

SCG

*Inclusive
Green Growth*

SET Awards 2024

Sustainability Excellence

12 September 2024

Urgent Action Needed

2024 was the warmest year in history with extreme weather events around the world.



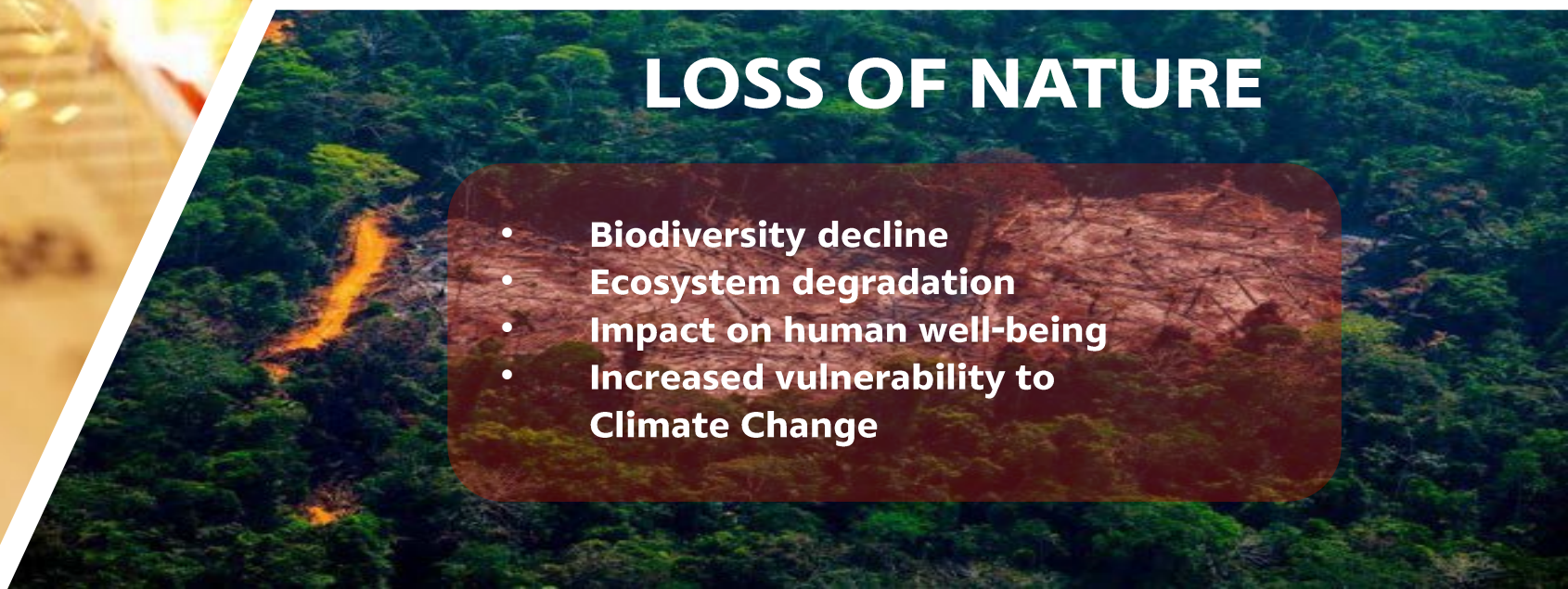
CLIMATE CHANGE

- Breakages of value and supply chains
- Asset and infrastructure failures
- Workforce displacement
- Increased cost of critical inputs
- Reduction of available utilities
- Physical risk health implications



LOSS OF NATURE

- Biodiversity decline
- Ecosystem degradation
- Impact on human well-being
- Increased vulnerability to Climate Change



Business Key Challenges

CLIMATE RESILIENCE



- Decarbonization with speed and scale
- Triple up renewable energy
- Penetrate low carbon product in the market
- Align with global standards
- Physical risks adaptation

CIRCULAR ECONOMY



- Resource scarcity, biodiversity loss, degradation, and pollution
- Increasing environmental regulations and standards
- Growing consumer preference for environmentally-friendly products

CAPABILITY BUILDING



- Skill and competency needed for business transformation and competitiveness
- Talent attraction and retention
- Employee awareness, engagement, and working culture

Our Policies : Regenerative Approach



NET ZERO 2050



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



NATURE+ POSITIVE



- Baseline Survey
- Biodiversity Management Plan (BMP)
- Biodiversity Action Plan (BAP)
- Rehabilitation Plan
- Water Management



INCLUSIVE SOCIETY

- Restore Water Resources, Reforest
- Develop Sustainable Livelihoods
- Promote Well-being
- Encourage a Low-Carbon Society

