

The background of the slide is a microscopic image, possibly of a virus or a mechanical part, rendered in a yellow-green color scheme. The image shows intricate, curved structures that resemble a virus particle or a mechanical component under a microscope.

CitA | **TECH**LIVE  
2020

# Working with Covid19



Monday 21st September

The CitA Virtual Summit: **Changing the way we work**

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**MULTIPLEX**

# 7 Business opportunities catalyzing sustainability reinforced by Covid

**21 September 2020**

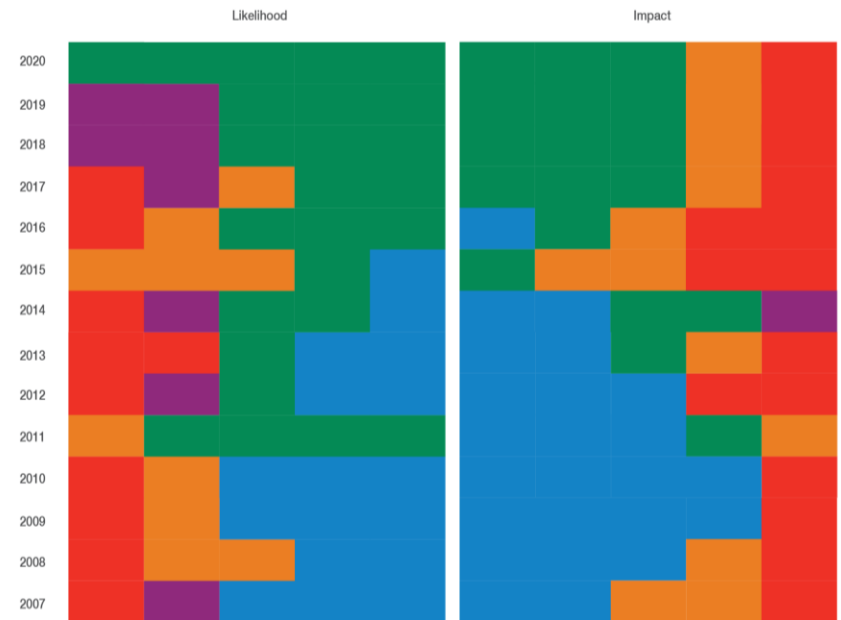
**Dr. Eva Gkenakou  
Sustainability Director – Multiplex Europe**



# The Global Risks Report 2020- World Economic Forum:

Climate now tops the risks agenda

From economic to environmental. Climate now tops the risks agenda, while the economy has disappeared from the top five.



## Economic

- Asset bubble
- Critical infrastructure failure
- Deflation
- Energy price shock
- Financial failure
- Fiscal crises
- Illicit trade
- Unemployment
- Unmanageable inflation

## Environmental

- Biodiversity loss
- Climate action failure
- Extreme weather
- Human-made environmental disaster
- Natural disasters

## Geopolitical

- Global governance failure
- Interstate conflict
- National governance failure
- State collapse
- Terrorist attacks
- Weapons of mass destruction

## Societal

- Failure of urban planning
- Food crises
- Infectious diseases
- Involuntary migration
- Social instability

## Technological

- Adverse technological advances
- Cyberattacks
- Data fraud or theft
- Information infrastructure breakdown



