

Phasing out Coal for Decarbonization of Cement Industry in Thailand



Mr. Charoenchai Chaliewkriengkrai
Vice President : Bio-Circular Business



Brief Biography

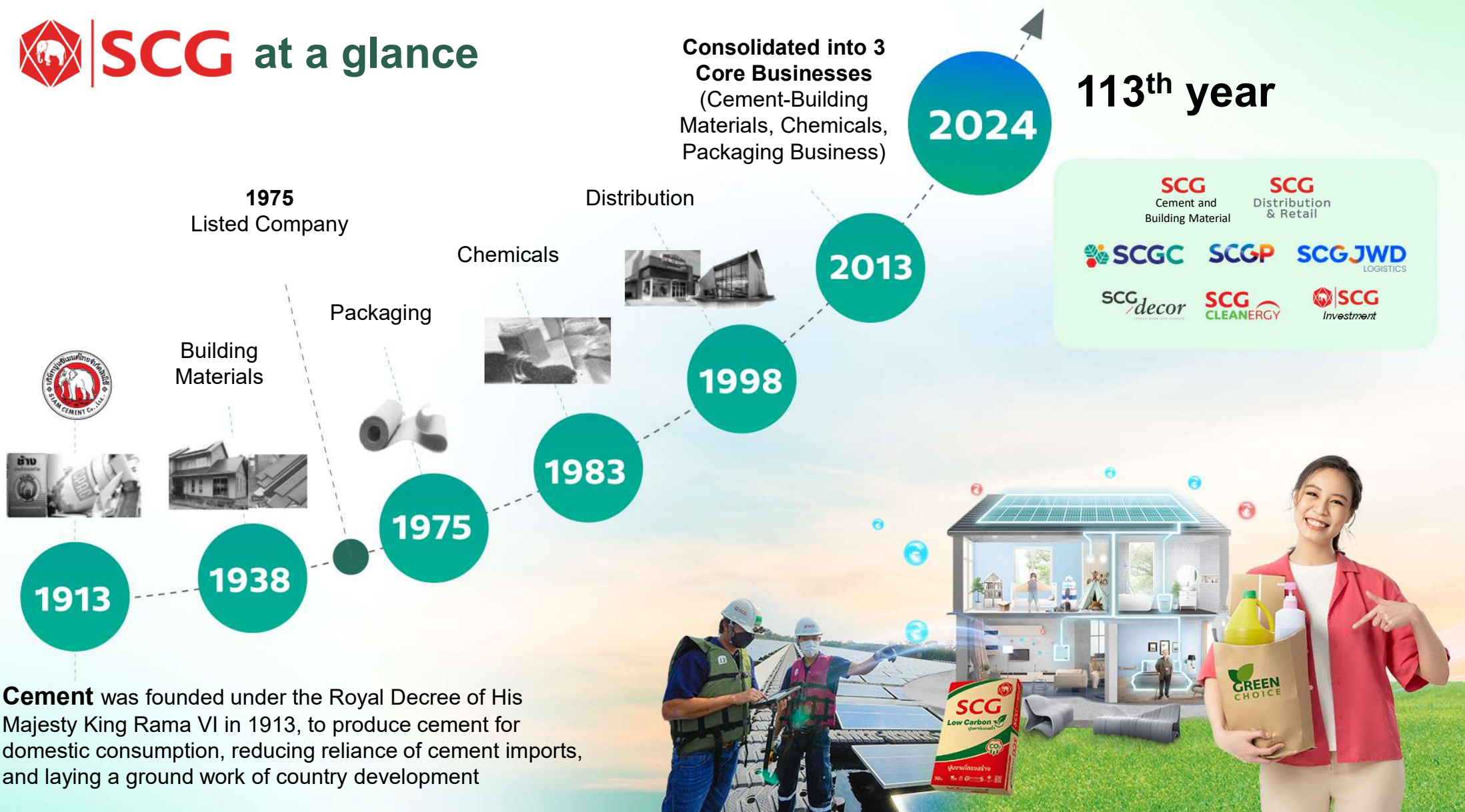
Mr. Charoenchai Chaliewkriengkrai presently holds the position of Vice President - BioCircular Business at SCG Cement, Executive Committee of the Federation of Thai Industries and Honorary Chairman of Saraburi's Federation of Thai Industries. He is a co-founder of Saraburi Sandbox Initiative, Thailand's first area-based low-carbon city model. He graduated from Prince of Songkhla University, Thailand, with Bachelor degree of Chemical Engineering. He has completed some of prestigious director training programs; i.e. Management Development Program (MDP) at Wharton, Management Acceleration Program (MAP) at Duke and WBCSD at IMD and Yale.

