

London Industry Seminar
CRREM-ERES

Stranding Risk

2nd Panel: Decarbonisation targets
and risk disclosure



ADVANCING NET ZERO

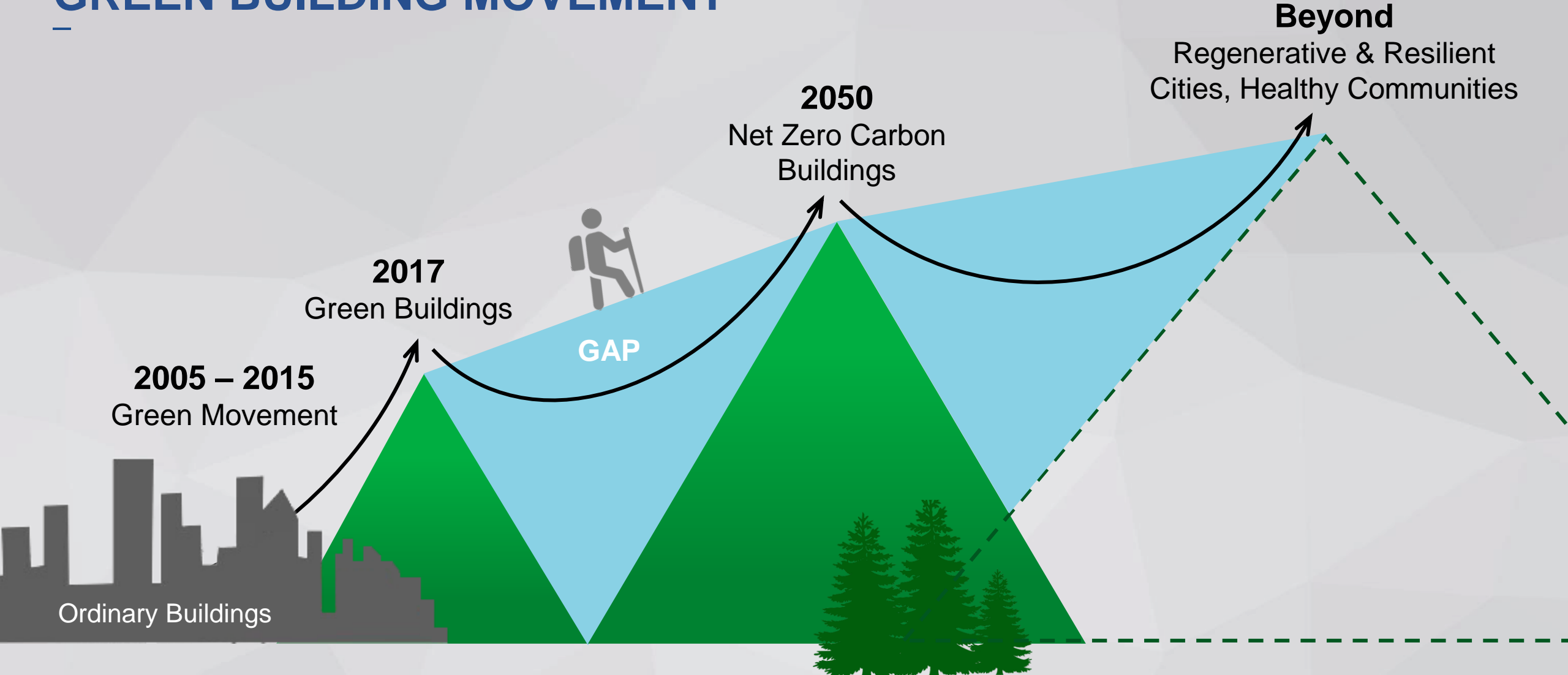
Decarbonisation: The built environment's efforts beyond policy

4 September 2020

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NET ZERO



GREEN BUILDING MOVEMENT



1990 – 2015
Rapid Urbanisation

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ADVANCING NET ZERO

A global campaign to accelerate uptake of
Net Zero Carbon Buildings to 100% by 2050

Project targets

- Increase awareness and education of the urgency and achievability of net zero carbon buildings
- Achieve alignment and commonality between GBC approaches and certification schemes
- To expedite uptake in global markets by sharing market leadership examples