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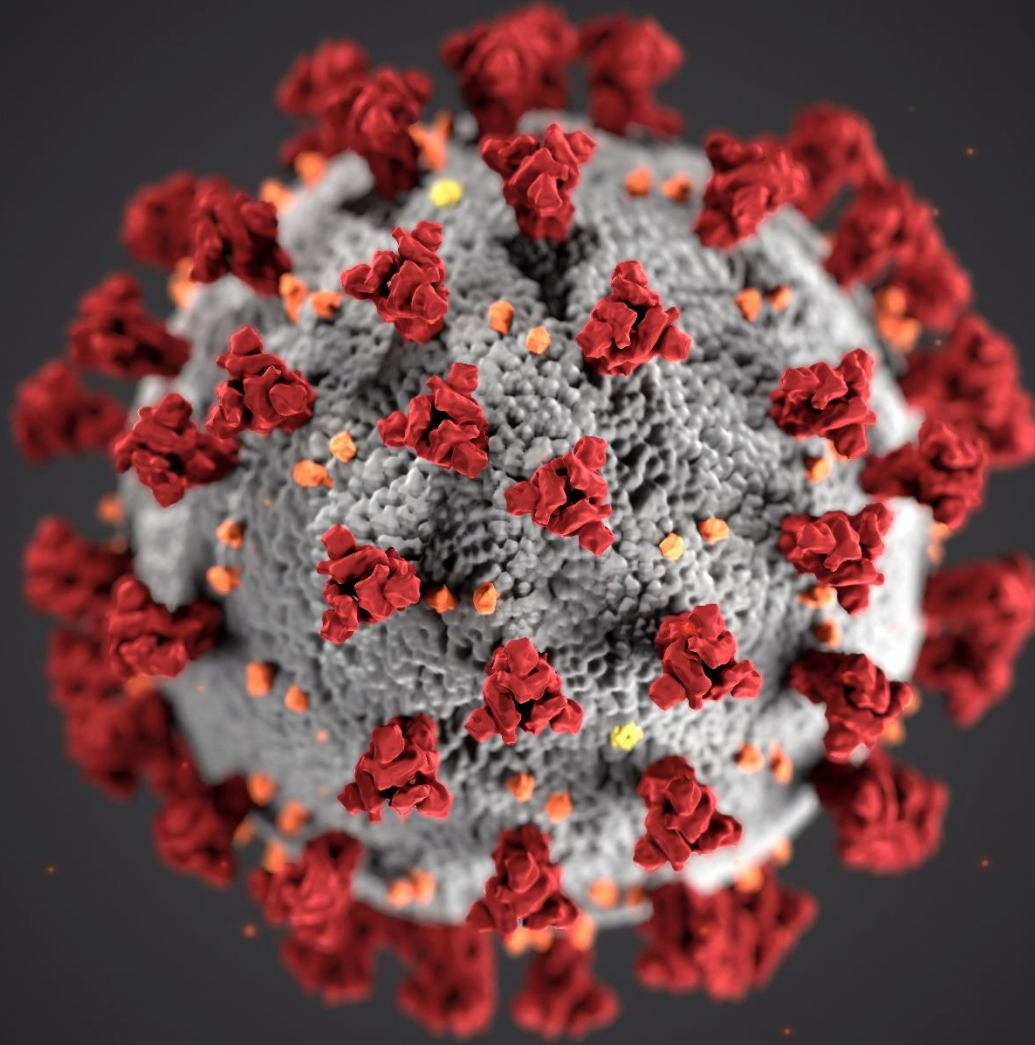
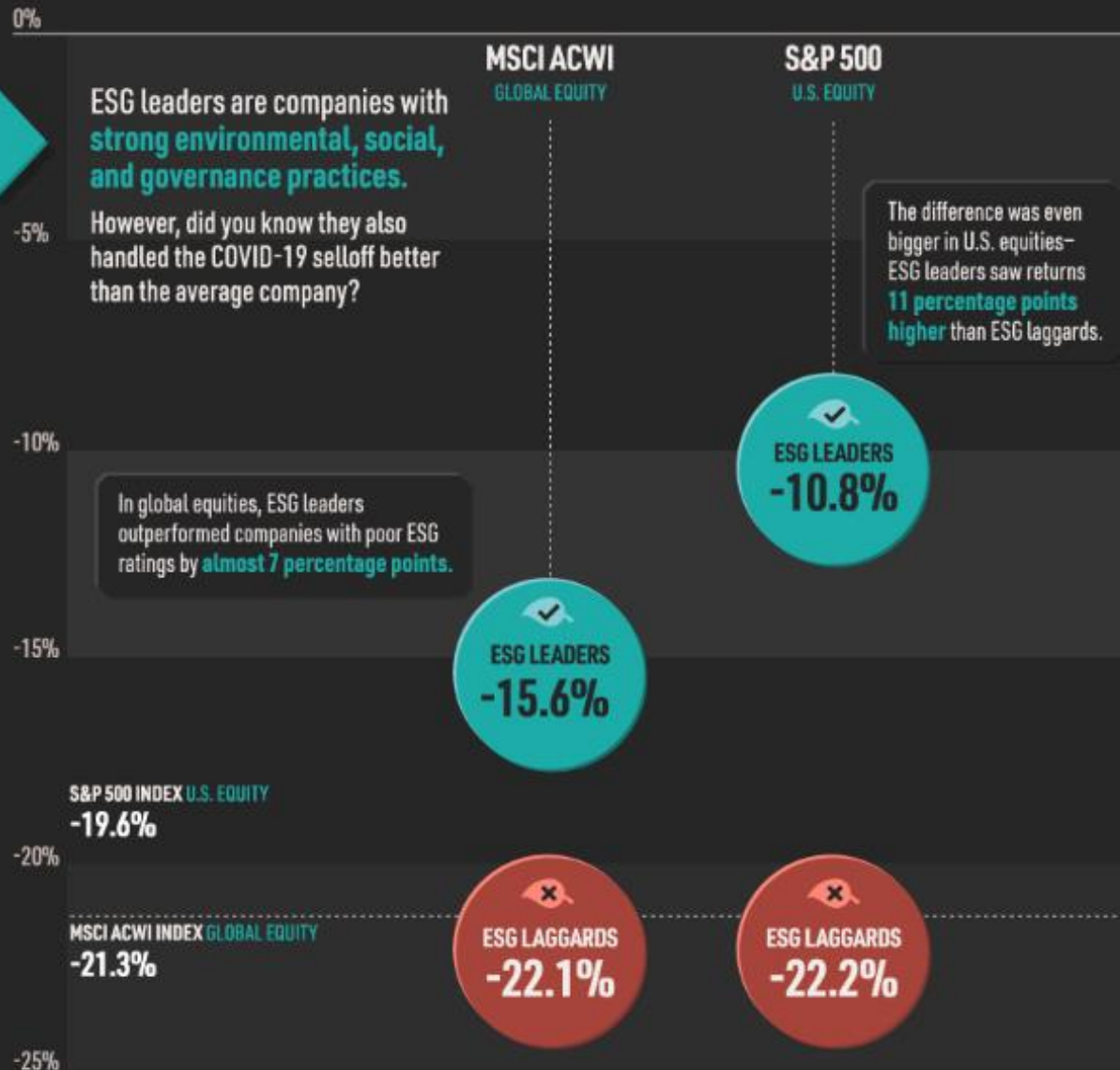