Brief experiences

2023 - Present	Vice President - BioCircular Business SCG Cement
2022 - 2023	Managing Director Cement Plant - Saraburi SCG Cement
2021 - 2022	Chief Operating Officer SCG Cement



SCG at a glance



Regenerative Transformation



Net Zero 2050



- Energy Transition (Power/Thermal)
- Low Carbon Product
- Natural Climate Solution (NCS)
- Carbon Capture Utilization and Storage (CCUS)

Nature Positive



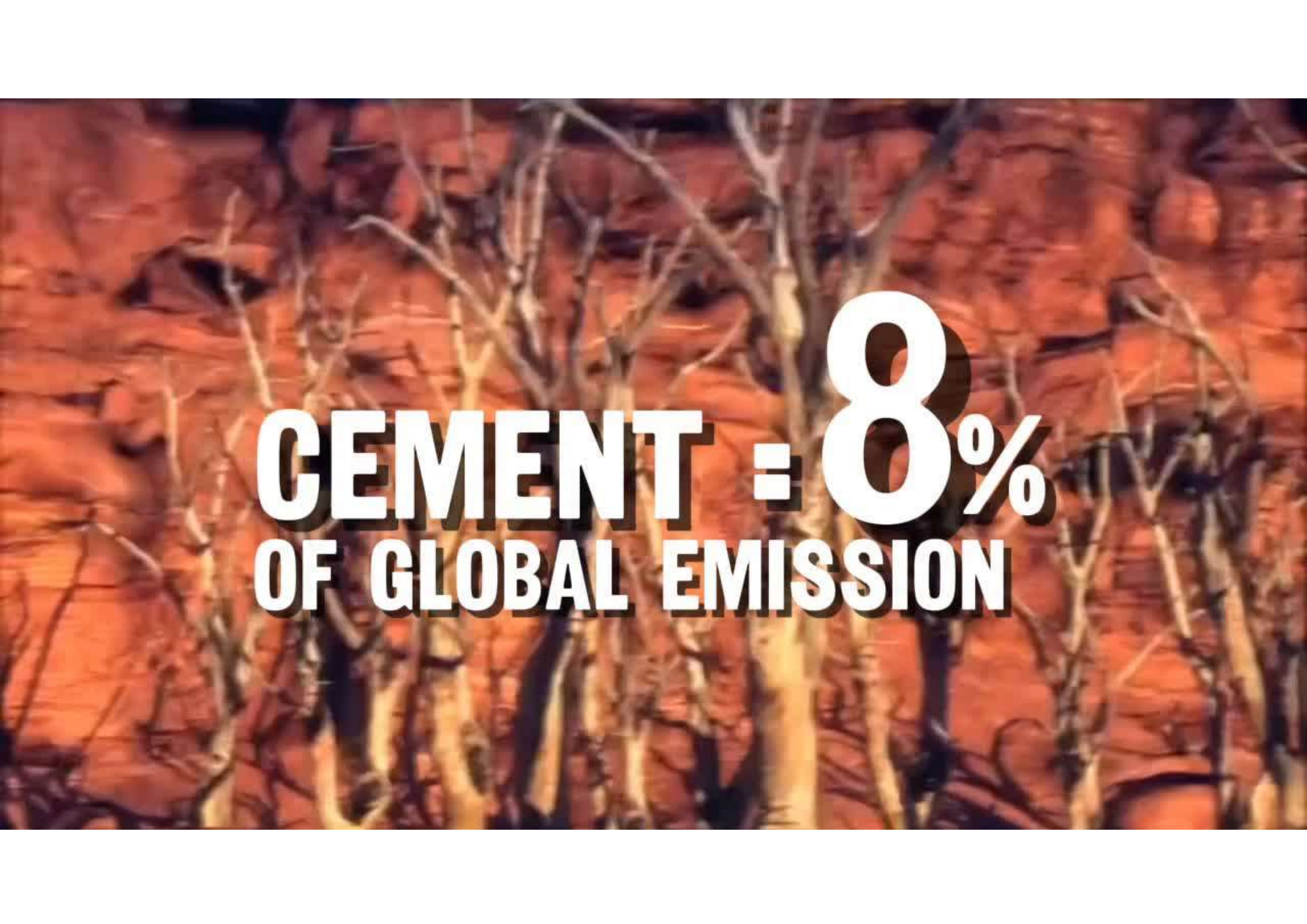
- Biodiversity, Restore Water Resources, Reforest, and Rehabilitation
- Operational Eco-Efficiency
- Circular Economy
- Physical Risk Adaptation