**Inclusive
Green
Growth**

SCG

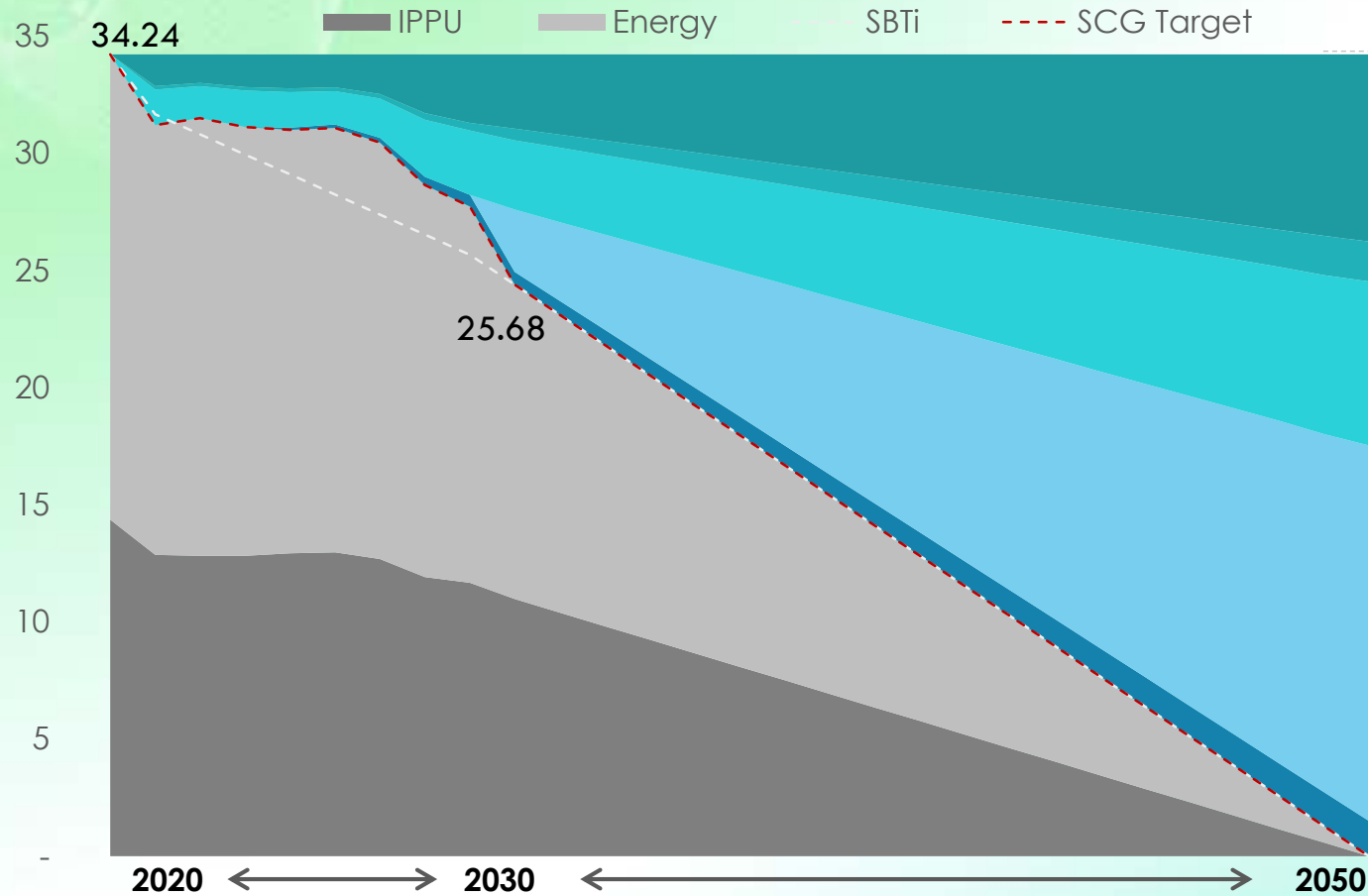
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Climate Resilience

SCG GHG Roadmap Towards 2050



GHG Scope 1 & 2 (MT CO2)



23% 8.00 MT CO2	Low Carbon Product By innovating the products/process with circular economy principal & low carbon technologies in value chain
25% 8.70 MT CO2	Energy efficiency (5%) & Transition (20%) By exploiting state of the art technologies to improve energy efficiency and increase proportion of alternative fuels and renewable power
48% 16.04 MT CO2	Carbon Capture Utilization & Storage (CCUS) By developing and scaling up Carbon Capture, Utilization & Storage technology with national and global collaboration
4% 1.5 MT CO2	Carbon Offsetting By collaboration with communities for forestation & rehabilitation to enhance carbon sink

Key Levers

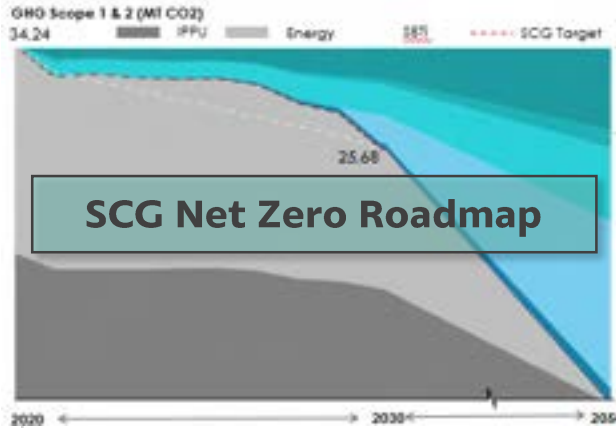
- Alternative fuels
- Low Carbon Product
- Energy efficiency
- Renewable power

Key Levers

- Alternative fuels
- Low Carbon Product
- Energy efficiency
- Renewable power
- Carbon Capture Utilization & Storage (CCUS)
- Carbon offsetting

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 **sold fossil fuels** 25% by 2031 from 2021 base year.

