



MAGIC Partners Meeting



AIR QUALITY IN THE BUILT ENVIRONMENT

CATRIONA BRADY



Global
Partners



Gold
Supporters



Silver
Supporters



Catriona Brady

Head of Better Places for People
and Strategic Planning Lead

World Green Building Council

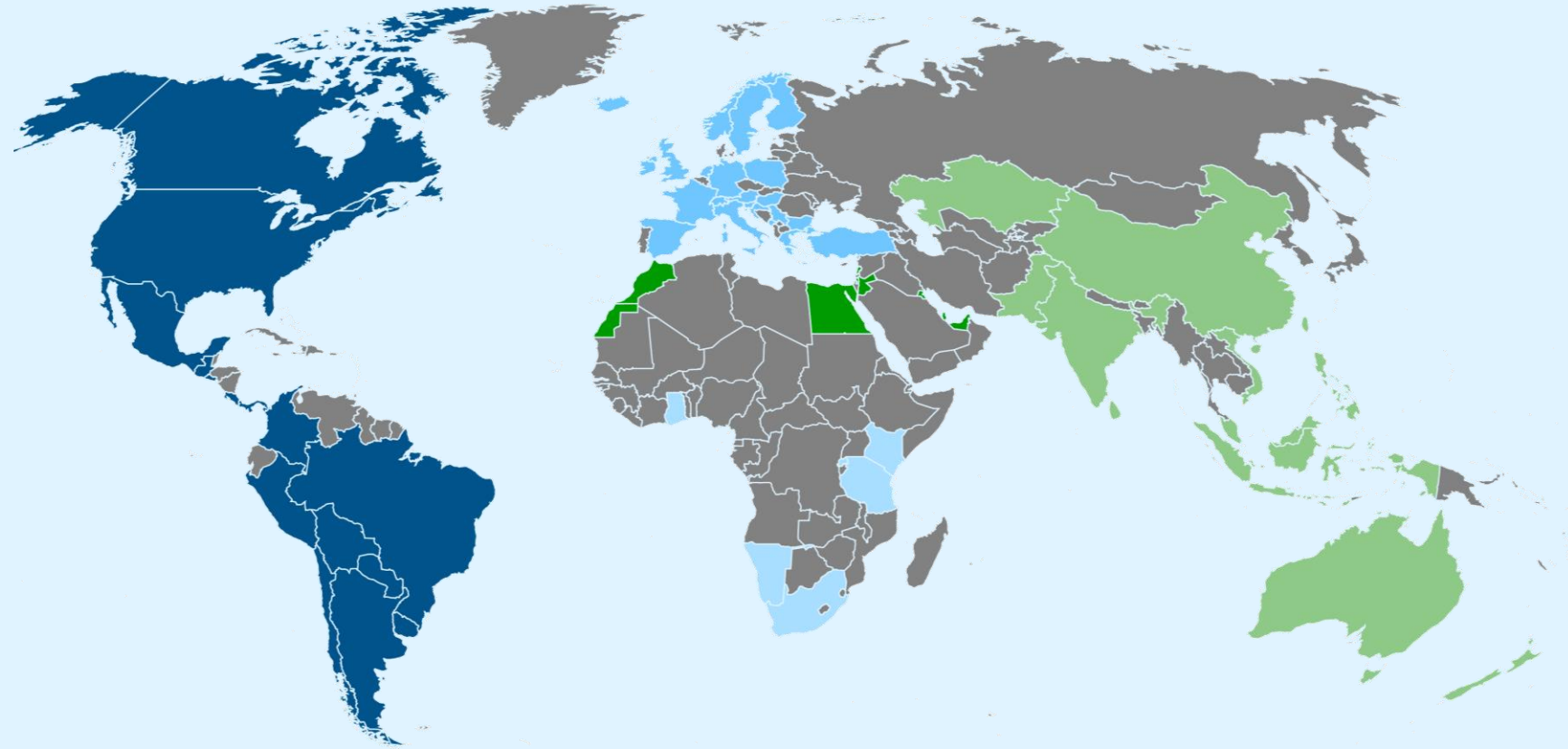


World Green Building Council

The World Green Building Council (WorldGBC) catalyses the uptake of sustainable buildings for everyone, everywhere.