Inclusive Society



- Just Transition
- Develop Sustainable Livelihoods
- Promote Safety and Well-being
- Encourage a Low-Carbon Society
- Diversity, Equality and Inclusiveness

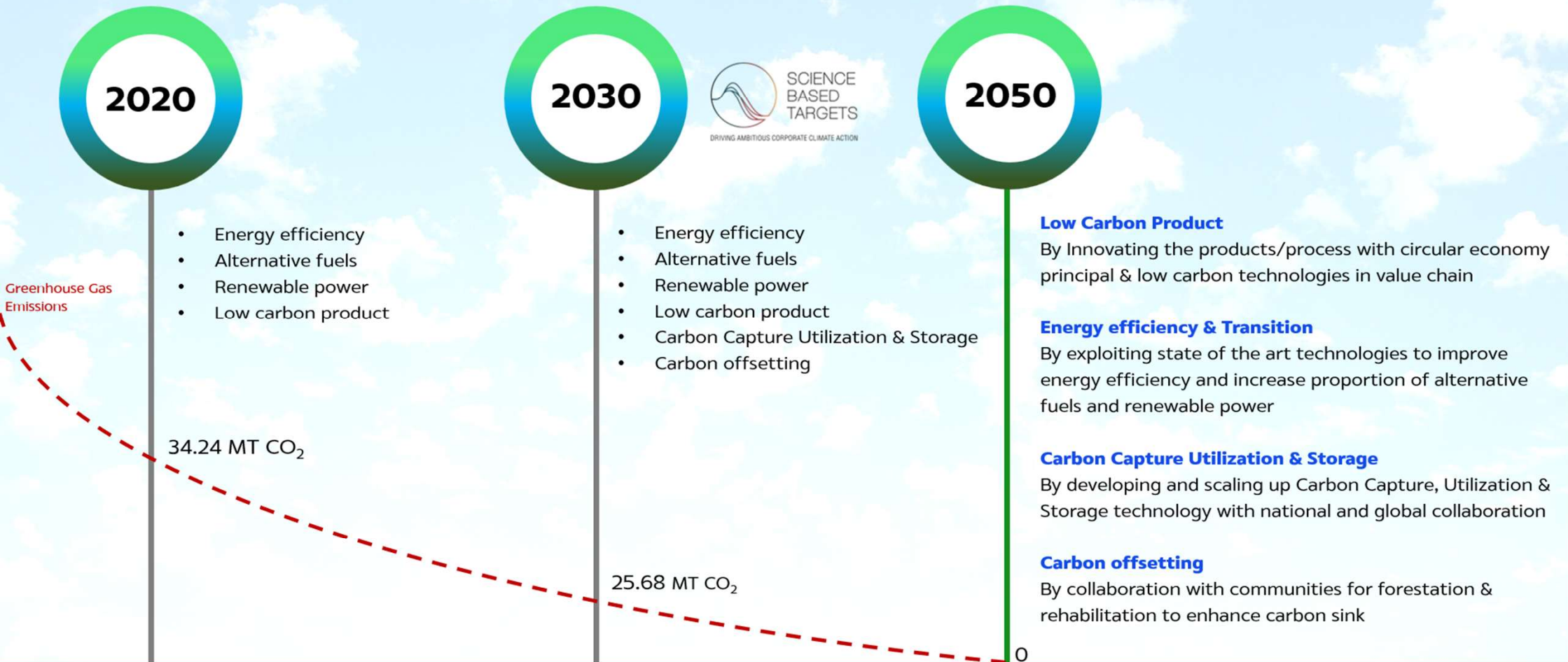
CORPORATE
SUSTAINABILITY
OFFICE



CEMENT = 8%
OF GLOBAL EMISSION

SCG NET ZERO ROADMAP

Step-by-step to the ambition of long term target



Near Term Target validated by SBTi:

SCG commits to reduce absolute **scope 1 and 2** GHG emissions 25% by 2030 from a 2020 base year. SCG also commits to reduce absolute **scope 3** GHG emissions from the use of **solid fossil fuels** 25% by 2031 from 2021 base year.