Business Transformation towards Low Carbon Society



2030 Key Levers

Low Carbon Product

- Separate Grind TS, KK, LP and KW
- Calcined Clay TS4 and TL6

Energy Transition

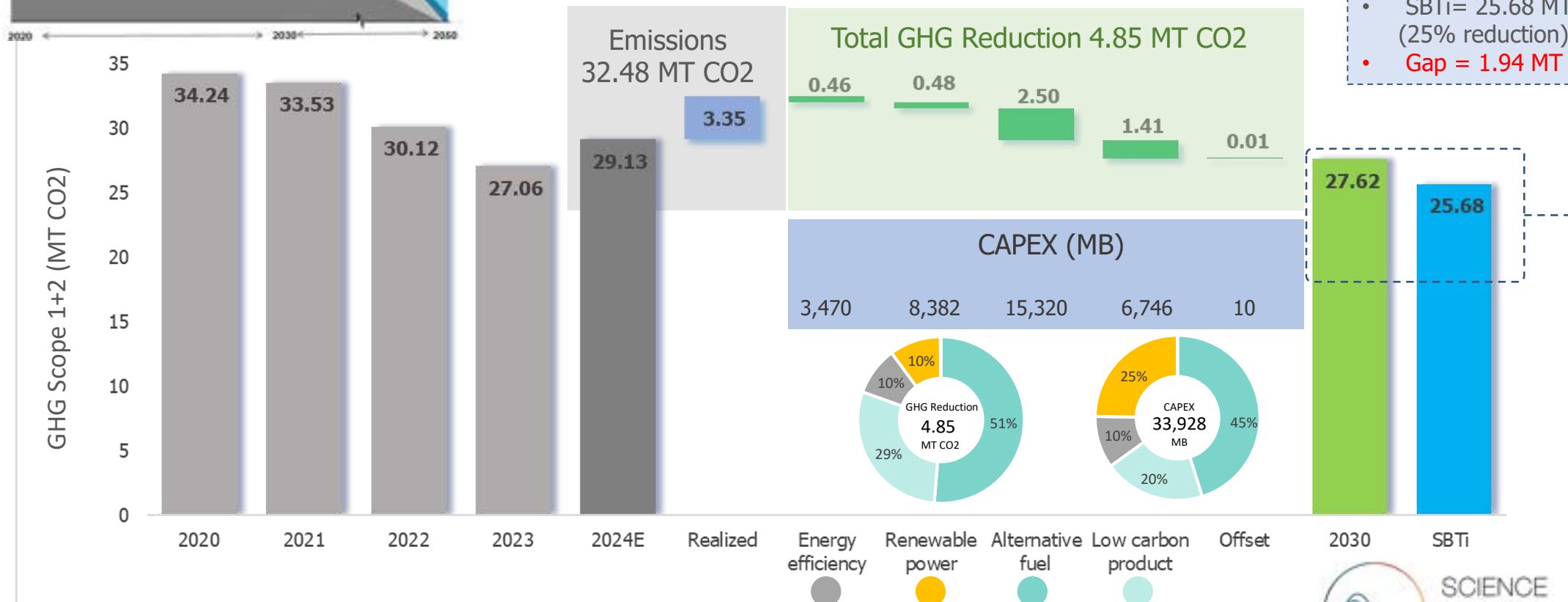
- Biomass Hot Air Gen
- Biomass Boiler
- Torrefaction
- Solar Technology
- Specified Technology for all BUs process
- Turbo Vacuum
- TG Replacement

2050 Key Levers

Carbon Capture Utilization & Storage (CCUS)

