



# Climate resilience and embracing nature: An ambition for the built environment

NOVEMBER 2019

## Foreword



UKGBC's mission is to radically improve the sustainability of the built environment, by transforming the way it is planned, designed, constructed, maintained and operated. To achieve this, we need to set clear outcomes which are both time bound and measurable. The ambition we have outlined here is an important milestone towards achieving our vision of a sustainable built environment in terms of adapting to climate change, embracing and restoring nature and promoting biodiversity.

We hope this ambition, which has been developed through widespread consultation, can act as a focal point to galvanise the built environment industry to take action in addressing the climate and ecological crises. We look forward to working with our members, policy makers and wider industry to turn this ambition into reality. UKGBC will be using it as the foundation of our upcoming work on these topics, including the creation of a roadmap that will set out the timeline of actions required to realise this ambition in practice.

Please do contact us if you are interested in collaborating on any aspect of this critical work to ensure the improved resilience of our built environment.

A handwritten signature in black ink that reads "Julie Hirigoyen". The signature is fluid and cursive.

**Julie Hirigoyen**  
Chief Executive, UKGBC

### Our ambition for climate resilience and embracing nature

*"By 2030, all buildings and infrastructure will, throughout their lifetime, be climate resilient and maximise environmental net gains, through the prioritisation of nature-based solutions."*

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# Introduction



## THE CHALLENGE AHEAD

Human activity has resulted in a climate and ecological crisis. Based on current trajectories, the Paris Agreement on Climate Change, the Aichi Biodiversity Targets and the UN Sustainable Development Goals will not be achieved.<sup>1</sup>

We are already seeing the impact of anthropogenic climate change upon the built environment and the effects will increase in severity. Global average temperature increase has surpassed 1°C and is expected to reach 1.5°C somewhere between 2030 and 2052 and 4°C by 2100.<sup>2</sup> For the UK, this means hotter drier summers, which by 2040 are estimated to regularly reach 38.5°C and by

2050 could cause 7,000 heat related deaths a year.<sup>3</sup> The UK will also experience wetter winters, increasing the number of buildings vulnerable to flooding, of which there are already 5.2 million.<sup>4,5</sup>

Nature is declining as a direct result of human activity, with one million species threatened with extinction and a halving of natural ecosystems.<sup>6</sup> Land use change is a key driver of this impact, with urban areas having more than doubled since 1992.<sup>7</sup> Global temperature changes will also impact species survival; 2°C of warming will put 5% of species at risk of climate-related extinction and 4.3°C would put 16% at risk.<sup>8</sup>

## A DIFFERENT FUTURE

Imagine a world where...

- Urban environments are cooled through networks of tree canopies, rather than air conditioning units
- Rainwater is managed, stored and filtered through green roofs, vegetated ditches, ponds and wetlands
- Flood defences are built using trees and wetlands rather than engineered structures

Such nature-based solutions can provide benefits to ecosystems whilst improving health and wellbeing, sequestering carbon and providing social value. They can be designed in ways which address the need for our built environments to both adapt to climate change and enhance nature for the benefit of people, planet and business.

# Creating the ambition statement



## PURPOSE

UKGBC has a vision for a built environment that enables people and planet to thrive. This includes by “adapting to climate change” and “embracing and restoring nature and promoting biodiversity”. You can see the full UKGBC vision [here](#).

We hope that through setting and communicating a time bound and measurable ambition for these topics we will catalyse the required response from the built environment value chain and policy makers. Further work will be required to identify and undertake the exact interventions and actions required to fulfil the ambition and UKGBC looks forward to working with its members and other stakeholders to achieve this.

We already have an ambition for all buildings to reach net zero carbon operating emissions by 2030 and our Advancing Net Zero programme is progressing this topic. Find out more [here](#).

## PRINCIPLES

- Answer the challenges as identified by the latest scientific research on climate change, biodiversity and ecology through a UK built environment focus
- Complementary to existing industry and government initiatives, but more ambitious where required
- Easily communicable and understandable to built environment professionals and policy makers

## METHODOLOGY

This ambition statement was created by UKGBC through a process of research and stakeholder engagement. To understand current thinking, we undertook desktop research of the available literature, industry commitments and government policy. To develop this into an industry ambition we facilitated a visioning workshop with 30 stakeholders from across the built environment.

