



MALAYSIA'S SUSTAINABILITY INITIATIVES IN THE CONSTRUCTION & REAL ESTATE SECTORS

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Presentation Outline

A

Construction Foresight

- Construction and climate change
- Challenges and key issues

B

Government Initiatives on Sustainable

- National and global agenda
- Shared Prosperity Vision 2030 (WKB2030)
- National Construction Policy (NCP2030)
- CIDB Strategic Plan 2021-2025

C

Sustainability Rating Tools

- Malaysian rating tools
- Joint certification GreenRE and MyCREST
- Sustainable INFRASTAR

D

Way Forward

- Future megatrends
- Digitalisation
- ESG

Malaysia's Commitment on Carbon Neutral 2050



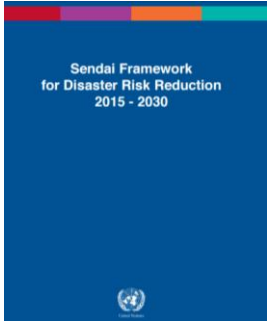
“Malaysia contributes less than **0.7%** of the greenhouse gas emissions, the government will continue to fulfil its commitments to reduce the greenhouse gas emissions intensity of gross domestic product (GDP) by **45%** in **2030**, in line with the aspiration to become a low-carbon country.”

The government will take into account **environmental, social, and governance (ESG)** principles in its decision-making process,



SUSTAINABLE AND RESILIENT – NATIONAL & GLOBAL AGENDA

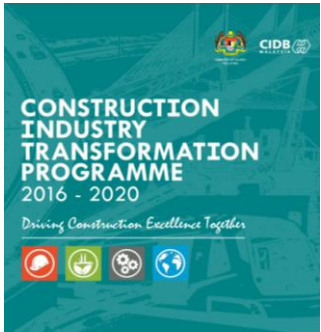
Disaster Risk Reduction



03

SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

STRATEGIC THRUST 2:
Environmental Sustainability



04

CONSTRUCTION INDUSTRY TRANSFORMATION PROGRAMME

17 Sustainable
Development Goals

02

SUSTAINABLE DEVELOPMENT GOALS



STRATEGIC THRUST 6:
Pursuing Green Growth For
Sustainability And Resilience

01

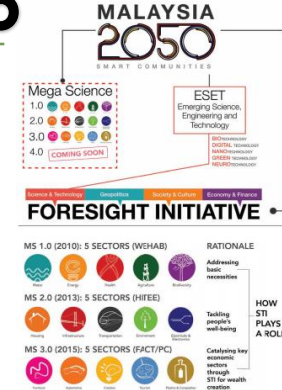


ELEVENTH MALAYSIA PLAN 2016-2020

ACADEMY SCIENCES OF MALAYSIA

05

THE MEGA SCIENCE AGENDA:
Science, Technology and Innovation





NATIONAL CONSTRUCTION POLICY (NCP 2030)

The NCP 2030 aims to promote;

- ST 1 – Quality, safety and professionalism
- ST 2 – Environment sustainability
- ST 3 – Productivity
- ST 4 – Internationalization and competitiveness
- ST 5 - Facility management
- ST 6 – Good governance and best practices

Thrust 2

Embrace Sustainable Built Environment

S1 To develop quality, reliable, sustainable and resilient infrastructures



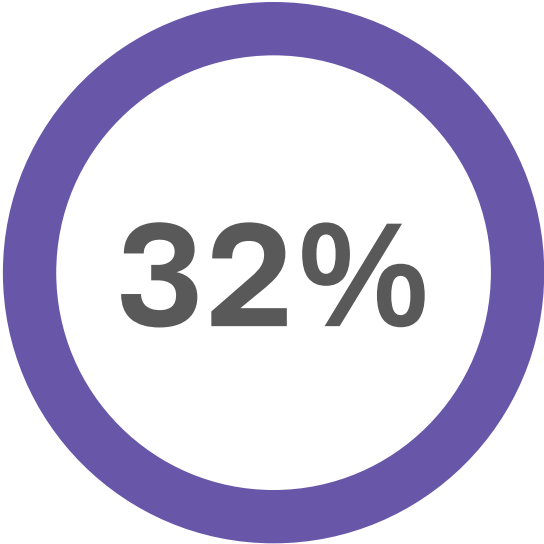
S3 To advocate research and development (R&D) and leverage technological capabilities across industry