Transforming the building and construction sector across three strategic areas - climate action, health & wellbeing, and resources & circularity - we are a global action network comprised of around 70 Green Building Councils around the globe.

As members of the UN Global Compact, we work with businesses, organisations and governments to drive the ambitions of the Paris Agreement and UN Global Goals for Sustainable Development. Through a systems change approach, our network is leading the industry towards a net zero carbon, healthy, equitable and resilient built environment.



WorldGBC's member network has become the world's strongest local-regional-global action network for the built environment

Our Impact Enablers: the way we drive change as a global network

Five Regional Networks

Bringing together international leadership to collaborate on regional level GBC impact

70 Green Building Councils
plus affiliate members

International Membership Base
Representing over 36,000 organisations dedicated to sustainability in the built environment

Established GBC CEO Network

CEOs of close to 40 countries committed to sharing best practice and implementing innovative business models to drive change

Partnerships

The WorldGBC is proud to partner with over 60 diverse organisations committed to collaboration for our shared vision and strengthening impact opportunities.

WorldGBC Advocacy

A united voice of a global network on the forefront of the international climate and sustainability policy agenda

WorldGBC Strategy 2020-22

Analysis of Sustainable Development Goals relevant to the built environment



- 17 PARTNERSHIPS FOR THE GOALS
- 13 CLIMATE ACTION
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- 7 AFFORDABLE AND CLEAN ENERGY
- 3 GOOD HEALTH AND WELL-BEING
- 6 CLEAN WATER AND SANITATION
- 11 SUSTAINABLE CITIES AND COMMUNITIES
- 10 REDUCED INEQUALITIES
- 8 DECENT WORK AND ECONOMIC GROWTH
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- 15 LIFE ON LAND

