Accelerate the race to Net Zero in Built Environment: BSI's Innovation Solution

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4:15 p.m.

The race to net zero in built environment

BSI's innovative solution

WAN Yang
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Today you will learn……

- What are net zero buildings?
- Why do we need them?

- What is the trend?

- Standards can help

- Who is BSI?

Section 1

- What are net zero buildings?
- Why do we need them?

Green roof: where I started green building back in 2008

Green roofs serve several purposes:

- Improve building energy efficiency
- Help to lower urban air temperatures and mitigate the heat island effect
- Absorb rainwater
- Provide insulation
- provide a more aesthetically pleasing landscape
- Provide a rainwater buffer
- Purify the air

The Green Roofing Project implemented in Shenzhen during 2008-2009

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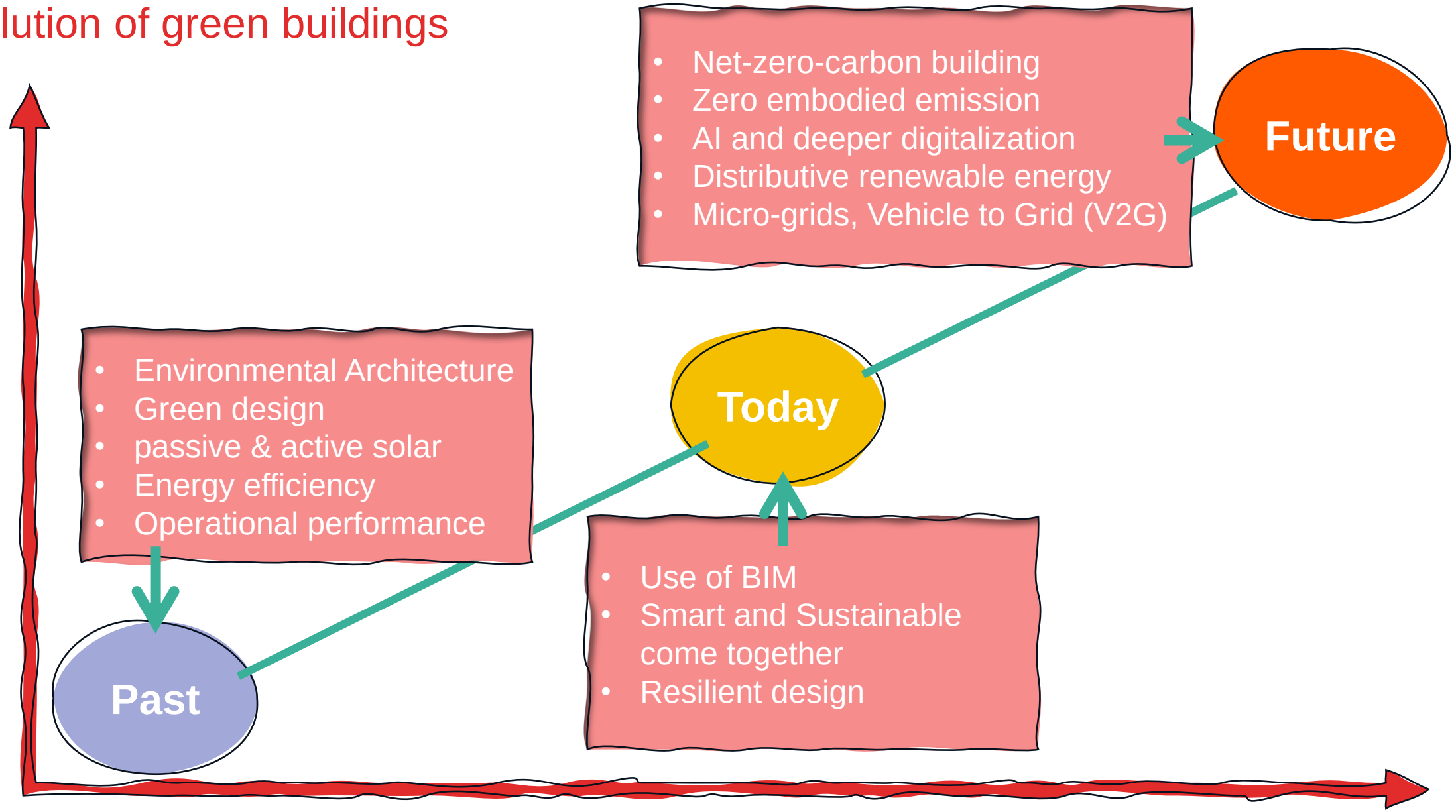
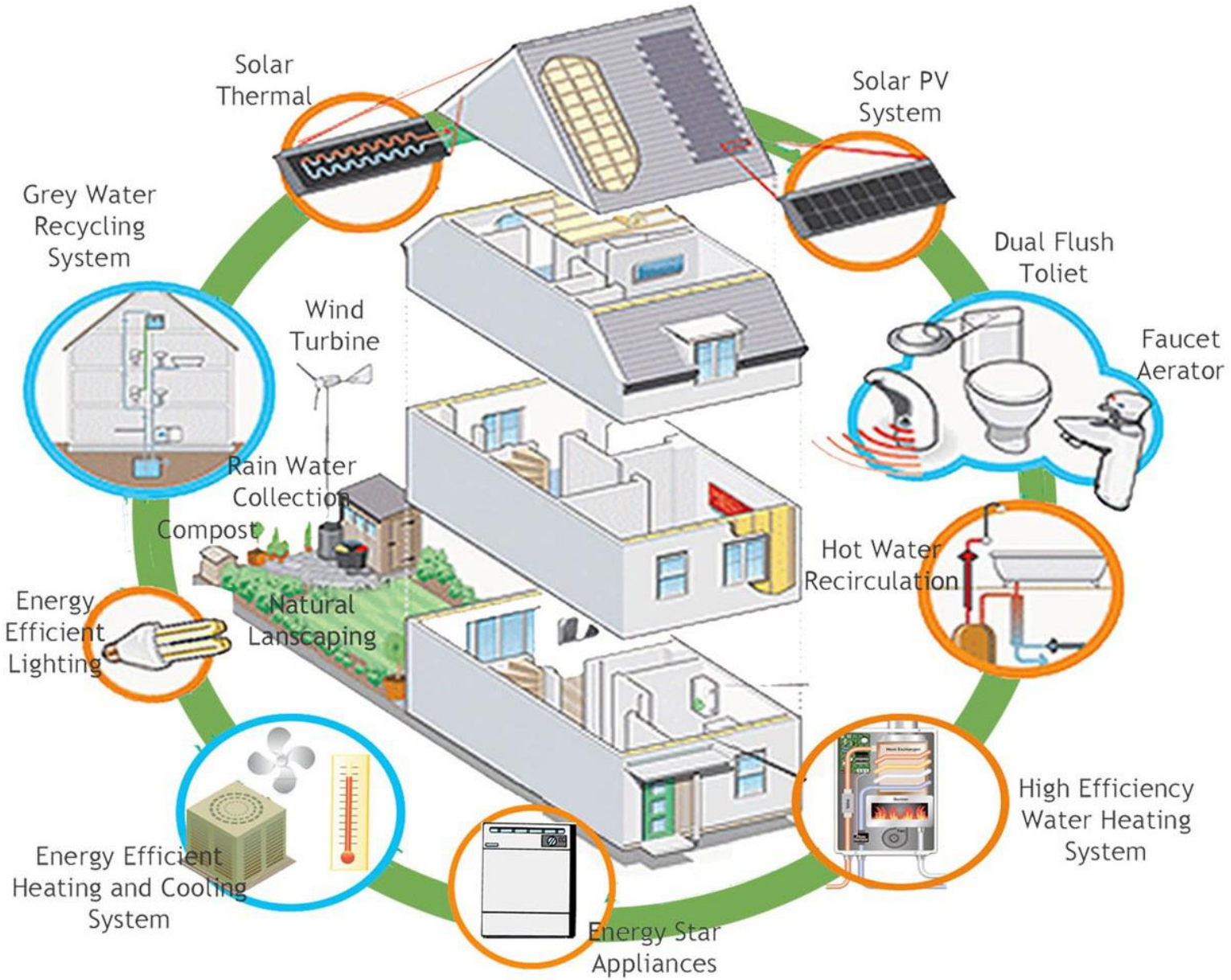
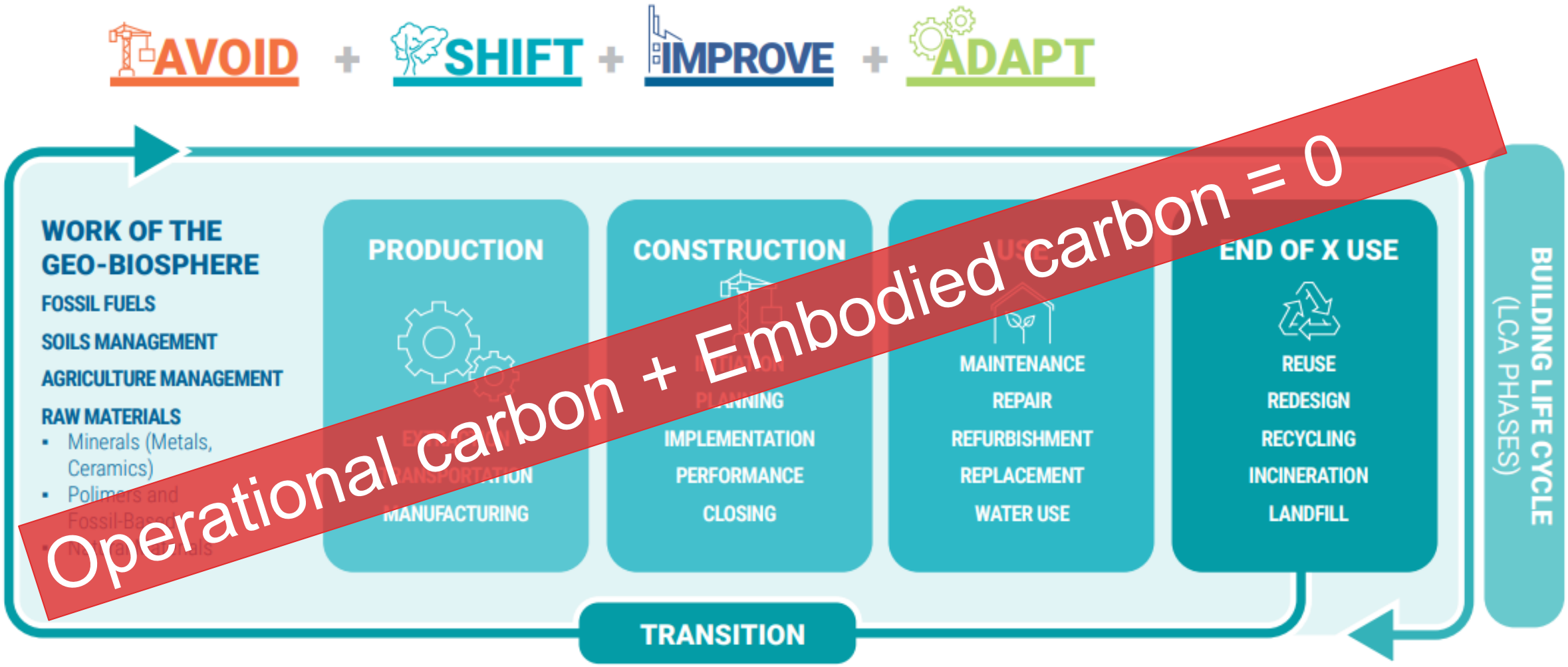
Evolution of green buildings