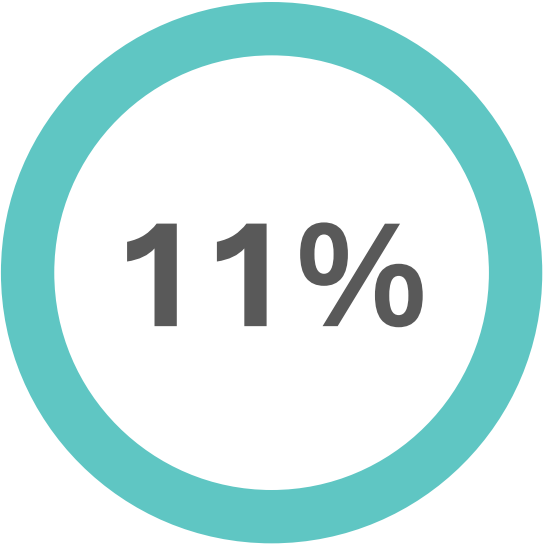
S2 To promote environmental friendly construction materials and strengthen the waste management system



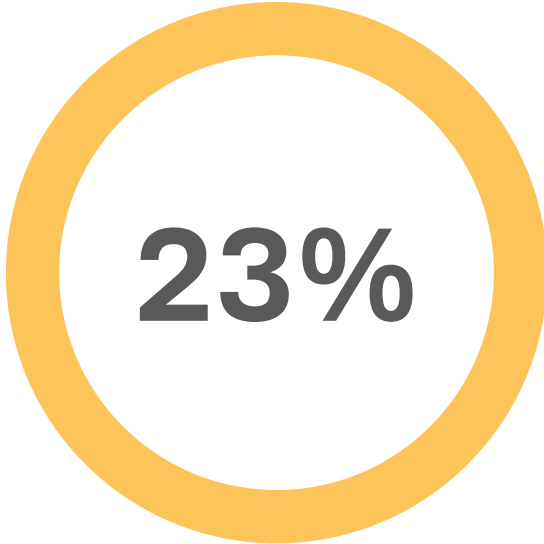
Construction sector is one of the larger contributors to climate change with an opportunity to effect positive change