EUROPE REGIONAL NETWORK



AMERICAS REGIONAL NETWORK



WORLD GREEN BUILDING COUNCIL



MENA REGIONAL NETWORK



AFRICA REGIONAL NETWORK



ASIA PACIFIC REGIONAL NETWORK



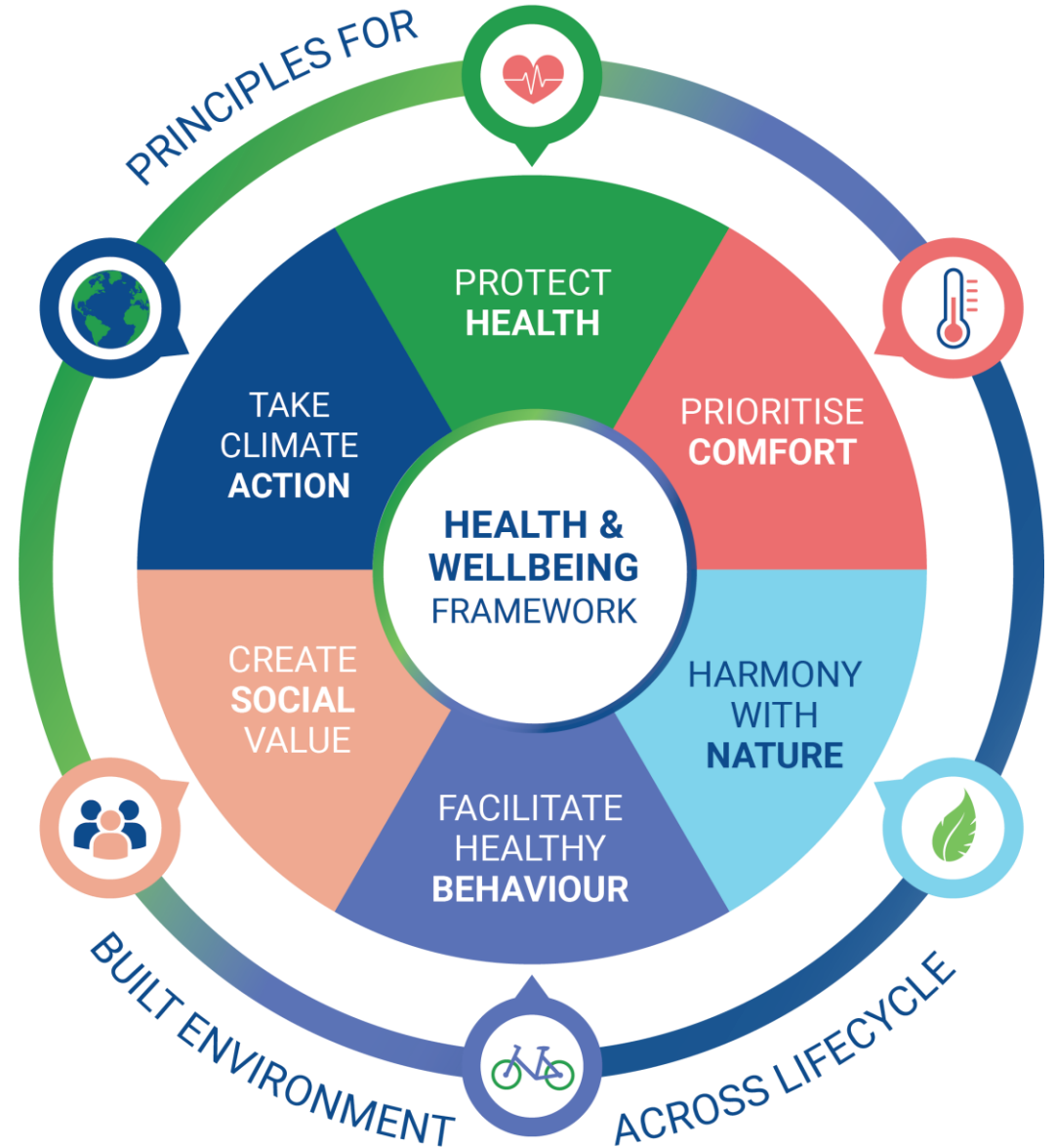
BETTER PLACES FOR PEOPLE

A global project of the
World Green Building Council

Transforming health and wellbeing in the built environment by;