Later, through one-to-one discussions with ten key stakeholders, we refined the workshop findings and defined the appropriate terminology, ambition level and scope. We then broadened our stakeholder engagement through a two and a half week public consultation on key aspects of the ambition statement, to which we had 39 responses.

Finally, we held a roundtable with industry experts to confirm the wording of the ambition statement and discussed the ambition with our Members Advisory Group.

# The ambition explained

The ambition's timeframe has been set to 2030 on the basis that this is achievable but still ambitious. Of respondents to our public consultation 53% were in favour of this. Whilst this is only a small majority, the second most popular date was 2025, with 23% suggesting this.

This ambition will extend to new and existing buildings and infrastructure. All buildings and infrastructure will need to be resilient to the predicted climate change and have the capacity to reverse any ecological damage caused through urbanisation. For this we define infrastructure as the basic physical systems of a nation which includes transport and utilities, for example roads, railways and energy systems.

The ambition covers the duration of the asset's lifetime, from construction through to deconstruction. Of respondents, 74% were in favour of using this term. This ambition does not include the supply chain or post deconstruction but recognises that there are significant risks here if climate resilience and nature are not considered appropriately.

**By 2030, all buildings and infrastructure will, throughout their lifetime, be climate resilient and maximise environmental net gains, through the prioritisation of nature-based solutions.**

Climate resilience is an industry recognised term, with 81% of respondents in favour of using this. Climate resilience is defined as: "The ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate. Improving climate resilience involves assessing how climate change will create new, or alter current, climate related risks, and taking steps to better cope with these risks." – C2ES, 2019<sup>9</sup>

In reference to environmental net gains we have added the verb maximise to represent the need to go beyond the minimum level of achieving this. The ambition is no more specific in the level of achievement because the evidence and understanding to set a specific target is not yet in existence. Of respondents, 60% were in favour of this term.



'Environmental net gains' acts as an umbrella term to cover benefits to biodiversity, ecology and natural capital. The Government is currently using this term within the 25 Year Environment Plan, in which it has set out a proposal to embed environmental net gain for development and infrastructure into policy. Since then the Government has been working towards this, the first stage of which has been for biodiversity net gain to be mandated in the Environment Bill. We are therefore using this in our ambition statement to enable alignment with Government terminology. Whilst environmental net gain is not clearly defined, in Defra's public consultation on biodiversity net gain it was defined as: "In short, this means improving all aspects of environmental quality through a scheme or project. Achieving environmental net gain means achieving biodiversity net gain first, and going further to achieve increases in the capacity of affected natural capital to deliver ecosystem services and make a scheme's wider impacts on natural capital positive." – Defra, 2018.<sup>10</sup>

Of respondents, 60% were in favour of this term. We have pluralised this term to avoid the interpretation that trade-offs can be achieved. This is in line with Defra's current thinking as identified through our stakeholder interviews.

By 2030, all buildings and infrastructure will, throughout their lifetime, be climate resilient and maximise **environmental net gains**, through the **prioritisation** of **nature-based solutions**.

'Prioritisation' was used to convey a preference for nature-based solutions over other alternatives. A detailed hierarchy of approaches to deliver climate resilience needs to be developed, this can be completed as part of the roadmap project detailed in [Appendix 2](#).

'Nature-based solutions' is a term which encapsulates the use of nature to achieve these challenges. Of respondents 86% were in favour of this. This can be defined as: "Actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits." – IUCN, 2019<sup>11</sup>



# Next steps



We hope this ambition acts as a focal point which galvanises industry to take action in addressing the climate and ecological crises and we will use it in our political advocacy and industry engagement.

Over the past 18 months, we have undertaken a number of activities and developed connections with key stakeholders across industry, government and the third sector on the topics of [climate resilience](#) and [nature and biodiversity](#). We have gained a detailed understanding of the national initiatives and key actors in this space through the creation of interactive maps for both [climate resilience](#) and [biodiversity net gain](#). This has allowed us to identify how UKGBC can best support the built environment sector to overcome climate resilience and environmental challenges.

The second stage of this project is to collaboratively develop a roadmap, in partnership with industry, which outlines the challenges and identifies the required interventions for achieving the ambition. This roadmap will provide a narrative on how the built environment can meet the ambition and the role each stakeholder can fulfil. We hope to launch the roadmap in early 2021. You can see the full project timeline in [Appendix 2](#) of this document.