Construction consumes approximately 32% of the world's natural resources

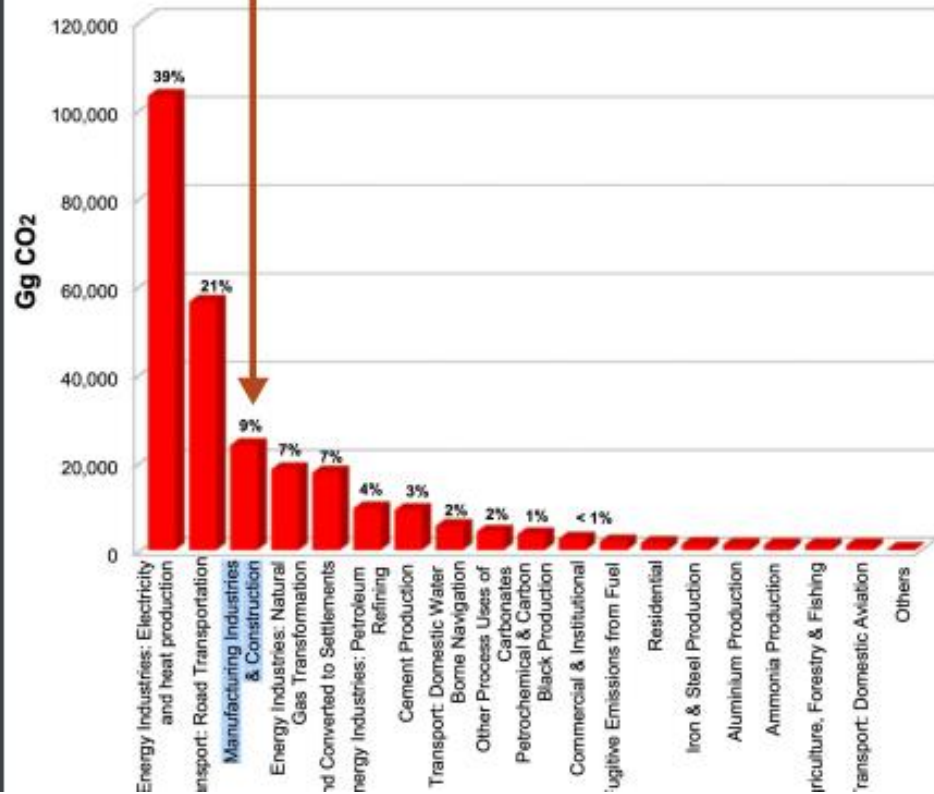


Building materials and construction are responsible for 11% of annual global CO₂ emissions



Concrete (11%), steel (10%) and aluminum (2%) are responsible for 23% of total global emissions