Measures to reduce operational emissions



What are net zero buildings?



2022 Global Status Report for Buildings and Construction, UNEP


NET ZERO CARBON BUILDINGS SUMMIT
Reduced emissions
Optimised energy efficiency
Better health & wellbeing
Increased resilience
Cost effective
Higher asset values
Jobs creation
Futureproofed investments
Risk mitigation
What if it's a big hoax and we create better buildings for nothing?

What is our biggest global challenge?

Consequences of climate change

- Glacier degradation and sea level rise
- Extreme weather
- Natural disasters
- Environment pollution
- Collapse of eco-system
- Plant diseases and pandemic

Residents walk beside remains of damaged homes at Maguindanao's Datu Odin Sinsuat town, which was blown by the deadly Tropical Storm Nalgae in October 2022

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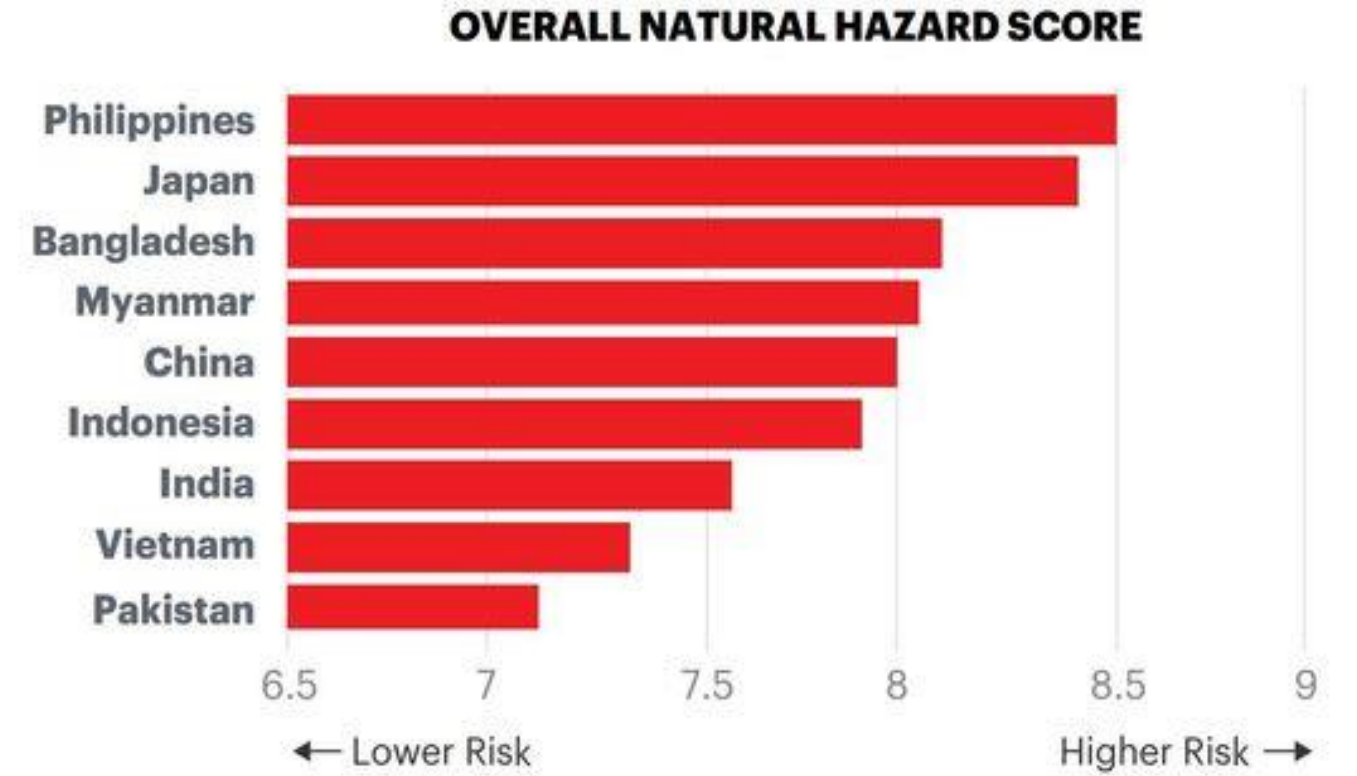
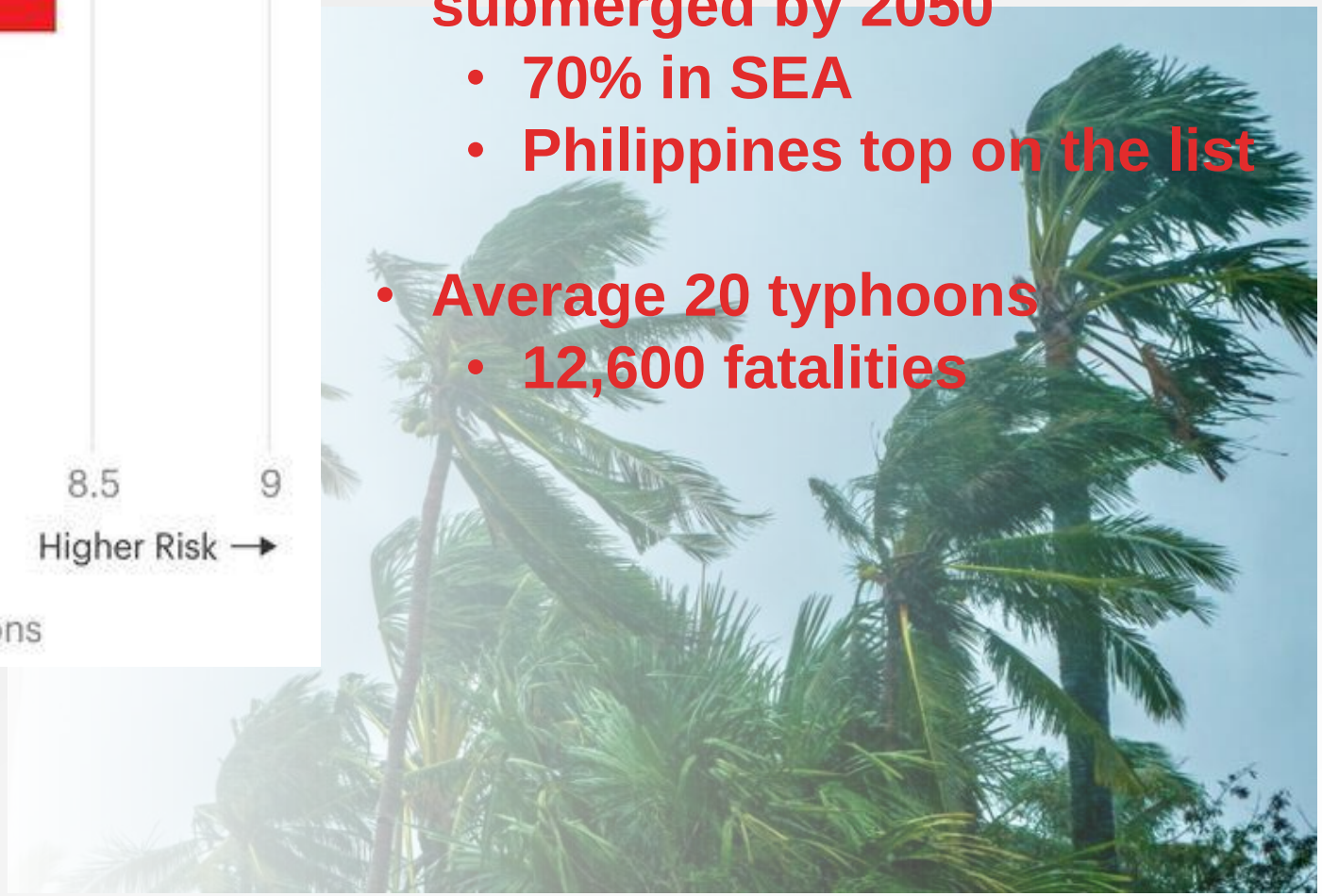
The Philippines is vulnerable to climate change