Carbon Offsetting

SCG GHG 2030



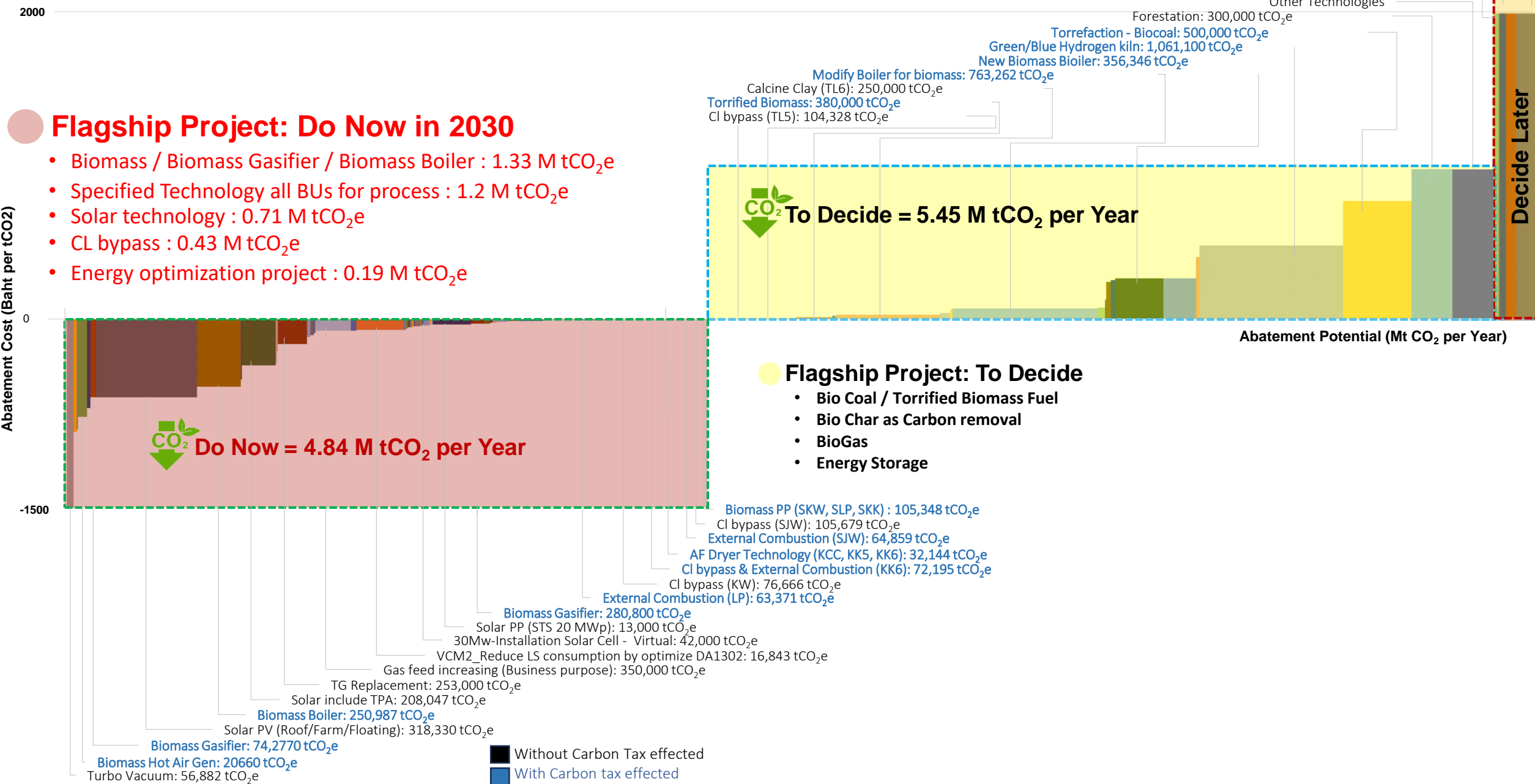
- MTP (Do Now) = 27.62 MT CO2 (19.3% reduction)
- SBTi = 25.68 MT CO2 (25% reduction)
- **Gap = 1.94 MT CO2**

Realized : การเดินกำลังการผลิตเต็ม และมีโรงงานใหม่ขึ้น เช่น LSP



SCG Net zero technology and investment Marginal Abatement Cost Curve

Green Hydrogen: 218,700 tCO₂e
 Solar Battery: 80,796 tCO₂e
 Biochar: 45,934 tCO₂e
 Biogas: 44,425 tCO₂e
 Other Technologies



- Flagship Project: Do Now in 2030**
- Biomass / Biomass Gasifier / Biomass Boiler : 1.33 M tCO₂e
 - Specified Technology all BUs for process : 1.2 M tCO₂e
 - Solar technology : 0.71 M tCO₂e
 - CL bypass : 0.43 M tCO₂e
 - Energy optimization project : 0.19 M tCO₂e

- Flagship Project: To Decide**
- Bio Coal / Torrified Biomass Fuel
 - Bio Char as Carbon removal
 - BioGas
 - Energy Storage

Data Governance and Integrity

The Transition Plan aims to address data governance and integrity in alignment with the **ISSB recommendations, MSCI and FTSE rating.**

Data Governance

- **Governance body:** Environmental Sustainability Development Committee at board level / Sustainable Development Committee at management level
- **Tool:** Dashboard of metrics for data-informed decision-making



- **System: Data Integrity with technology platform**



- **Data validation** to ensure accuracy and quality of data entry
- Centralized repository for data from all operations to create **single source of truth**
- **Foolproof data system** to minimize errors and inconsistencies
- **Audit trail mechanism** that can track the source of data changes

Four pillars



- Climate-related risks and opportunities and relevant financial impact
- Financial performance and cash flows: CAPEX, OPEX, and revenue