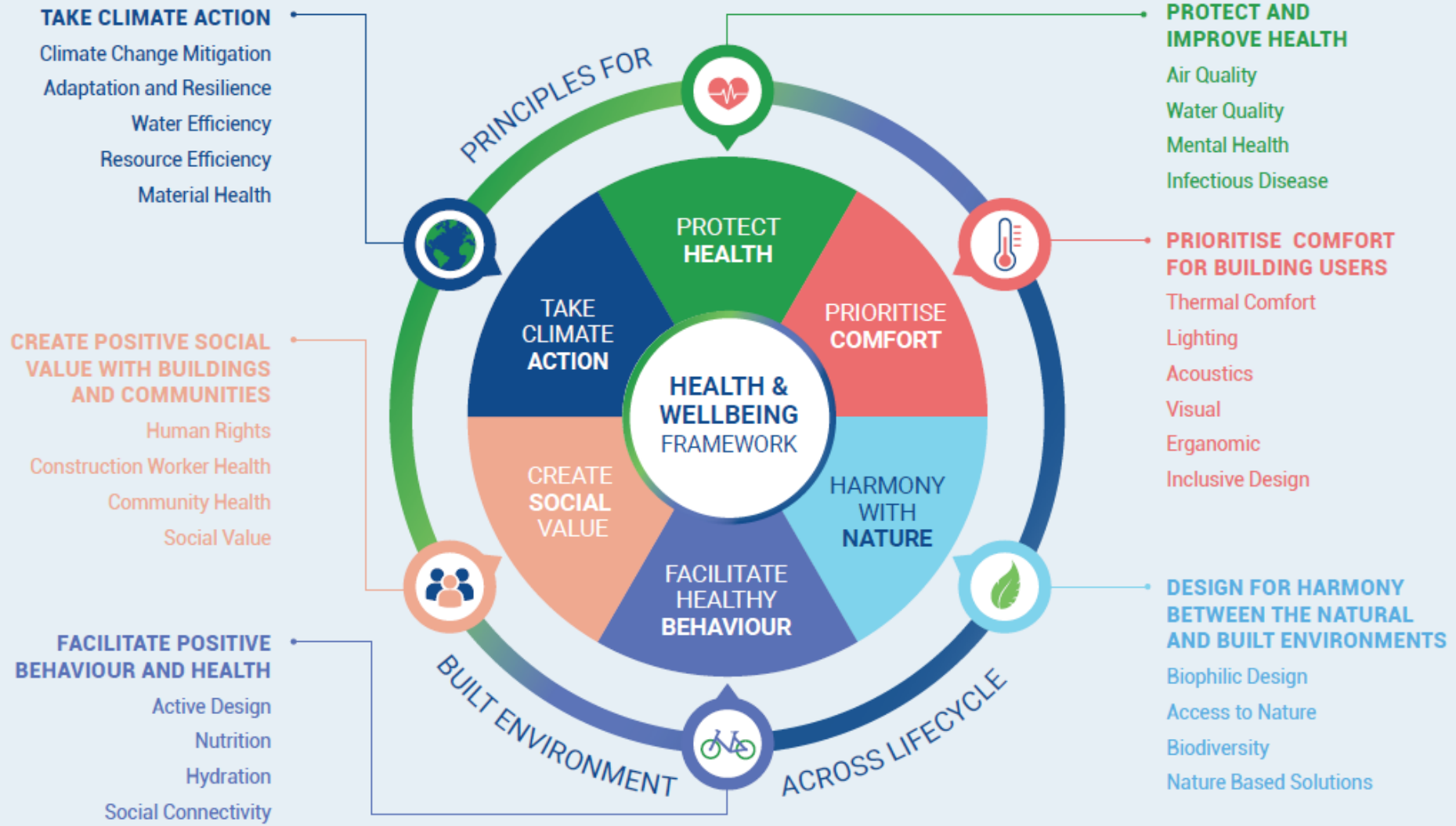
- Reducing contribution from the built environment to global health crises, such as air pollution
- Increasing awareness and education on sustainable, healthy buildings
- Empowering advocacy around sustainability with health co-benefits
- Proving the business case for healthy buildings

WORLDGBC HEALTH & WELLBEING FRAMEWORK



The WorldGBC Health & Wellbeing Framework

Six Principles for a Healthy, Sustainable Built Environment



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STATE OF THE AIR



91% of global population live in areas that exceed safe levels of air pollution¹

Short-lived climate pollutants are causing **45% of climate change**²

Polluted air causes **7 million early deaths** each year¹

We are **dangerously uninformed** about the air that we breathe

¹ WHO (www.who.int/airpollution/en)

² CCAC (www.ccacoalition.org/en/content/short-lived-climate-pollutants-slcps)

WorldGBC 'Air Quality in Built Environment' campaign in partnership with the Climate and Clean Air Coalition



Promoting a sustainable built environment to mitigate cause and effect of air pollution, reducing harm to people and planet



The Campaign

We are targeting the **specific impacts of the built environment** on the crisis of **air pollution across the world**, in order to reduce the impacts on **human health** and our **natural environment**

Reduce
ambient
outdoor
emissions

Mitigate
indoor air
pollution
sources

Promote
sustainable
building
operation

Increase
awareness
and
action

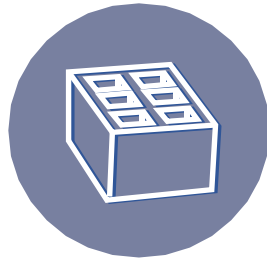
Causes of air pollution in built environment: ambient

Ambient, or outdoor, air pollution is caused by a range of factors, including transport, agriculture and waste degradation. However the contribution of the built environment, in both the construction and operational phases, cannot be underestimated.