Whole Life Carbon Vision

2050

New buildings, infrastructure and renovations will have **net zero embodied carbon**, and all buildings, including existing buildings, must be **net zero operational carbon**

Net Zero Operational Carbon

Definition

A net zero carbon building is highly energy efficient with all remaining energy from onsite and/or offsite renewable sources

Guiding Principles

1. Measure and disclose carbon
2. Reduce energy demand
3. Generate balance from renewables
4. Improve verification and rigour

Net Zero Carbon Buildings Commitment

All buildings within direct control to operate at net zero carbon by 2030



2030

New buildings, infrastructure and renovations will have at least **40% less embodied carbon** with significant **upfront carbon** reduction, and all new buildings must be **net zero operational carbon**

Net Zero Embodied Carbon

Definition

A net zero embodied carbon building (new or renovated) or infrastructure asset is highly resource efficient with **upfront carbon** minimised to the greatest extent possible and all remaining **embodied carbon** reduced or, as a last resort, offset in order to achieve net zero across the lifecycle

Guiding Principles

1. Prevent
2. Reduce and optimise
3. Plan for the future
4. Offset

Around the world in Advancing Net Zero



Energy Positive Carbon Negative (E+C-)

Zero Energy / Carbon

'Paris Proof'

Climate Positive

Carbon Neutral

Net Zero Energy

Zero Carbon

Net Zero Ready / Carbon

LEED Zero

Carbon Positive

Zero Energy

Zero Energy

Net Zero Ready / Carbon

carboNZero

GBC NET ZERO CARBON BUILDINGS SCHEMES AND PROGRAMMES: A COMPARISON



The response of GBC certification schemes and programmes to the principles set out in the Advancing Net Zero infographic are shown here:

GBC COUNTRY SCHEME	Alliance HQE-GBC France	DutchGBC Netherlands	CaGBC Canada	GBC Brasil Brazil	GBCA Australia	GBCSA South Africa	SwedenGBC Sweden	DGNB Germany	IndianGBC India	USGBC USA	UKGBC UK
Based on full lifecycle carbon analysis (LCA)	Annual verified consumption data	Annual verified zero carbon operational emissions balance	Annual verified net zero energy balance	Annual verified consumption data	Zero carbon operational emissions balance, re-certify every 3 years	Annual net zero operational carbon with regular verification	Annual verified net zero carbon balance	Annual verified net zero energy balance	Annual verified net zero carbon emissions from energy consumption and occupant transportation	Annual verified net zero operational energy carbon balance	
Between 5-40% minimum energy reduction, dependent on building type and 2012 French thermal regulation	66% energy consumption reduction compared to the 2015 sector energy intensity averages	Heating energy efficiency targets set (Thermal Energy Demand Intensity) for each climate zone Report Energy Use Intensity; report peak demand	If 100% onsite renewable energy, no additional requirements If using offsite renewable energy, energy efficiency requirements set beyond ASHRAE	Energy efficiency prioritised via deemed to satisfy criteria before onsite renewables, offsite renewables or offsets can be considered	40% improvement of energy performance than local code (BREEAM SE) 35% reduction beyond ASHRAE (LEED Gold); or local scheme	Minimum energy requirements by energy code	Reduce Energy Performance Index Ratio against local baseline	Achieve energy performance LEED criteria for targeted performance level	Prioritise energy efficiency and energy use reductions, with energy use intensity targets to be included in future		
Onsite renewable energy requirements for levels Energy 3 >100% energy demand for Energy 4	Onsite renewables included in net-consumption data Offsite renewables to account for remaining 33% demand	At least 5% of energy demand met by onsite renewable energy; offsite allowed with specific eligibility requirements Offsets not permitted	Onsite allowed, commercial buildings can use RECs for maximum 10% of energy demand Offsets not permitted	Onsite and offsite renewable energy allowed Any remaining non-electricity related CO ₂ emissions to be offset annually	Offsite renewable energy and CO ₂ offsets only allowed if demand reduction requirements are met	Repayment of embedded and annual carbon debt through approved offset policies, e.g. onsite /offsite energy production from renewable energy sources	Generate as much renewable energy onsite as feasible	Meet annual energy demand through both onsite and offsite renewable energy sources	Achieve energy generation LEED criteria for targeted performance level	Prioritise onsite renewables and offsite renewables with additionality Offset remaining carbon	
Certification is based on LCA covering embodied carbon and construction processes in addition to building energy and water	Future revision to include embodied carbon	Report on embodied CO ₂ of structural and envelope building materials	Future revision to include embodied carbon	Scope also includes refrigerants, waste-to-landfill and water consumption Embodied carbon also addressed	Additional labels recognise net zero and positive water, waste and ecological impacts	Cap on initial embedded carbon from production of materials and from construction and installation on site	Either operational emissions or operational plus embodied emissions of whole life cycle	Future versions to include waste, water and carbon	Project must be LEED certified (any level) LEED Zero Water and Waste also available	Embodied carbon included under 'net zero carbon – construction' Future scope for 'net zero carbon – whole life'	