- Incorporating data into risk management

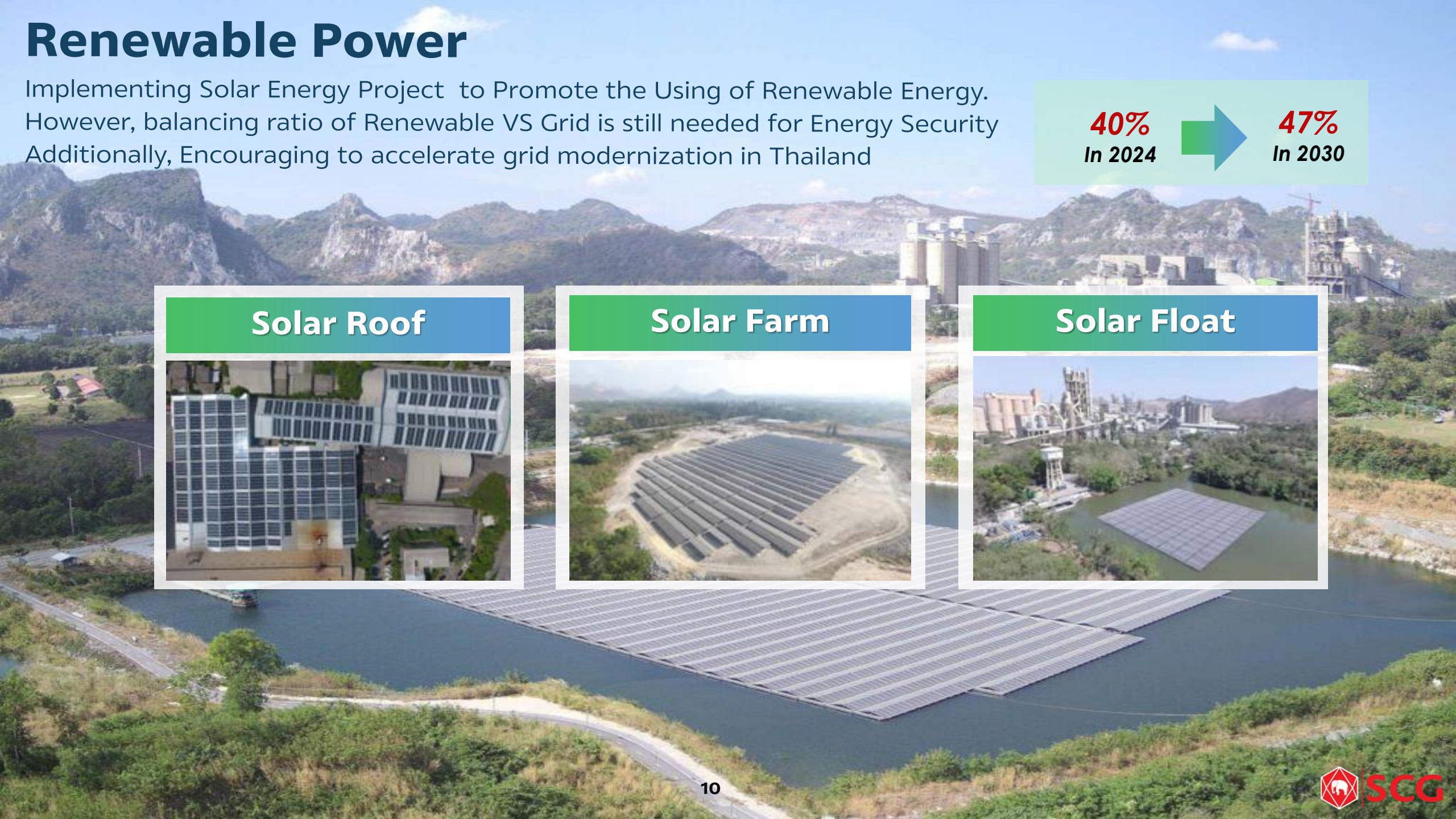
Finance Accounting = Carbon Accounting

Disclosure



Renewable Power

Implementing Solar Energy Project to Promote the Using of Renewable Energy. However, balancing ratio of Renewable VS Grid is still needed for Energy Security Additionally, Encouraging to accelerate grid modernization in Thailand

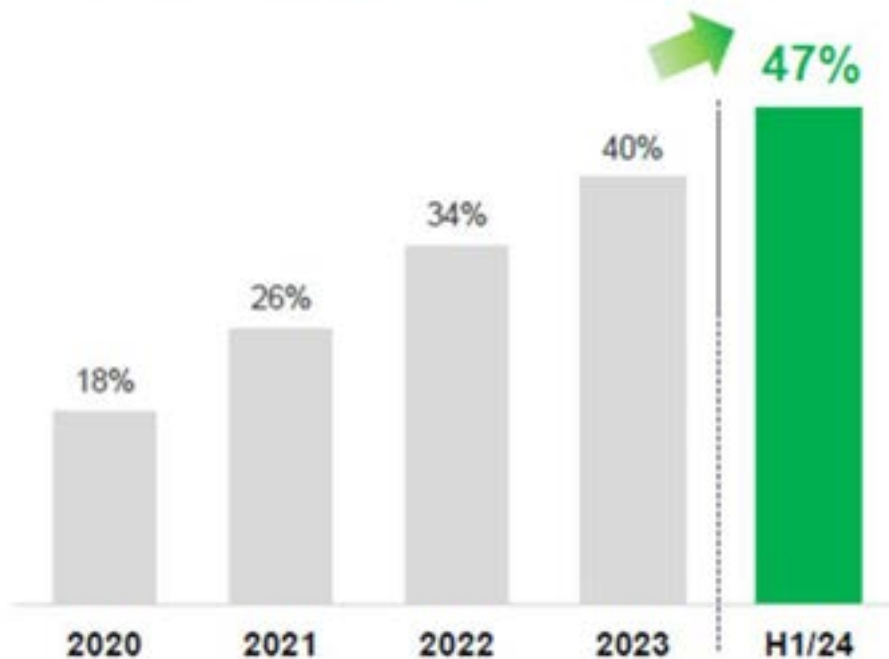


Low GHG Energy Sources

Alternative fuel (AF) usage reached 47% in Thailand's cement operations.