We are currently identifying partners to fund and work with us to develop this roadmap. Please contact us to find out more about these opportunities.

**[Alastair.Mant@UKGBC.org](mailto:Alastair.Mant@UKGBC.org)**  
**Head of Business Transformation**

**[Robert.Winch@UKGBC.org](mailto:Robert.Winch@UKGBC.org)**  
**Sustainability Officer**

## UKGBC'S VISION

The ambition statement for climate resilience and nature-based solutions supports UKGBC's vision for a built environment that enables people and planet to thrive by:



Mitigating and adapting to climate change



Eliminating waste and maximising resource efficiency



Embracing and restoring nature and promoting biodiversity



Optimising the health and wellbeing of people

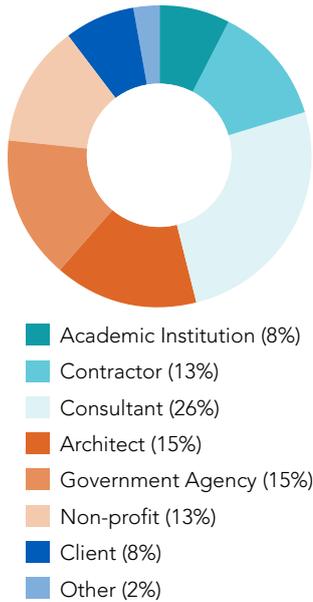


Creating long-term value for society and improving quality of life

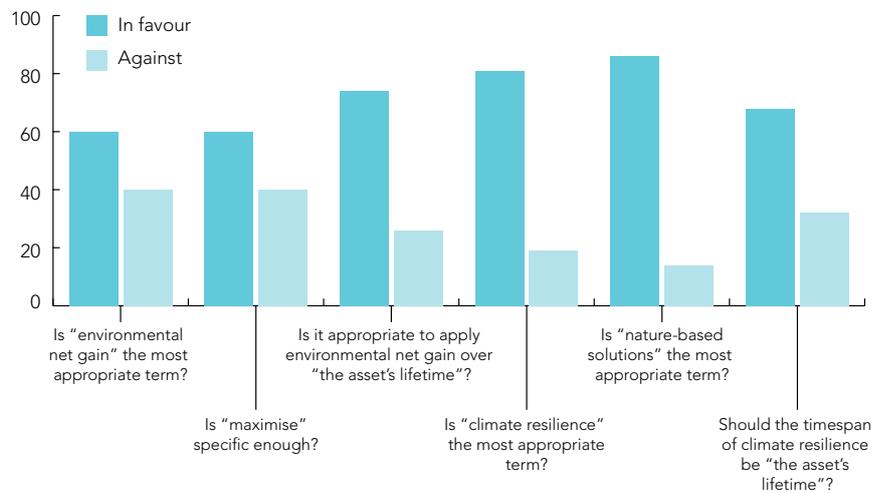
# Appendix 1

## Public consultation results

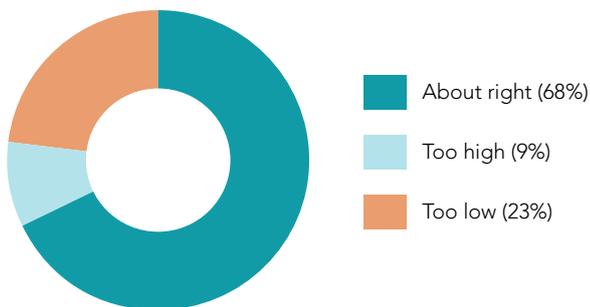
The graphs and tables below show the quantitative results of our public consultation on a sector ambition around climate resilience and nature and biodiversity. Further feedback from respondents was provided via free text boxes. This consultation was carried out from 21 August to 6 September 2019 and received 39 responses from individuals and organisations across the built environment value chain.



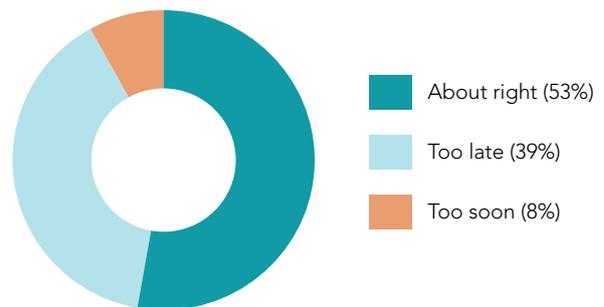
Graph 1. Respondents by organisation type.