Cement Value Chain Decarbonization

Designing a roadmap to reduce carbon emissions across the value chain to deliver Low Carbon products.



1. Clinker Decarbonization

Reduce carbon emissions from the clinker production process, which is the core of the manufacturing process.



2. Cement Decarbonization

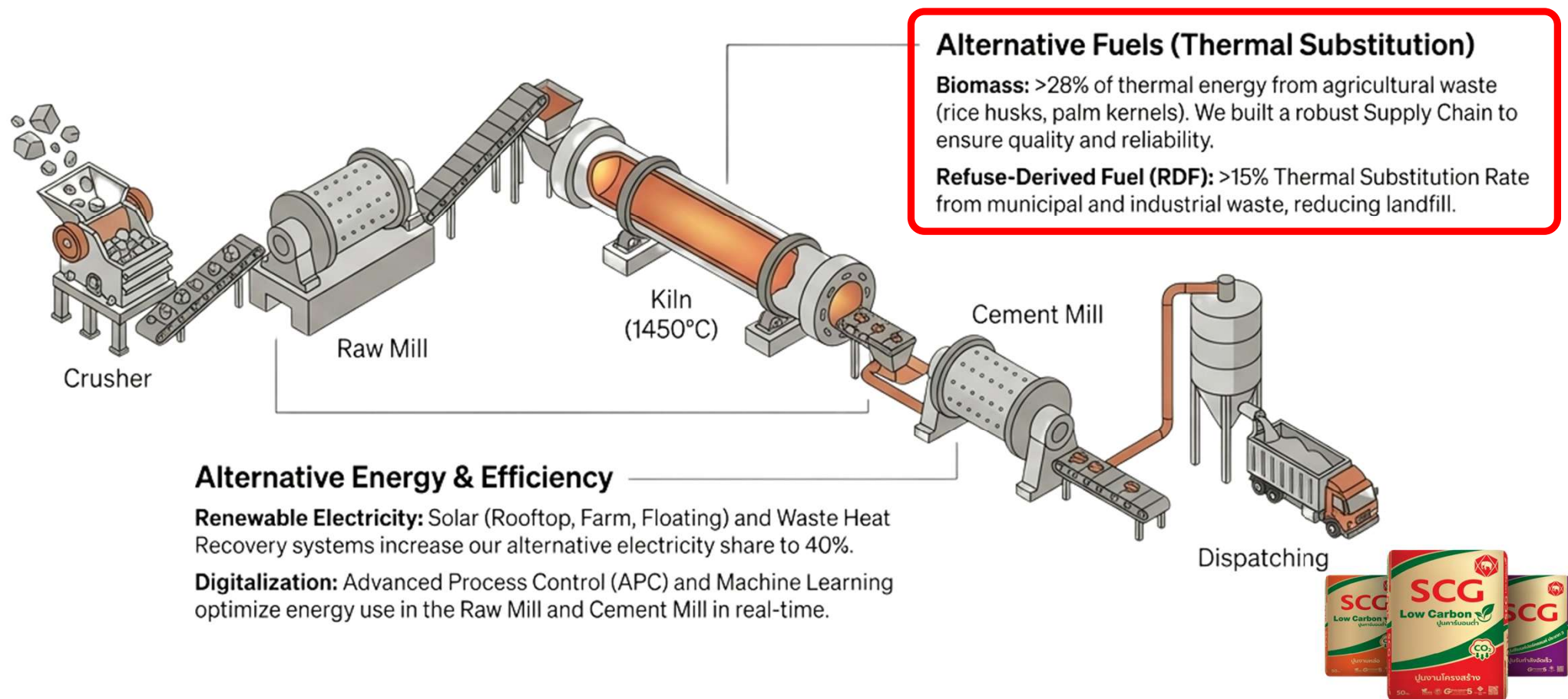
Develop and adopt low-carbon cement formulations using alternative materials to deliver high-performance and high-quality cement.