- Enhanced plant capabilities
- Integration of sourcing, logistics and palletization
- Developing plantation for alternative fuel

Alternative Fuel Use (domestic %)
(mainly agricultural biomass)



Energy Storage

“The one & only refractory product used as core material in Heat Battery technology”

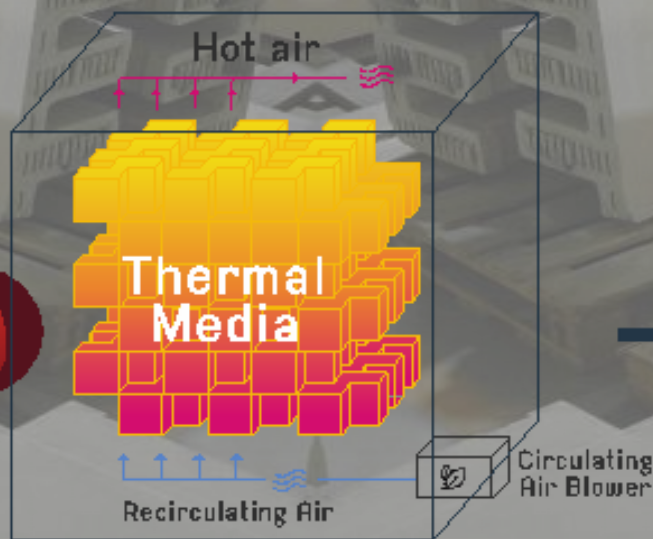
Renewable Energy
or Electricity



Convert



Heat Battery

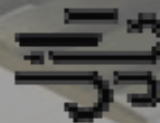


Electric heaters store thermal energy in Thermal Media at temperature up to 1,500 °C

Hot Air or Steam
for Industrial Use



Hot Air



Steam



Waste Management

Support private and public sectors to smoothly operation without concerning about waste generated with legal compliance

Municipal Waste



Refuse Derived Fuel (RDF)
Solid Recovery Fuel (SRF)

Agricultural Waste



Biomass
Biomass Pellet
Biofuel

Industrial Waste

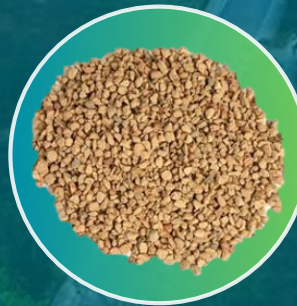


Combustible Solid Waste
Use Oil
Synthetic Oil

Innovative Cement Solutions for a Sustainable Future



Pursue public-private partnerships and international support for carbon capture technology. Carbon storage and utilization
Production of low carbon products



Limestone Calcined Clay Cement

(LC3)