Source: INFORM Global Risk Index 2019; IEP calculations

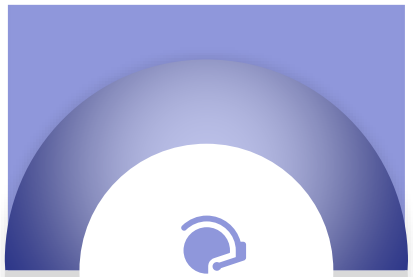
- **150 million – to be submerged by 2050**
  - **70% in SEA**
  - **Philippines top on the list**
- **Average 20 typhoons**
  - **12,600 fatalities**



Section 2

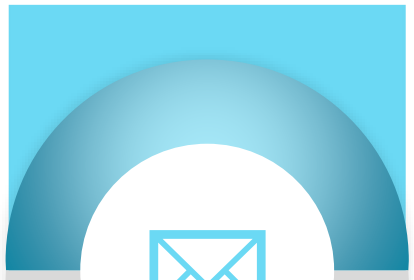
- What are the trends in 2023?

Trends for green building in 2023 and beyond?



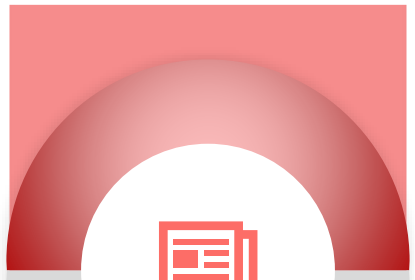
Net Zero Energy

Green electricity, distributive renewables, natural daylight, cool roof



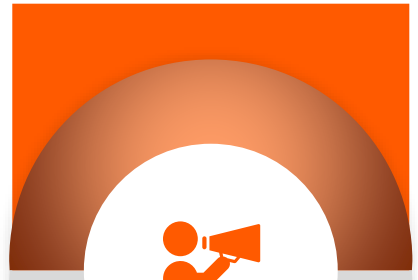
Life Cycle Management

Green design, building materials, low carbon transport, resource recycling



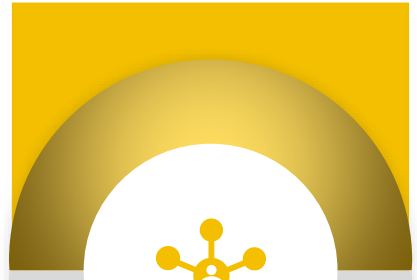
Deeply Digitalized

Smart buildings, optimized energy management, AI, automation, IoT,



Climate Resilient

Buildings designed and built against extreme weathers



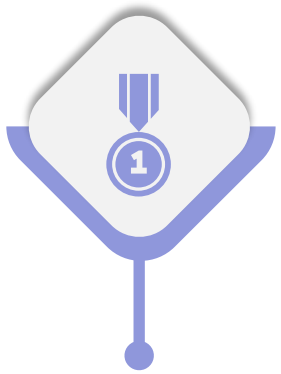
Prefabricated Modular

Prefabs are both green and of high quality

Section 3

- Standards can help

Why we should care about standards and certification

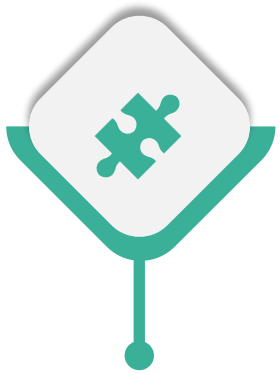


Improved Management

Standards are the summary of best practices

Improved Credibility

Endorsement from independent bodies.



Need for Compliance

Governments set mandatory directives.

Customers' requirement

Int'l buyers require verified results of sustainability.

Investors' demand

Investors demand verified data to avoid risk.

Market access

Markets set the bar of sustainability for imported products.

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Standards contribute to Net Zero

Measure

- ISO 14064 GHG calculation
- ISO 14067 Product carbon footprint
- ISO 14040/14044 Product Lifecycle Assessment
- PAS 2070 Carbon Footprint of Cities and Communities

Reduce Manage

- ISO 14001 Environment Management
- ISO 37101 Sustainable cities and communities
- ISO 50001 Energy Management
- PAS 2080 Carbon Management in Infrastructure
- PAS 20400 Sustainable Procurement
- ISO 26000 Corporate Social Responsibilities
- ISO 14030 Green Bonds
- ISO 14097 Climate Investment

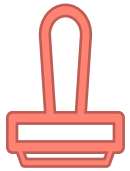
Offset

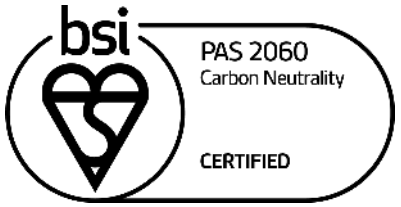
- CCER Chinese Carbon Emissions Reduction
- CER Certified Emissions Reduction
- CDM Clean Development Mechanism
- VCS Voluntary Carbon Standard
- GS Gold Standard