3. Market Transformation & Policy Enablement

Establish market mechanisms and policy frameworks to accelerate the adoption of low-carbon products.

Cement Decarbonization : Replacing Coal with Alternative Fuels





กระบวนการผลิต ปูนเอสซีจี **คาร์บอนต่ำ**



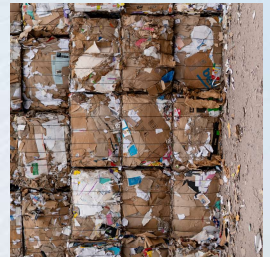
Replacing Coal with RDF



RDF



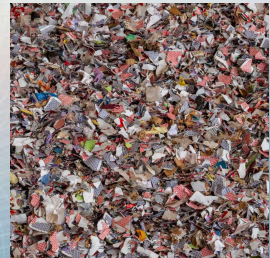
Plastic waste



Paper



Rubber



Mixed RDF

Replacing Coal with Biomass



Biomass



Rice Husk



Sugarcane Leaf



Corn Cob



Wood chip



Develop Various Biomass to Increase Substitution Rate

Existing in Energy Market 54 Mt./y	Rice Husk  8 M.t	ใบ, กะลา, กากปาล์ม  3 M.t	Woodchip  6 M.t	ขี้เลื่อย  37 M.t
	Rice Straw  10 M.t	Sugar Leaves  12 M.t	Corn cob, Leaves  5 M.t	ปาล์ม  22 M.t
Not Use in Energy Market 53 Mt./y				Rubber Root  4 M.t