“Ambition Loops” support bolder climate action from business and governments



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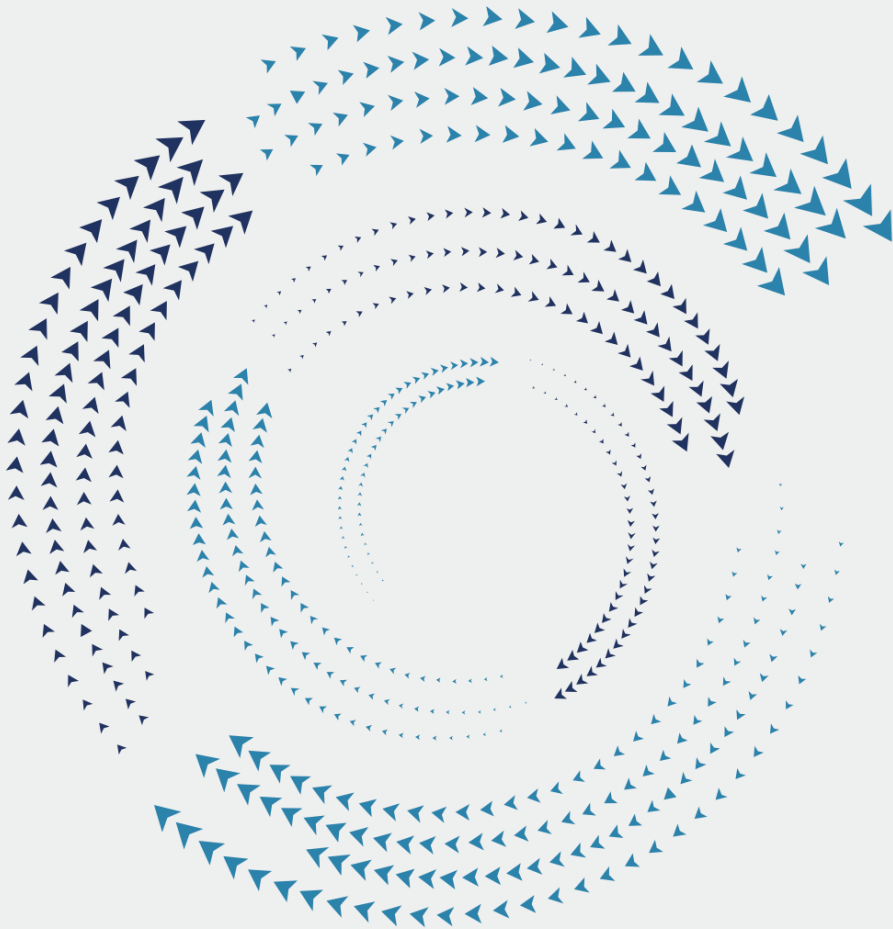
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Government Climate Policy

- ▲ Clear, ambitious targets and policy
- ▲ Predictable regulatory environment
- ▲ Incentives and infrastructure
- ▲ Long-term market signals

- ▲ Support for research, development, and deployment
- ▲ Clear plans and timelines for full transition to a zero-carbon economy








Business Climate Action

- ▲ Ambitious, science-based targets
- ▲ Public updates on progress
- ▲ Investments and growth strategies aligned with a zero-carbon future