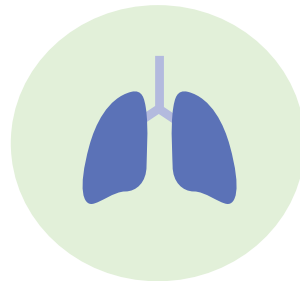
Energy

39% of global energy-related carbon emissions are attributed to buildings



Construction

Most of the 1,500 billion bricks produced annually are using polluting kilns



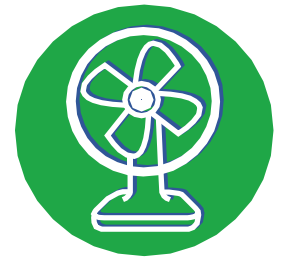
Construction

Concrete production can release silica dust, a known carcinogen



Heating

Traditional cookstoves cause 58% global black carbon emissions



Cooling

HFCs, potent climate forcers, are often found in AC systems

Causes of air pollution in built environment: indoor

Pollutants found within buildings of all types can be harmful to people across the world, with 4.3 million deaths attributed to exposure to household air pollutants each year.



Heating

Combustion of solid fuels causes indoor as well as outdoor pollution



Damp and mould

Caused by air infiltration through cracks in building fabric



Chemicals

VOCs, emitted from certain materials, have adverse health effects



Toxic materials

Construction materials, e.g. asbestos, can cause harmful airborne pollution



Outdoor infiltration

Most exposure to outdoor air pollution occurs inside buildings

We cannot improve what we cannot measure

**World Green Building
Council is committed to
increasing public
access to vital data on
air quality worldwide**

**Creating a
global call to
action for
the built
environment**



91% of people live in places
with unsafe levels of air pollution

Learn about the air we breathe

PLANT A SENSOR

AN AIR QUALITY MONITORING CAMPAIGN



worldgbc.org/plant-a-sensor



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A global air quality monitoring campaign

Enlighten citizens about the air
around them, indoors and outdoors

Equip researchers and policy
makers with rich, global data


Empower a global audience with
information for effective advocacy
and policy change

Ensure the impact of the built
environment on air pollution is
recognised and understood

worldgbc.org/plant-a-sensor



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Plant a Sensor
participants
monitor and
report air quality
data