Agricultural
Residues



Energy Pellet



Biocoal / Biochar

Biomass → Biocoal → Biochar

1 Biomass as Alternative Fuel

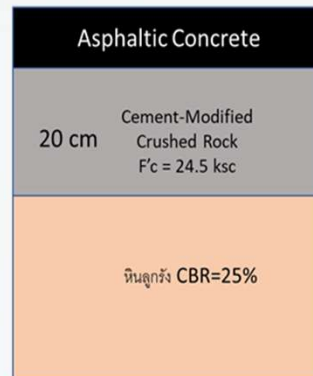


2 Biocoal as High-Quality Biomass



3 Biochar as Carbon Removal

Conventional construction



New construction

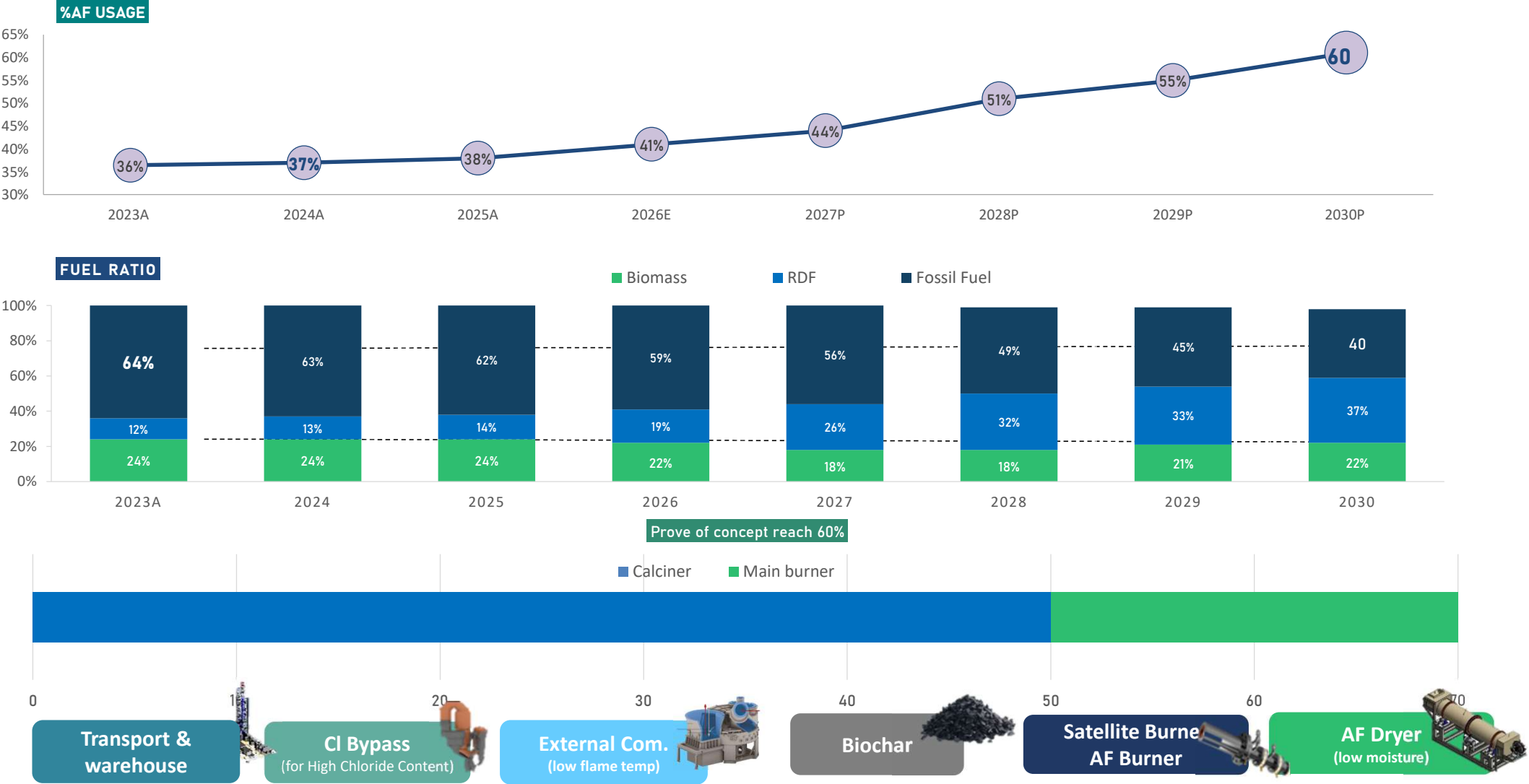


*Carbon-Negative Parking Area 4,900 m² :
Incorporate 30 ton of biochar into
concrete, equivalent to 60 ton of CO₂ sink.*

Testing Results

- ☐ <5% construction cost increased
- ☐ Apply Carbon Removal Verification by TGO

Medium-term Target : Reach 60% Coal Replacement by 2030



Area-based Approach for Industrial Decarbonization



An aerial photograph of a complex multi-level highway interchange. A concrete mixer truck is driving on one of the lower ramps. The interchange features multiple levels of concrete viaducts supported by pillars, with yellow and black striped safety barriers along the edges. The surrounding landscape is a mix of greenery and some distant buildings under a hazy sky.

SCG

SCG Decarbonization :
Accelerating Development of a Greener and More Sustainable
Construction Ecosystem
Preserving a Livable World for Generations to Come.