- ▲ Commercial demand for zero-carbon energy, zero-carbon transportation and zero-carbon land use
- ▲ Responsible policy engagement (individually and through trade associations)

Net Zero Carbon Buildings Commitment



-  **COMMIT** to an advanced trajectory for all new and existing buildings within direct control of the organisation to operate at net zero carbon **by 2030**; regulate and/or advocate for all buildings to operate at net zero **by 2050**
-  **DISCLOSE** and assess annual asset and portfolio energy demand and carbon emissions
-  **ACT** to reduce emissions by developing and implementing a decarbonisation roadmap outlining key actions and milestones towards energy efficiency and renewable energy
-  **VERIFY** enhanced energy performance, reduced carbon emissions and progress towards net zero carbon assets and portfolio
-  **ADVOCATE** for wider emissions reduction by acting as a catalyst through core organisation activities for further action within respective supply chains

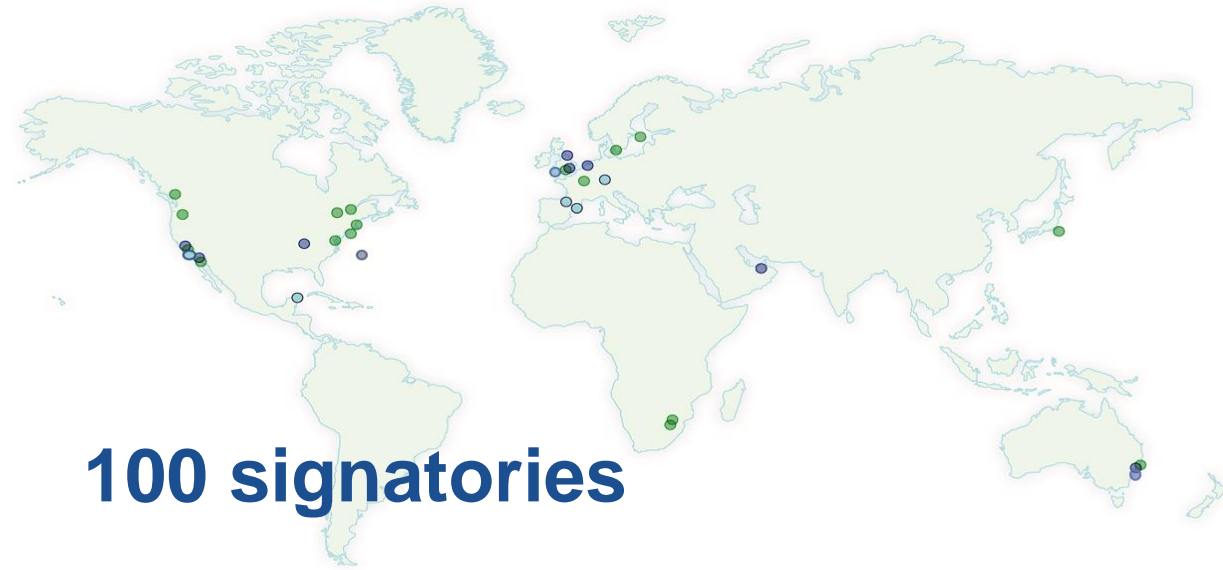
Net Zero Carbon Buildings Commitment



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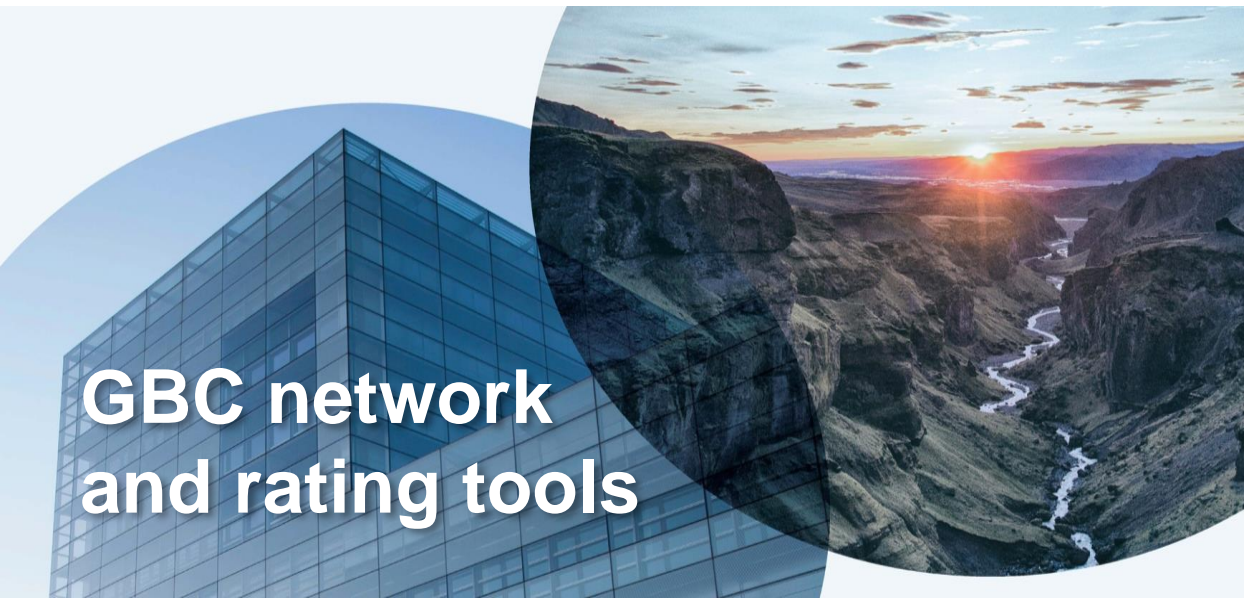
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100 signatories



Detailed
Guidance



GBC network
and rating tools

SALESFORCE
Cloud Computing Company

Tenant | Owner