Photo by [CDC](#) on [Unsplash](#)

# ESG OUTPERFORMANCE DURING THE COVID-19 SELLOFF

## Q1 2020 RETURNS BY ESG RATING (MARKET-CAP WEIGHTED AVERAGE)



### WHAT MAKES A COMPANY AN ESG LEADER?

Sustainability leaders outrank their peers on key risks facing their specific industry.

### SOME EXAMPLES ARE:



Biodiversity & land use



Toxic emissions & waste



Opportunities in nutrition and health



Privacy & data security



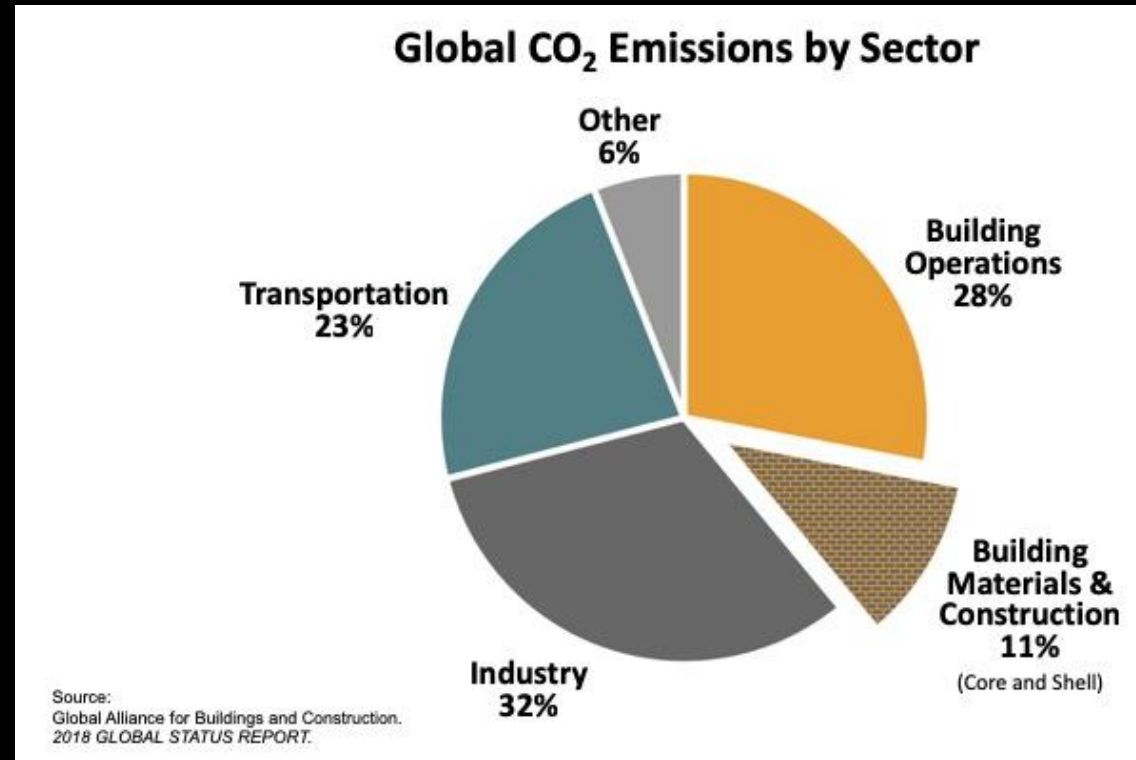
Board diversity



Business ethics

# The built environment's share

- Responsible for 39% of the global carbon emissions whereas aviation represents 2%



# 7 key business opportunities

# **1. Mitigate the climate change risks to your operations and your assets**



## Toolkits and examples

- **EU Sustainable finance taxonomy legislation, Climate change disclosure guidelines - TCFD**
  - Multiplex part of UKGBC TCFD webinars
- **BCO report: The Resilient Workplace**
- **Factor in the increasing frequency of weather events - CIBSE future weather files**
- **Prepare and mitigate against overheating in buildings, construction delays, flooding - UK Climate Projections 2018**
- **Use nature-based solutions, such as sustainable drainage, green roofs and walls for additional insulation, trees for shading. Cooling effect 1 to 3°C - UGF requirement in London Plan**



**2. Set clear net-zero carbon goals for your operations and supply chains that add value to your brand, attract more investment and the best clients**

## Toolkits and examples

- **Science Based Targets initiative – UN, WWF**
  - Multiplex 1<sup>st</sup> contractor globally to align to 1.5C - UNGC webinar
- **Net Zero Carbon Buildings commitment - WGBC**
- **Climate Change Commitment for commercial buildings - BBP**

### Multiplex Europe raises carbon ambitions with 1.5C science-based target

Multiplex Europe, the construction firm behind huge London developments including 100 Bishopsgate, has announced that it has increased its science-based target to account for the 1.5C ambition of the Paris Agreement.



Multiplex's Europe employs 920 people across 19 projects

### **3. Design, or retrofit, your assets to be low energy and net-zero carbon**

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## Toolkits and examples

- Energy efficiency targets - RIBA, LETI reports
- All-electric heat pumps
- Hydrogen as a fuel
- Nature based solutions – Ignition project report from UKGBC
- Battery energy storage
- Renewables

### Net Zero Operational Carbon

#### Ten key requirements for new buildings

By 2030 all new buildings must operate at net zero to meet our climate change targets. This means that by 2025 all new buildings will need to be designed to meet these targets. This page sets out the approach to operational carbon that will be necessary to deliver zero carbon buildings. For more information about any of these requirements and how to meet them, please refer to the: UKGBC - Net Zero Carbon Buildings Framework; BBP - Design for Performance Initiative; RIBA - 2030 Climate Challenge; GHSA - Net Zero Housing Project Map; CIBSE - Climate Action Plan; and, LETI - Climate Emergency Design Guide.