01 Manufacturing industries and construction was the third largest contributor of CO₂ emissions at 23,856 Gg CO₂



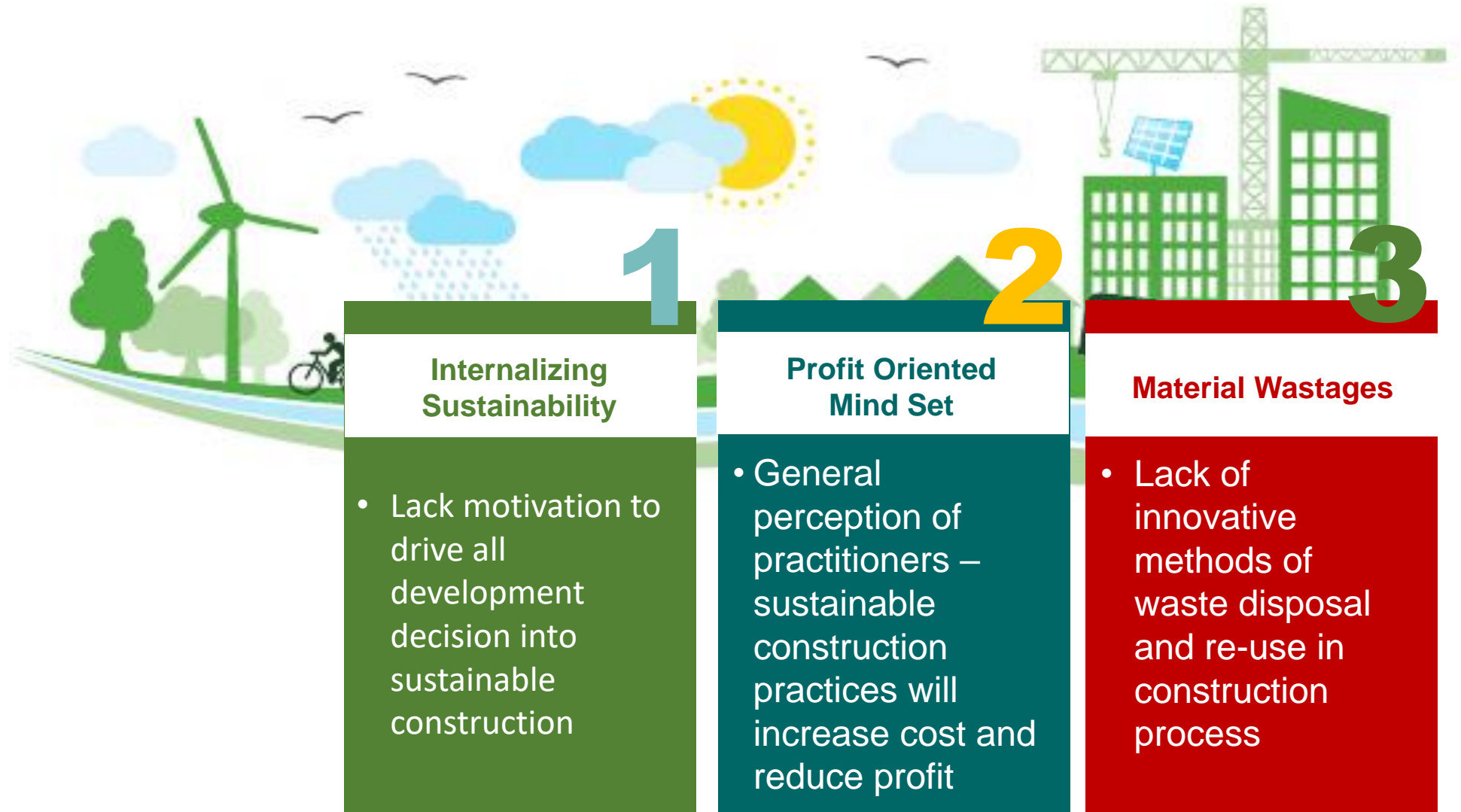
7% = 5.45 million t CO₂ eq

02 This study shows **20,357.64 t CO₂ eq** of GHG emission has been reduced from the residential building construction site when IBS has been implemented.

03 This GHG calculation template, enable the CIDB to identify the GHG emission associated with IBS score elements for the residential building construction

04 Help CIDB to report this information in the National Update Report, UNFCCC

Key Challenges of Sustainable Construction in Malaysia



Key Challenges of Sustainable Construction in Malaysia

Mobilisation of Resources

- Mobilize resources in a more efficient way

4

Public Awareness

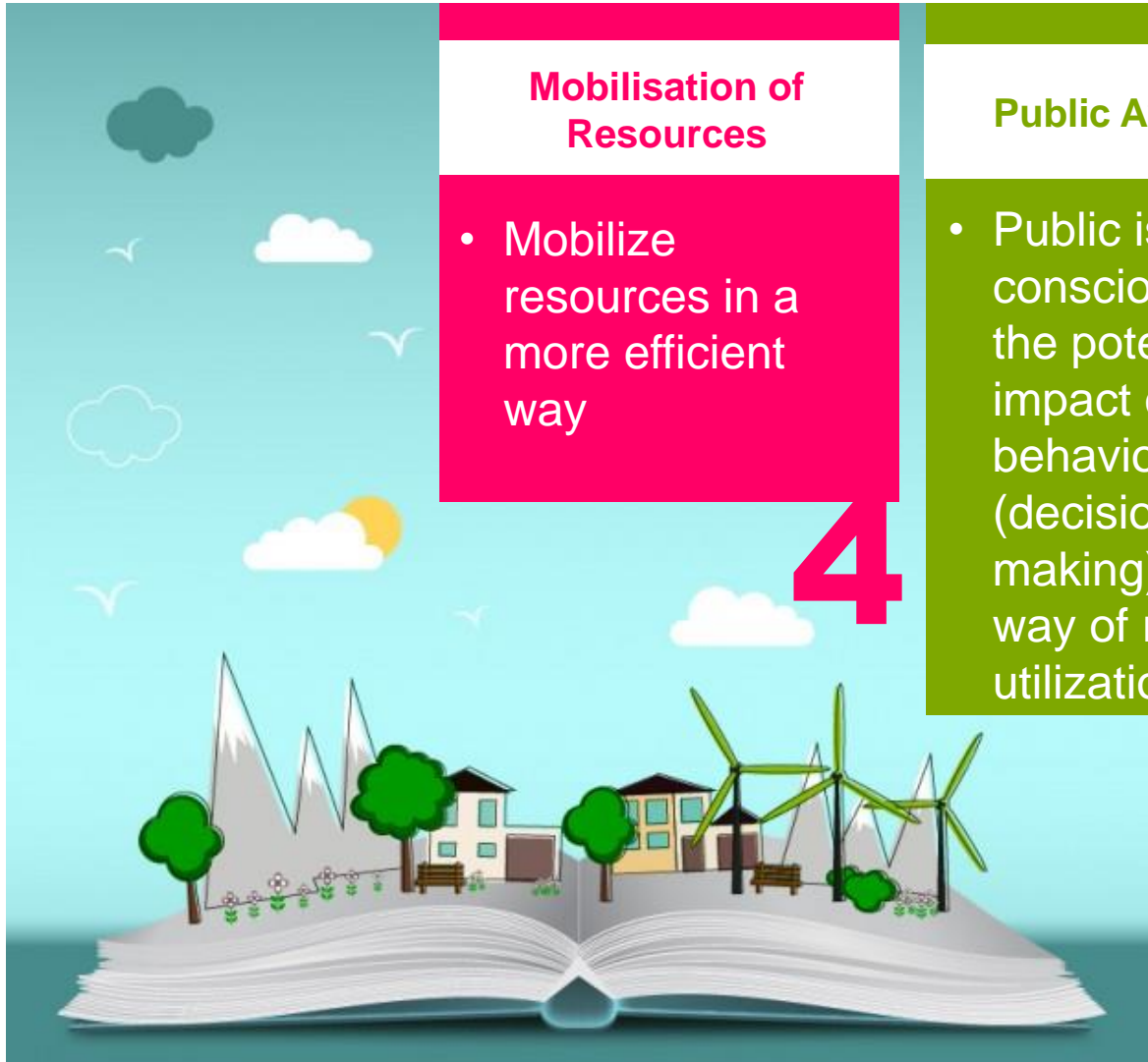
- Public is less conscious about the potential impact of their behaviour (decision making) and the way of resource utilization