Low carbon cement production

Low Carbon Innovation towards Decarbonization

Low Carbon 
Cement & Concrete

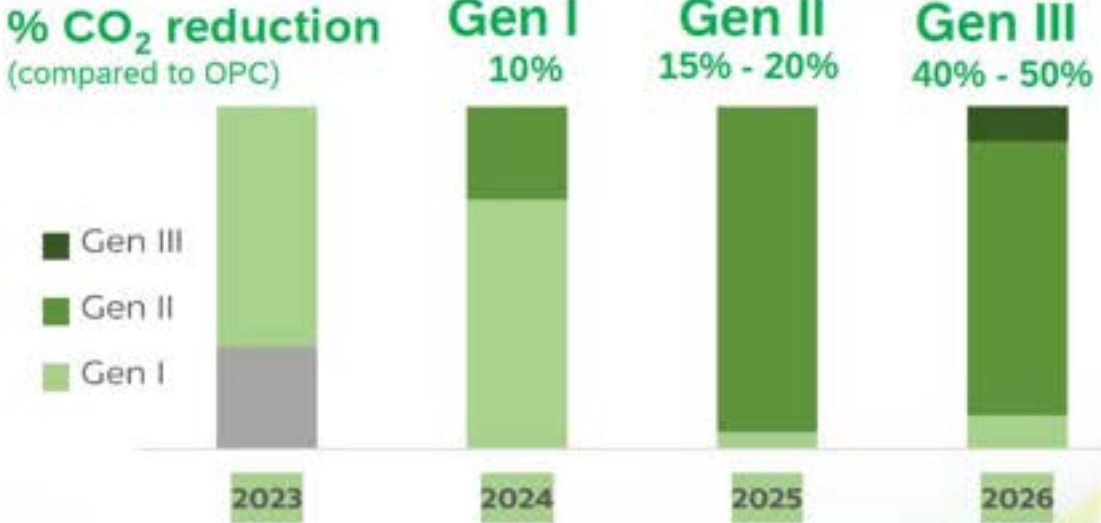
NEW GENERATION





Penetration rate approaching **81%**

(Thailand) in Q4-2023 and aiming to be 100% in 2024

LOW CARBON CEMENT: NEW GENERATION PLAN



 **First Mover Low Carbon Cement In Thailand**
 Produced with **Less Fuel and Energy**

 **CO₂ reduction from 10%-40% compared to OPC**
 Infused with **higher strength formulation know-how**

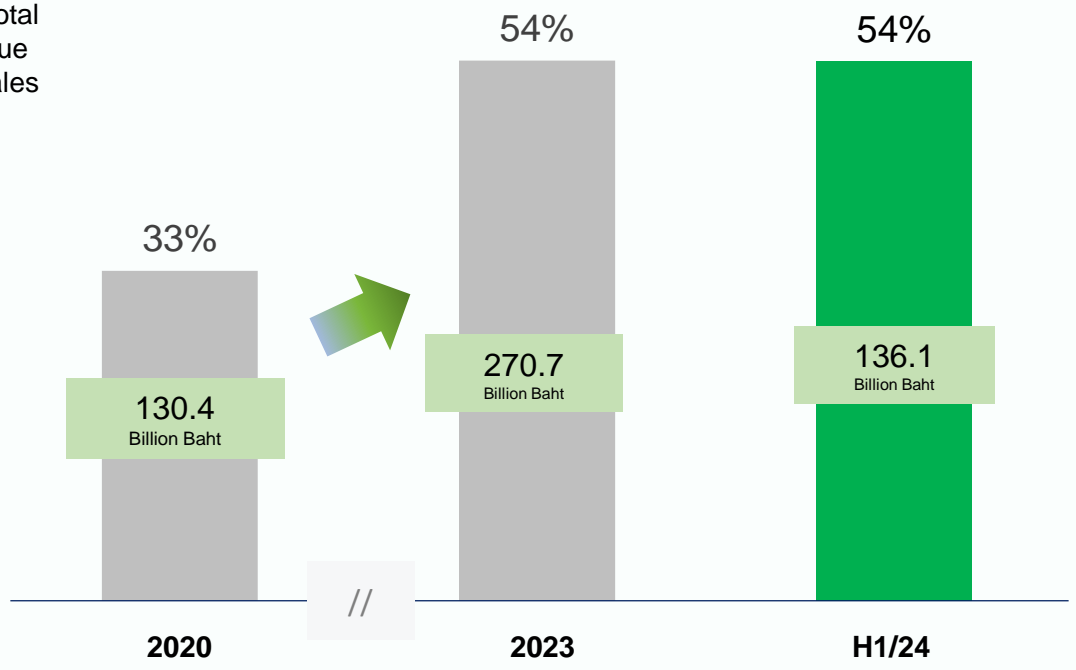
Go Green: Low Carbon Products

Revenue from sales of SCG Green Choice amounted to 136.1 billion Baht or 54% of total sales in H1/24