#### Low energy use

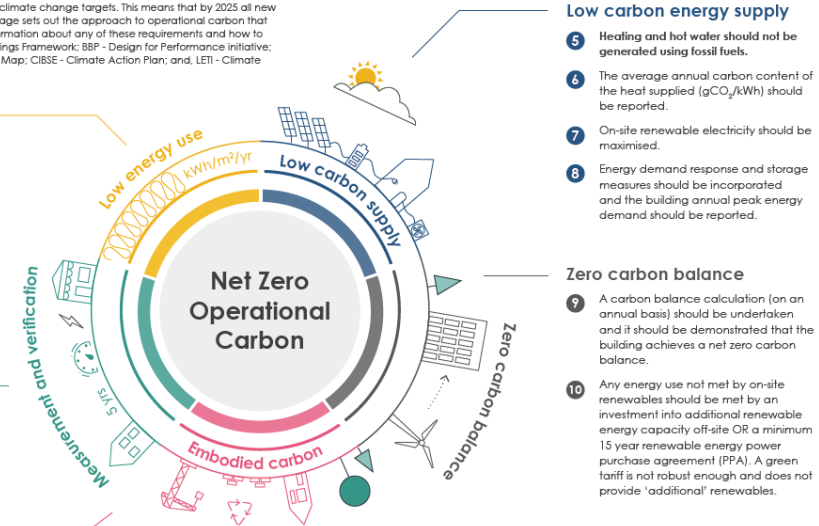
- 1 Total Energy Use Intensity (EUI) - Energy use measured at the meter should be equal to or less than:
  - 35 kWh/m<sup>2</sup>/yr (GIA) for residential<sup>1</sup>For non-domestic buildings a minimum DEC B (40) rating should be achieved and/or an EUI equal or less than:
  - 65 kWh/m<sup>2</sup>/yr (GIA) for schools<sup>1</sup>
  - 70 kWh/m<sup>2</sup>/yr (NLA) or 55 kWh/m<sup>2</sup>/yr (GIA) for commercial offices<sup>1,2</sup>
- 2 Building fabric is very important therefore space heating demand should be less than 15 kWh/m<sup>2</sup>/yr for all building types.

#### Measurement and verification

- 3 Annual energy use and renewable energy generation on-site must be reported and independently verified in-use each year for the first 3 years. This can be done on an aggregated and anonymised basis for residential buildings.

#### Reducing construction impacts

- 4 Embodied carbon should be assessed, reduced and verified post-construction.<sup>3</sup>



#### Notes:

- Note 1 - Energy use intensity (EUI) targets**  
The above targets include all energy use in the building (regulated and unregulated) as measured at the meter and exclude on-site generation. They have been derived from predicted energy use modelling for best practice; a review of the best performing buildings in the UK, and a preliminary assessment of the renewable energy supply for UK buildings. They are likely to be revised as more knowledge is available in these three fields. As heating and hot water is not generated by fossil fuels, this assumes on-site electric building with other zero carbon heat used. (EUI targets are the same as kWh/m<sup>2</sup>/yr). Once other zero carbon heating fuels are available this metric will be adopted.
- Note 2 - Commercial offices**  
With a typical net to gross ratio, 70 kWh/m<sup>2</sup>/yr is equivalent to 85 kWh/m<sup>2</sup>/yr. Building owners and developers are recommended to target a base building rating of 85 kWh/m<sup>2</sup>/yr using the BREEAM Design for Performance process based on HERS.
- Note 3 - Whole life carbon**  
It is recognised that operational emissions represent only one aspect of net zero carbon in new buildings. Reducing whole life carbon is crucial and will be covered in separate guidance.
- Note 4 - Adaptation to climate change**  
Net zero carbon buildings should also be adapted to climate change. It is essential that the risk of overheating is managed and that cooling is minimised.

Developed in collaboration with:



Developed with the support of:





## **4. Ask your energy supplier for a green tariff to cut costs and your carbon emissions**

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## Toolkits and examples

- **Green tariff from your energy supplier**
  - Multiplex Europe on 100% renewables
- **Power Purchase Agreement with a renewables generator**
- **Biofuels from waste**