Air quality data
publicly
accessible via
RESET Earth
platform

WorldGBC and
RESET
collaborate on
air quality data
analysis

Data from
Plant a Sensor
contributed to
Earth Challenge
2020

Plant a Sensor: Making air quality data publicly available

PLANT A **SENSOR**



AN AIR QUALITY
MONITORING CAMPAIGN
HOSTED BY



RESET Earth

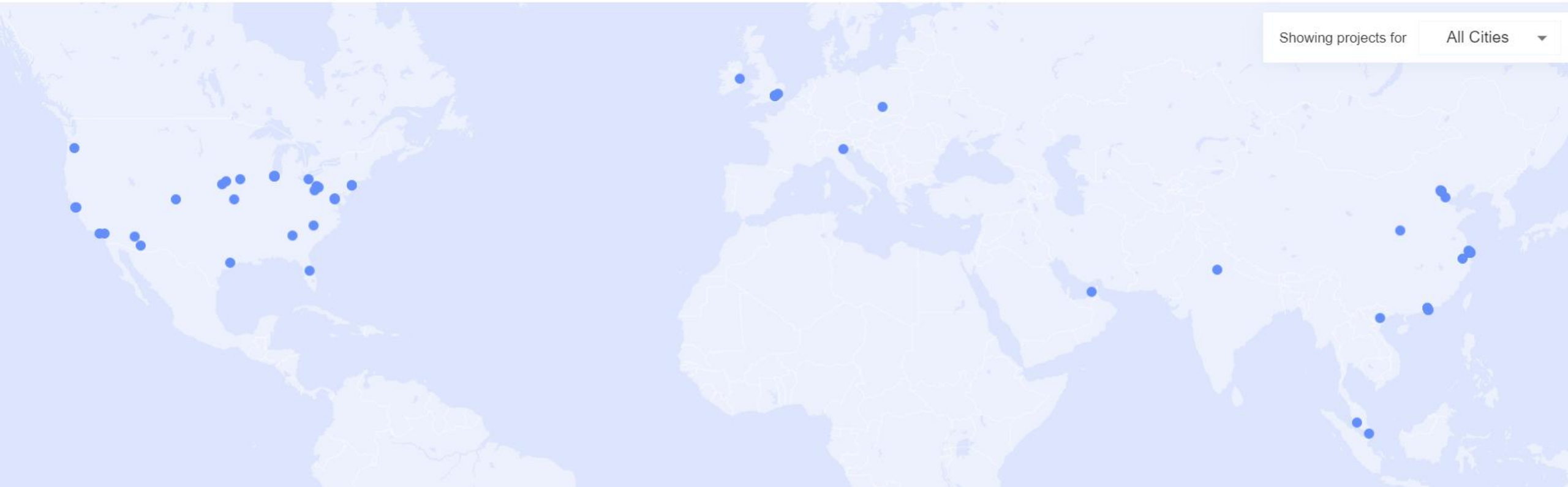
Home

Data

Campaigns

Showing projects for

All Cities



worldgbc.org/plant-a-sensor

Plant a Sensor

23

GBCs
monitoring
air quality

Cameroon

Mauritius

Kenya

Philippines

Guatemala

Jordan

Poland

South Africa

Ireland

UKGBC

WorldGBC

Emirates

Brazil

Netherlands

Hong Kong

Colombia

Malaysia

Argentina

Italy

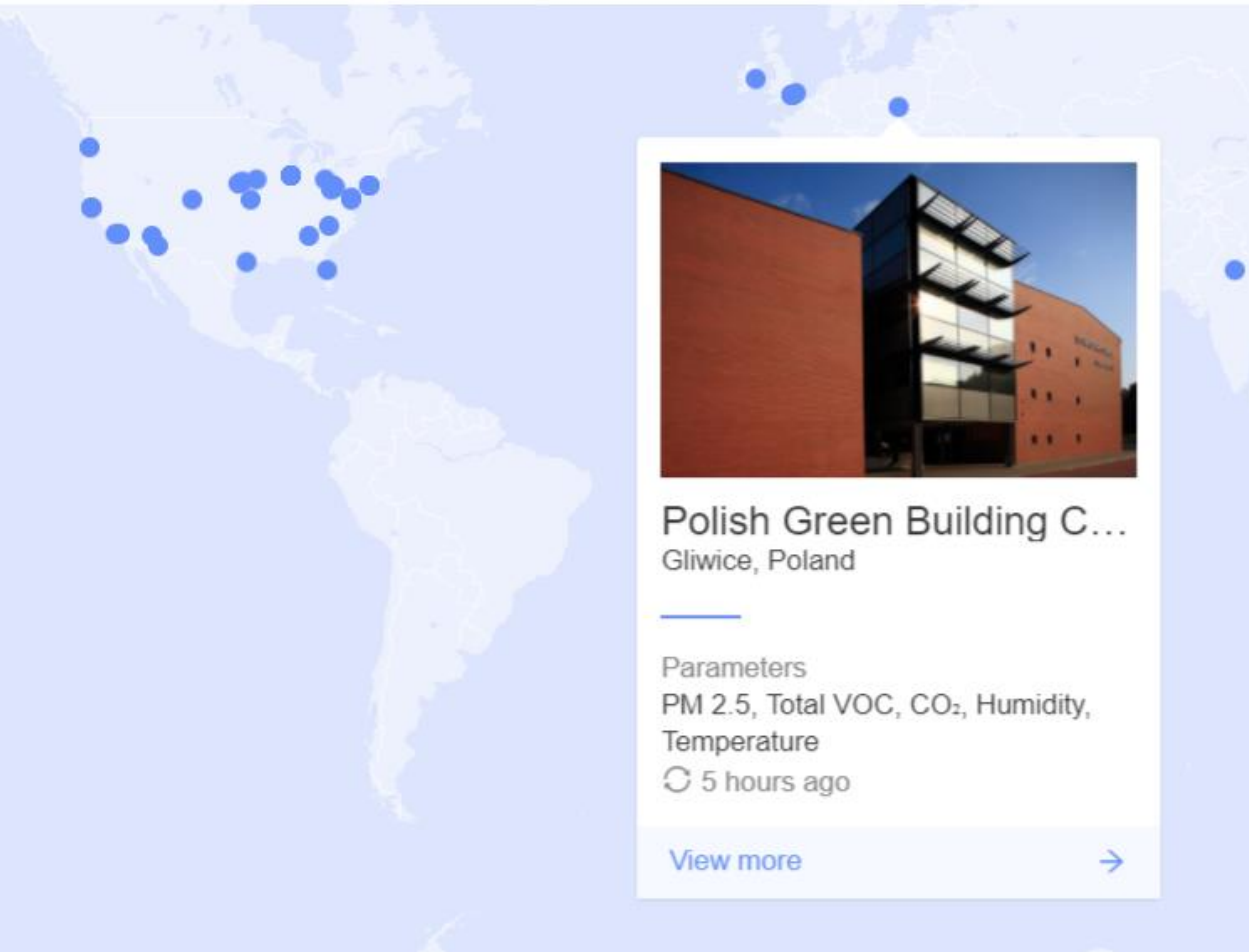
Kenya

El Salvador

Turkey

Croatia

Ghana



Polish Green Building C... Gliwice, Poland

Parameters
PM 2.5, Total VOC, CO₂, Humidity,
Temperature
🔄 5 hours ago

[View more](#) →

Polish Green Building Council - PLGBC Office

Gliwice, Poland

Outdoor Monitors

Roof Last updated a day ago

PM 2.5	28 $\mu\text{g}/\text{m}^3$	CO ₂	412 ppm	Humidity	78.73 %RH
Temperature	14.48 °C				

[View more monitor information](#)

Indoor Monitors

Indoor Average Last updated 5 hours ago

PM 2.5	5 $\mu\text{g}/\text{m}^3$	Total VOC	0.03 ppm	CO ₂	414 ppm
Humidity	62.47 %RH	Temperature	17.03 °C		

Inside Monitor - Room 1 Last updated 5 hours ago

PM 2.5	5 $\mu\text{g}/\text{m}^3$	Total VOC	0.03 ppm	CO ₂	414 ppm
Humidity	62.47 %RH	Temperature	17.03 °C		

Description

PLGBC's head office Technopark building,
[View more](#)

Plant a Sensor Outcomes

Year 1: Facilitate **worldwide roll-out** of air quality monitors

Year 2: Develop **research outcomes** from air quality data

Year 3: Publish **research findings** and **empower GBCs** to develop own national research content



Plant a Sensor Action Pathways

To facilitate the roll-out of a worldwide air quality monitoring network, Action Pathways are being established to incentivise broader engagement, and plugging some of the hard to reach data gaps

Certification

Introduce globally aligned series of credits within worldwide building certifications and rating tools that are managed by national GBCs

Philanthropy

'Buy one give one' donation campaign for corporates. Focus on roll out of sensors in disadvantaged locations and geographies, particularly schools

Connecting

Engage existing local or national air quality networks, analyse data gaps and promote open data access by collating in one central platform

Academia

Engage with universities and institutions to support the creation of scientifically valuable research outcomes from air quality data

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The We Company

SILVER
CAMPAIGN
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Please contact Catriona Brady, Head of Better Places for People at WorldGBC for more information (cbrady@worldgbc.org)