Committed to mitigating its climate change impacts. In FY18, began net zero carbon cloud to its customers, is halfway towards its goal of 100% net zero carbon cloud by FY2023, and has already achieved or is pursuing green building certification for its office spaces. Ranked #2 on Barron's 2018 list of 100 Most Sustainable Companies.

TOKYO, JAPAN

Policy Pathway

Further information
Creating a Sustainable City, Tokyo's Environmental Policy
Cap-and-Trade Program
Tokyo Green Building Program

240,000 tCO₂e portfolio carbon emissions
30,000+ employees
26 countries of operation

13,646,764 inhabitants
Humid subtropical climate

1 Commit
Committed to all new buildings from 2022 operate at net zero carbon.

2 Disclose
Disclose Scope 1 and 2 (and relevant Scope 3) emissions via CDP and annual Stakeholder Report.

3 Act
By 2020, aim for major new office interiors and to operate at net zero carbon. Achieve 100% energy efficiency, renewable energy procurement, and low-carbon building materials. By 2022, achieve 100% net zero carbon for all new office interiors.

4 Verify
Workspaces are built to meet leading green building standards (e.g., LEED, BREEAM, Fitwel), and Green Key. Progress towards 100% renewable energy. Carbon Neutral Cloud commitments and net zero carbon power supplier.

5 Advocate
Partner with key suppliers to set their own emissions reduction targets by 2025. Evaluate against four key criteria when selecting suppliers.