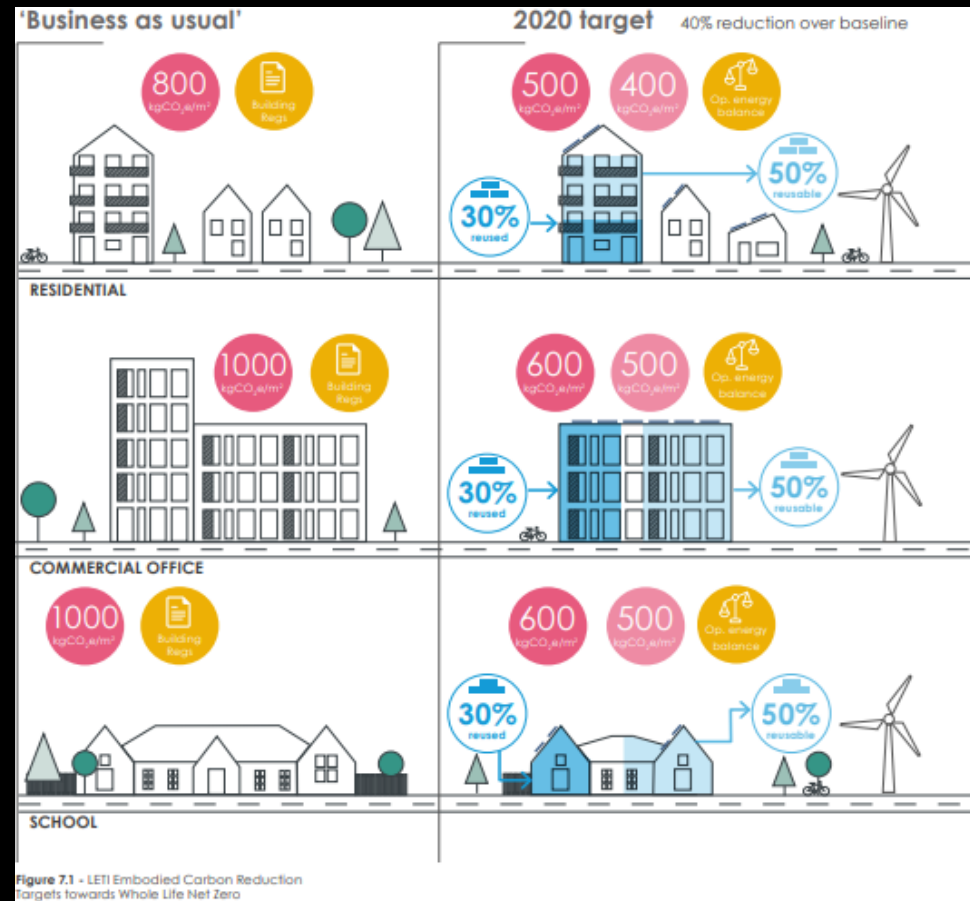
Source: [globalrenewablehub.com](http://globalrenewablehub.com)

# **5. Design your assets to have low upfront embodied carbon**

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## Toolkits and examples

- Embodied Carbon Primer – LETI
- Whole Life-Cycle Carbon Assessments guidance – Mayor of London
- Circular Economy statement requirement – draft London Plan
  - 99% of waste diverted from landfill
  - 25% of the 5 key construction materials on our sites came from recycled sources in 2018
  - Award winning closed loop system for finished works protection material



**6. Invest in smart systems to lift your wellbeing and productivity, attract and retain talent and reduce your carbon**



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## Toolkits and examples

- Demand for smart systems in offices skyrocketed during Covid – 22 Bishopsgate smartest skyscraper in Europe
- WELL Building standard – 25% productivity lift
- WiredScore Smart buildings certification - up to 35% improvement in energy e.g. Deepmind AI optimisations
- Digital construction and BIM helps resource efficiency and future flexibility of space use with the potential to reduce 75-90% of waste in real estate – Circular Economy benefits of 1.8 trillion euro annually, in Europe alone

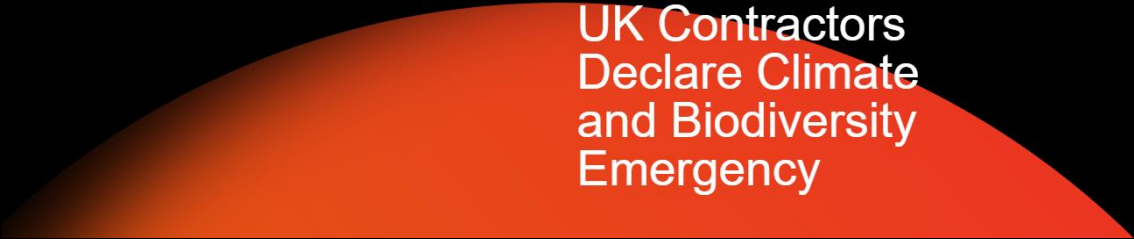


Image: 22 Bishopsgate

## **7. Collaboration and data sharing allows businesses to tackle common challenges or global threats**

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## Toolkits and examples



UK Contractors  
Declare Climate  
and Biodiversity  
Emergency

Founding signatories:

BAM Construct, BAM Nuttall, Canary Wharf Contractors,  
Morgan Sindall Group plc, Multiplex Europe, Sir Robert  
McAlpine, Skanska, Willmott Dixon

[Contractorsdeclare.co.uk](https://Contractorsdeclare.co.uk)

- part of **Construction Declares**
- uniting the industry towards a green recovery and a fairer world

Built for **positive impact**

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## Thank you