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Procurement Procedures

- Lack of awareness and commitment to embrace sustainability criteria in procurement procedure

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Malaysian Sustainability Rating Tools

Sustainability Rating Tool

Building

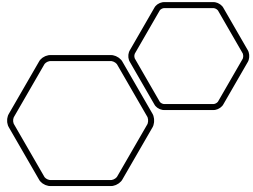


Township



Infrastructure





GreenRE and MyCREST Joint Certification in Promoting Green Building Certification



Initiatives led by GreenRE and CIDB/CREAM and experts from green certification

Applicable for new non-residential building projects

All applicable pre-requisite of GreenRE and MyCREST will be maintained

GreenRE Platinum = 5 star MyCREST

GreenRE Gold = 4 star MyCREST

GreenRE Silver = 3 star MyCREST

GreenRE Bronze = 2 / 1 star MyCREST

WHAT IS SUSTAINABLE INFRASTAR

Sustainable INFRASTAR stands for Sustainable Infrastructure Rating Tool where it applies an objective & evidence-based rating system that assess each of the identified key conditions, including: -

01 *Land use planning and management*

02 *Resource management*

03 *Energy and water management*

04 *Biodiversity and other ecosystem services*

05 *Social and cultural protection*

06 *Stakeholder coordination*



Mega Trends and Challenges Shaping The Future Of Construction Industry

Sustainable Construction



Construction sector is the largest global consumer of raw materials, and constructed objects account for 25-40% of the world's total carbon emissions
- *World Economic Forum 2016*



abundant availability of cheap foreign labour
- sector players has no urgent needs in adopting and implementing modern technology

facilitate sector players in implementing sustainable practices as these initiatives will require significant investment

higher costs of importing materials and technology



Construction 4.0 to support Sustainability



Smart planning and construction

- Multifunctional buildings
- Optimised, high-quality building design, codes and standards
- Mixed-use communities, flexible and shared spaces
- Efficient residential and commercial building management
- Transparent land use planning, monitoring and management
- Integrated, digital planning processes



- 1 3D Printing & Additive Manufacturing
- 2 Artificial Intelligence
- 3 Advanced Building Materials
- 4 Prefabrication & Modular Construction
- 5 Blockchain
- 6 Building Information Modeling (BIM)
- 7 Augmented Reality & Virtualisation
- 8 3D Scanning and Photogrammetry
- 9 Big Data and Predictive Analytic
- 10 Autonomous Construction
- 11 Internet of Things
- 12 Cloud and Realtime Collaboration

Key ESG considerations in the construction industry

E_{nvironmental}



Carbon & greenhouse gas emissions



Water consumption



Waste management



Resource management and efficiency



Mineral extraction



Materials



Recycling

S_{ocial}



Diversity and social inclusion



Health and well-being



Legacy planning



Community impact and integration



Education and skills



Emergency response planning

G_{overnance}



Strategies



Policies



Constitution of governing body



Procurement



Sales



Supply chain management



Stakeholder engagement



Diversity, equality and ethics

ESG in the Construction Sector: Future Demand



Global building floor area is expected to **double** by 2060

Create more with less

Growing population requires growing demand on the construction sector

Achieving zero emissions from new construction will require energy efficient buildings that use no on-site fossil fuels and are 100% powered by on- and/or off-site renewable energy.

THANK YOU
gerald@cream.my