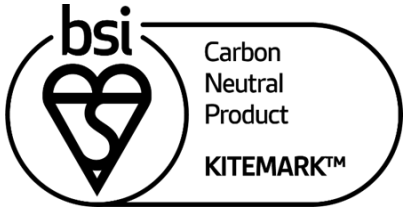
Declare

- PAS 2060 CARBON NEUTRALITY

Demonstrate







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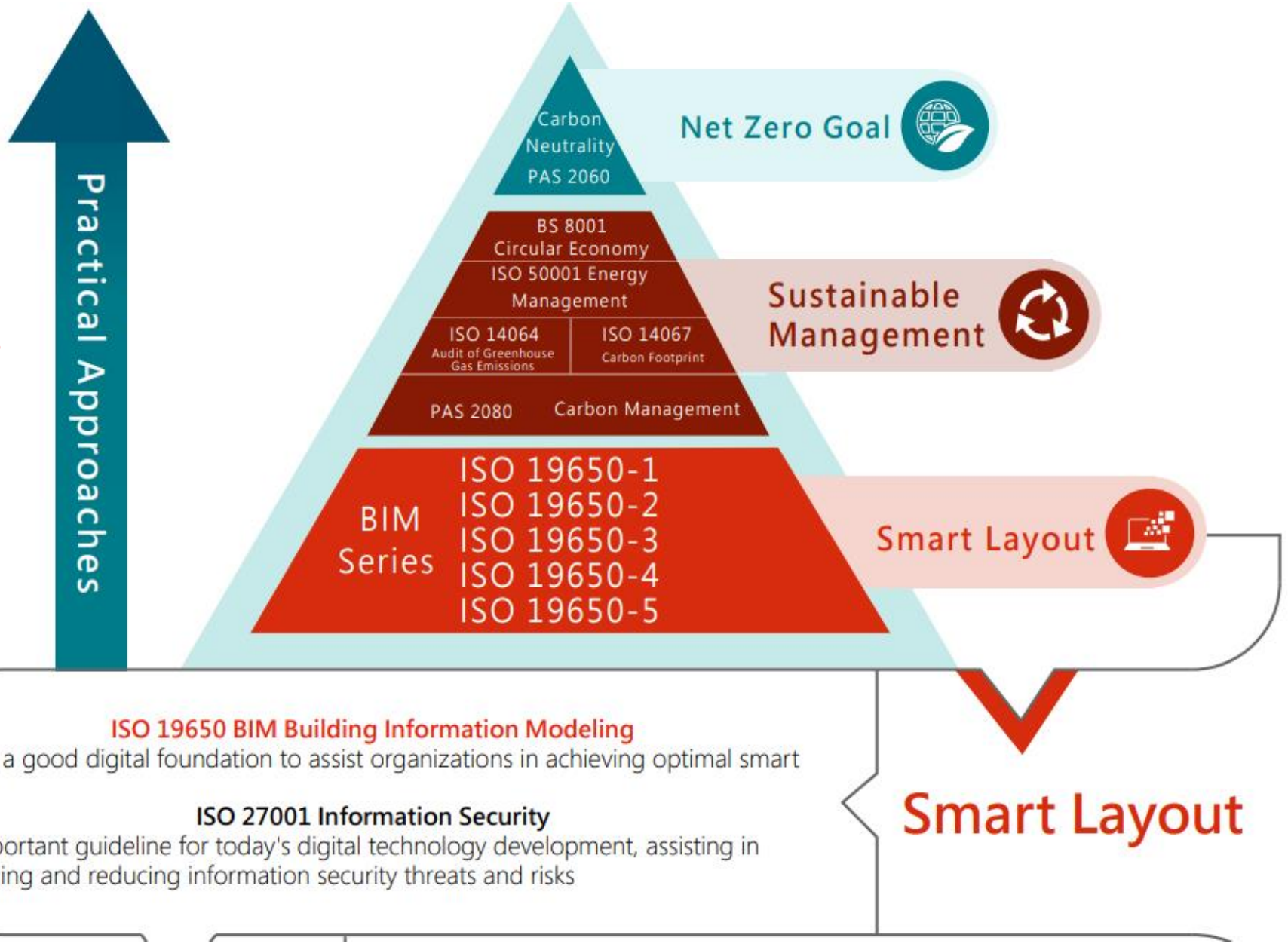
Top priorities for the AECO industry: digitalization and decarbonization



What is PAS 2080:2023?

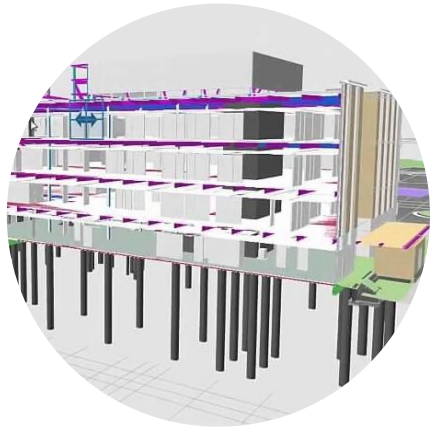
- A standard for evaluating and managing whole life **carbon** in **buildings and infrastructure**
- Provides guidelines for organisations **working collaboratively** towards carbon reduction goals
- Demonstrates contribution to **net zero carbon** goal by **2050**

The only available solution for carbon management in BE

APPLICABLE TO...

ASSET OWNERs/MANAGERs

DESIGNERs



CONSTRUCTORs

PRODUCT/MATERIAL SUPPLIERs

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BSI PAS 2080:2023 Certification

SKANSKA

"PAS 2080 provides a common framework and guidance for the whole value chain to tackle the carbon challenge. It is essential for clients, designers, contractors and suppliers to work together if we are going to drive to drive a low carbon future."

