built environment





ONE LAST QUESTION...

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WHAT CAN YOU DO NEXT?

1 SIGN-UP to this series

2 GET INVOLVED at UKGBC.org

3 CHECK OUT The Race to Zero

4 USE YOUR VOICE

5 CHECKOUT UKGBC Learning



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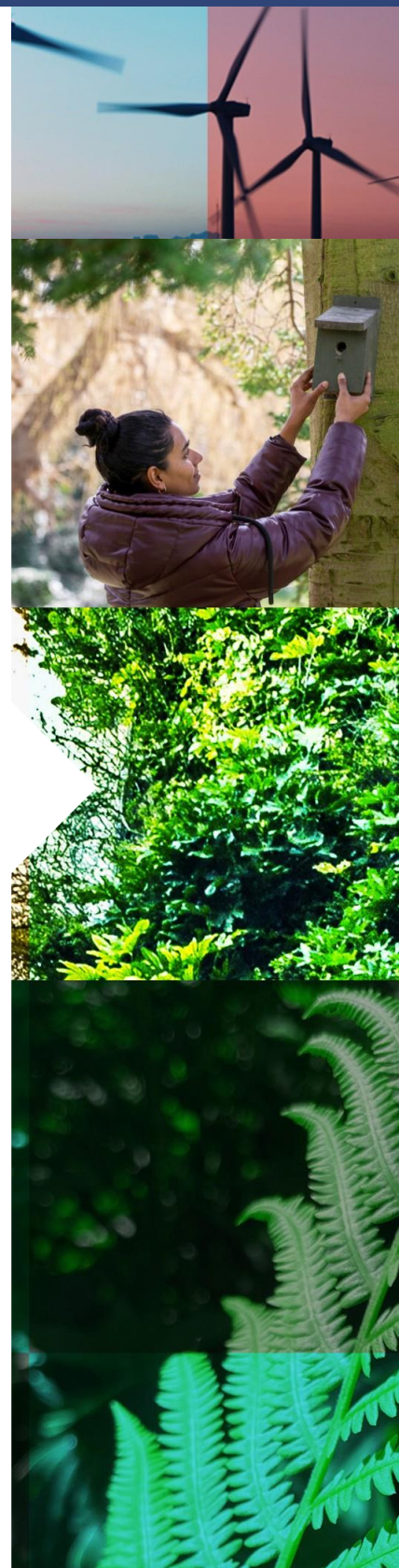
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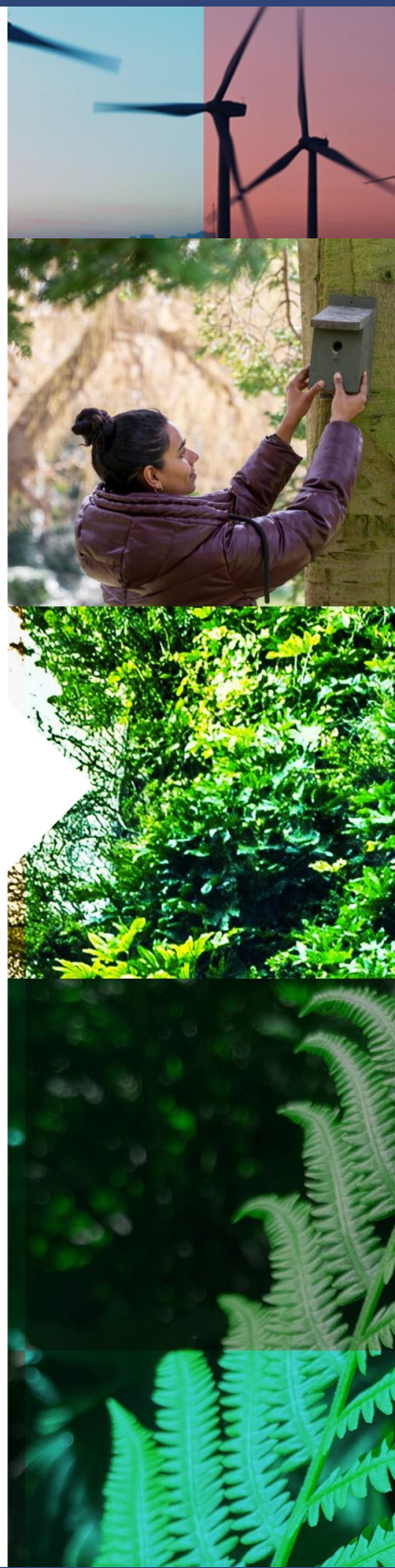
Retrofitting the UK's Built Environment



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OTHER UKGBC EVENTS AND LEARNING

- Carbon Offsetting and Pricing Masterclass, online – 23 November
- Carbon Offsetting and Pricing Masterclass, in-person – 7 December
- Advancing Net Zero Showcase, Leeds – 8 February
- Advancing Net Zero Showcase, London – 22 February





Thank you

Please complete the feedback form so we can continue to improve our sessions for your benefit



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