Existing / Planned Regulations & Roadmaps

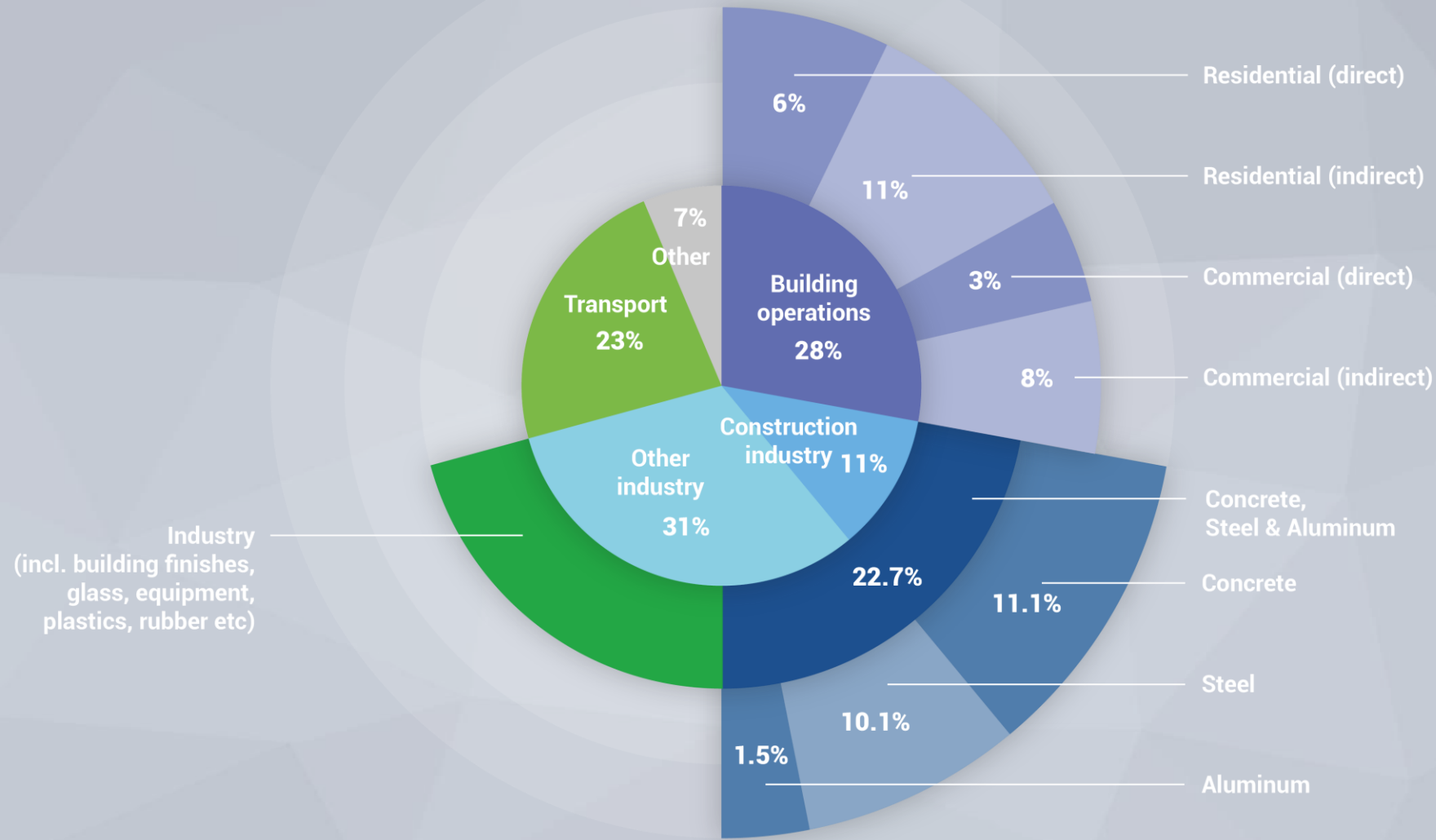
- ✓ Tokyo Environmental Master Plan (2016) sets actions and policies to reduce Tokyo's GHG emissions by 25% below 2000 levels by 2030
- ✓ Cap-and-Trade Program plans to set a new emissions cap by 2019 in order to promote energy efficiency and expand renewable energy usage; facilities covered under existing program have achieved 26% emissions reduction over baseline year of 2016.
- ✓ Tokyo Carbon Reduction Reporting Program has mandated emissions reporting and a carbon reduction plan submission for existing small and medium facilities since 2010.
- Develop and set new 'evaluation criteria' to promote zero energy buildings in Tokyo under the Tokyo Green Building Program
- Tokyo Eco-Friendly House Specification for building owners to promote construction of net zero carbon homes to be developed in 2019.
- Implement subsidy programs to advance energy efficiency and insulation of facilities.

Signatory
Action Plans



Sector Emissions

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Industry
(incl. building finishes,
glass, equipment,
plastics, rubber etc)

WLC
Commitment
Pathway
coming Q4 2020

Thank you!

Victoria Kate Burrows

Director, Advancing Net Zero

vburrows@worldgbc.org

worldgbc.org/advancing-net-zero

GLOBAL PROJECT FUNDERS

**WE MEAN
BUSINESS**



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