Graph 2. Ambition statement terminology.



Graph 3. Is the level of ambition too high, too low or about right?



Graph 4. Is 2030 the right time frame? Is this too soon, too late or about right?

Table 1. Alternative suggestions to “environmental net gain”

| Suggestion   | Number of occurrences |
|--|-----------------------|
| Use “biodiversity net gain”                                | 4                     |
| Use “environmental enhancement”                            | 1                     |
| Use “benefit”  | 1                     |
| Use “environmental quality”                                | 1                     |
| Use “maximise benefits to the environment”                 | 1                     |
| Use a specific target                                      | 1                     |
| Use “biodiversity and environmental net gain”              | 1                     |
| Use “create environmental net gain and maximise impact”    | 1                     |
| Use “improved ecological value”                            | 1                     |
| Use “maximise climate resilience & nature-based solutions” | 1                     |

Table 2. Alternative suggestions to “maximise”

| Suggestion            | Number of occurrences |
|-----------------------|-----------------------|
| Use specific targets  | 4                     |
| Use “deliver”         | 2                     |
| Use “demonstrate”     | 2                     |
| Use “improve”         | 1                     |
| Use “deliver a range” | 1                     |
| Use “exemplify”       | 1                     |

Table 3. Alternative suggestions to applying environmental net gain over the asset’s lifetime

| Suggestion                  | Number of occurrences |
|-----------------------------|-----------------------|
| Use “at least 80-100 years” | 1                     |
| Use “remaining lifetime”    | 1                     |
| Use “lifecycle”             | 1                     |

Table 4. Alternative suggestions to climate resilience

| Suggestion   | Number of occurrences |
|--|-----------------------|
| Use “natural climate cycle resilience”   | 1                     |
| Use “resilience to climate risks”  | 1                     |
| Use “ensure they can withstand and adapt to the effects of a changing climate” | 1                     |
| Use “their resilience to climate change”                                       | 1                     |
| Use “climate duty”   | 1                     |

Table 5. Alternative suggestions to nature-based solutions

| Suggestion   | Number of occurrences |
|--|-----------------------|
| Use “green infrastructure”   | 1                     |
| Use “Science-based solutions”  | 1                     |
| Use “appropriate solutions, prioritising natural responses where possible” | 1                     |

Table 6. Alternative suggestion to applying climate resilience over the asset’s lifetime

| Suggestion   | Number of occurrences |
|--|-----------------------|
| Should go beyond this                                | 2                     |
| Use “at least 80-100 years”                          | 1                     |
| Use “over all timespans within the asset’s lifetime” | 1                     |
| Use “throughout the asset’s lifetime”                | 1                     |

# Appendix 2

## Resilience and environmental gains roadmap draft project timeline

| 2020  | J | F | M | A | M | J | J | A | S | O | N | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Identification of key stakeholders                | █ | █ |   |   |   |   |   |   |   |   |   |   |
| Meetings with key stakeholders                    | █ | █ | █ | █ | █ | █ | █ | █ | █ |   |   |   |
| Identify principles of the roadmap                | █ |   |   |   |   |   |   |   |   |   |   |   |
| Conduct literature review and evidence gathering  |   | █ |   |   |   |   |   |   |   |   |   |   |
| Regional workshops to develop roadmap framework   |   |   | █ | █ |   |   |   |   |   |   |   |   |
| Stakeholder interviews to develop roadmap content |   |   |   | █ | █ | █ |   |   |   |   |   |   |
| Public consultation and analysis of findings      |   |   |   |   |   | █ | █ | █ |   |   |   |   |
| Final roadmap report write up                     |   |   |   |   |   |   |   | █ | █ |   |   |   |
| Workshop with key stakeholders                    |   |   |   |   |   |   |   |   | █ |   |   |   |
| Design roadmap report and gather endorsements     |   |   |   |   |   |   |   |   |   | █ | █ |   |
| Launch of roadmap                                 |   |   |   |   |   |   |   |   |   |   |   | █ |

## References

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**UK Green Building Council**

The Building Centre  
26 Store Street  
London WC1E 7BT

T 020 7580 0623  
E [info@ukgbc.org](mailto:info@ukgbc.org)  
W [ukgbc.org](http://ukgbc.org)