Adam Crossley, Director of Environment

love every drop anglianwater

RAMBØLL

COWI

keltbray

SKANSKA

ARUP

COSTAIN

AGGREGATE INDUSTRIES

ferrovial agroman

ALIGN

Hitachi Rail STS

John F Hunt

Balfour Beatty

VINCI

Working on behalf of HS2

SKANSKA

COSTAIN

STRABAG

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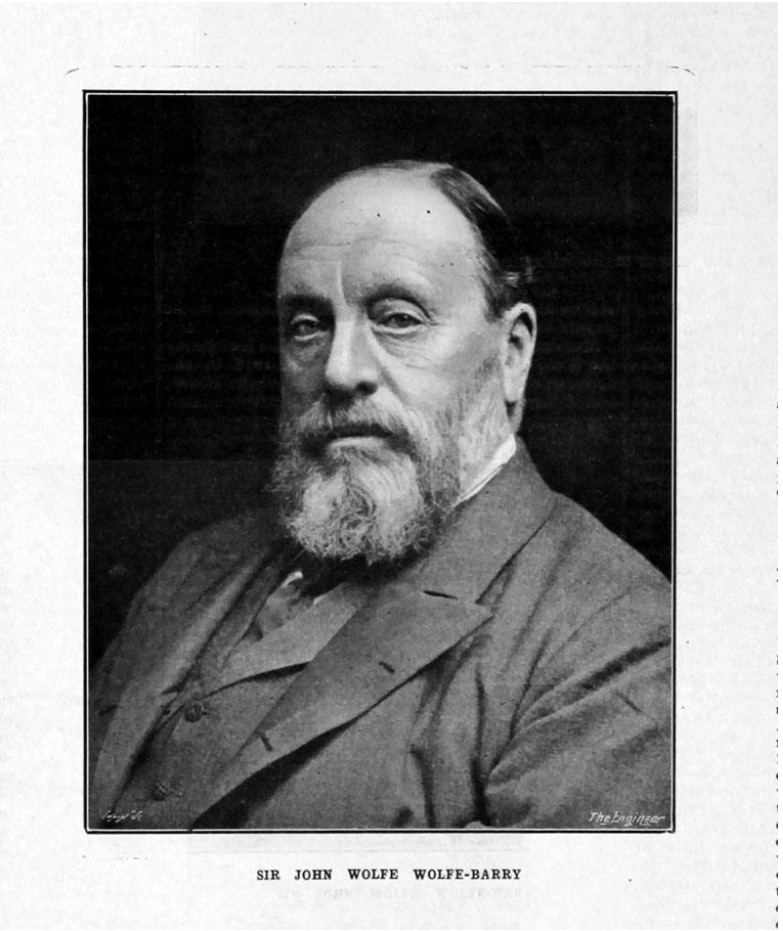
Section 4

- Who is BSI

British Standards Institution-In the Beginning



Formed in 1901 by notable civil engineer Sir John Wolfe-Barry, who also designed London's Tower Bridge, BSI was the world's first National Standards Body.

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With a global presence

BSI has a presence on every continent, with 87 offices in 31 countries housing more than 5,500 colleagues

Our 84,000 clients in 193 countries range from globally recognized brands to small, local businesses

BSI – source of international standards

1979	Quality Management	BS 5750	➢ **ISO 9001**
1992	Environmental Management	BS 7750	➢ **ISO 14001**
1995	Information Security Management	BS 7799	➢ ISO 27001
1996	Occupational Health and Safety Management	BS 8800 / **OHSAS 18001**	➢ **ISO 45001**
2002	IT Service Management	BS 15000	➢ ISO 20000
2007	Business Continuity Management	PAS 56 / BS 25999	➢ ISO 22301
2008	Risk Management	BS 31100	➢ ISO 31000
2008	Asset Management	PAS 55	➢ ISO 55001
2009	Energy Management	BS EN 16001	➢ ISO 50001
2009	Privacy Information Management	BS 10012	➢ ISO 27701
2016	Antibribery Management	BS 10500	➢ ISO 37001
2008	Carbon Footprint	PAS2050	➢ ISO 14067
2010	Carbon Neutral	PAS2060	➢ **ISO 14068**

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Future
Ready!