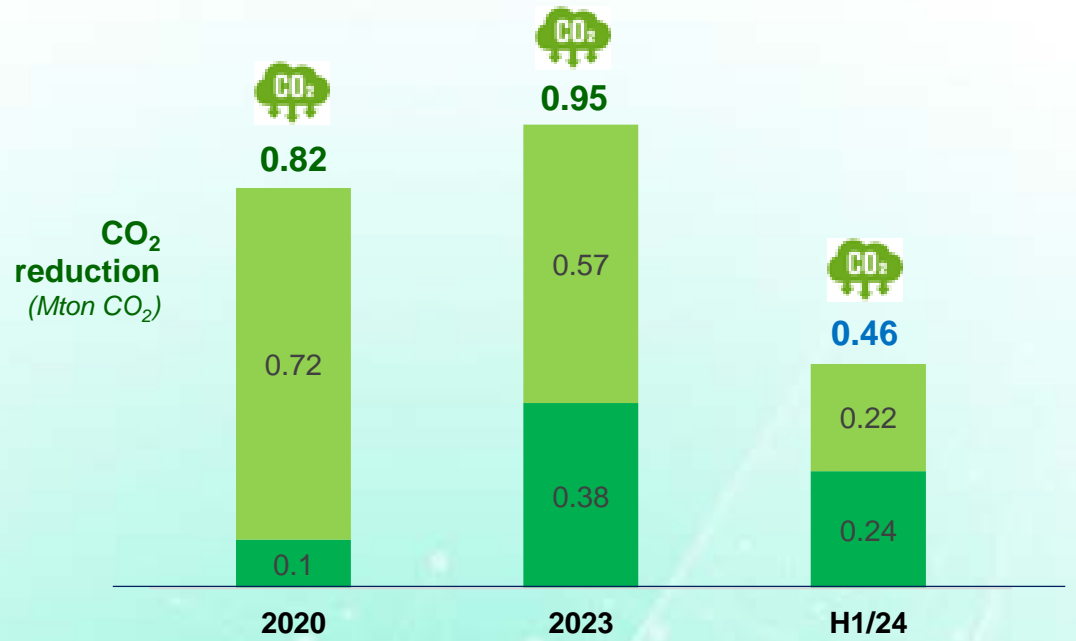


Target 2/3 or 67% of total revenue from sales by 2030

% on Total Revenue from Sales



CO₂ Reduction from low carbon products



■ = Low Carbon Cement ■ = Other Low carbon products

Low Carbon Products

Eco-certified products for a greener planet



SCG Green Choice
294 Products



Green Label
26 Products



Carbon Footprint Label
505 Products



Carbon Footprint Reduction Label
70 Products

GHG Scope3 Decarbonization

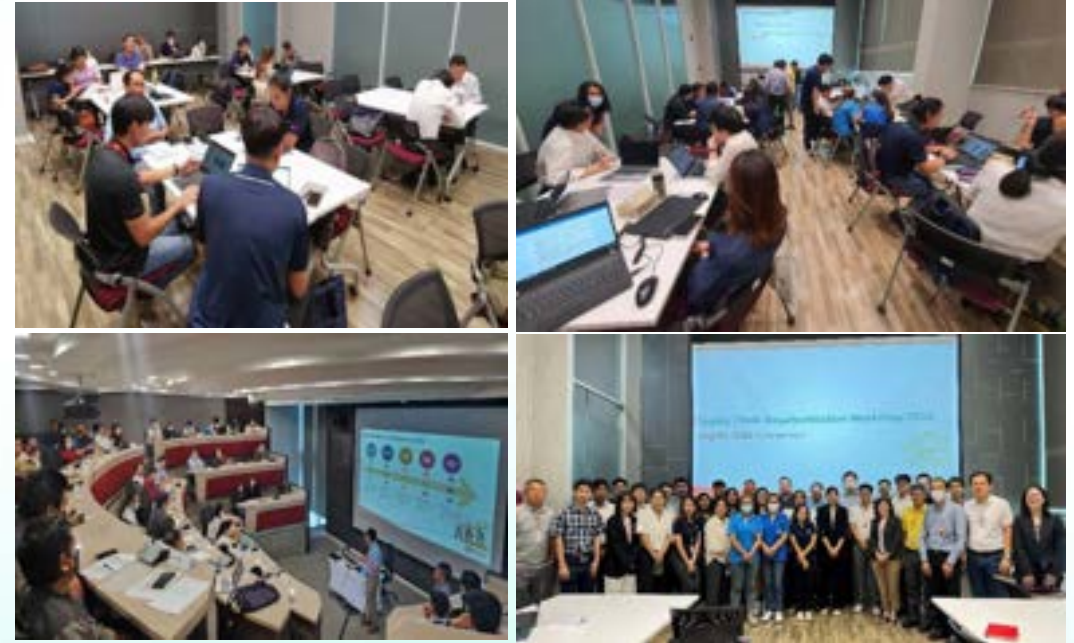
Scope 3 Suppliers Decarbonization program

2022 : Integrated climate in SCG supplier code of conduct and announced in Supplier Day 2022

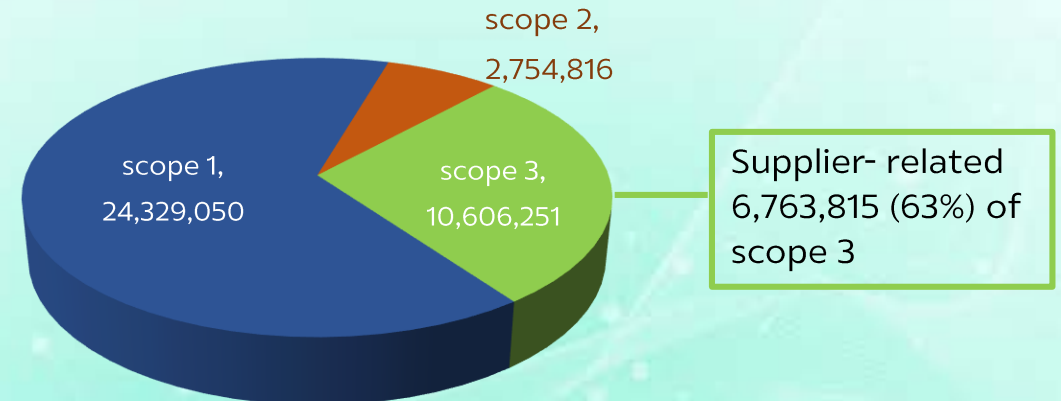
2023 : Implemented pilot suppliers workshop on climate awareness and GHG calculation

2024

- Supplier segmentation, adopting WBCSD guideline
- High-impact supplier workshop: to collect and calculate GHG emissions and specific emission factor



SCG GHG Emission 2023 (Tons CO₂)



- 3rd party assurance all of GHG scope 1,2,3
- GHG Scope 3 : 28% of total scope 1+2+3

LOW CARBON CITY

PPP – SARABURI SANDBOX

SARABURI

SANDBOX

LOW CARBON CITY



Accelerating Energy Transition



Generate electricity from solar power and implement grid modernization technology to help lower costs and carbon emissions for industries and communities



Turning Waste to Value



Transform waste to value as raw materials or alternative energy to support circular economy



Fostering Green Industry & Green Products



Seek international support for carbon capture utilization and storage technology & exploit low-carbon cement in construction value chain



Promoting Low-carbon Agriculture



Promote climate-friendly rice production with alternate wetting and drying (AWD) process & cultivate Napier grass as an alternative energy source



Increasing Green Spaces



Grow more forestland and green areas to enhance the carbon sink capacity and create benefit from carbon credit



Integrating Responsibility & Oversight

Integrate area-based forces through collaboration and collective actions among government, private sectors and communities

รักษา...มหานที

“Conserving water from Mountain to Mighty Ocean”



Biodiversity



Natural Climate Solution

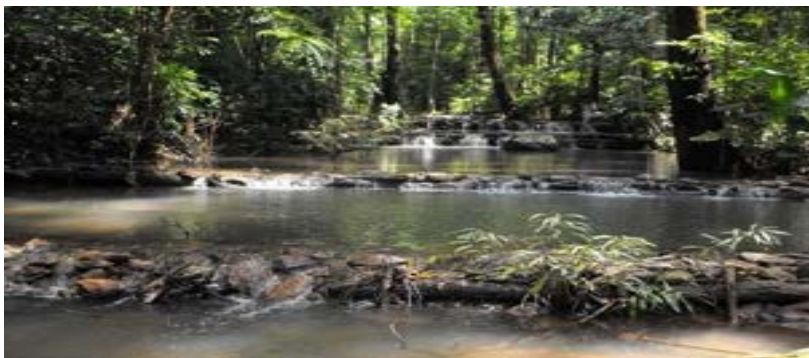


Reduce Inequality



Upstream

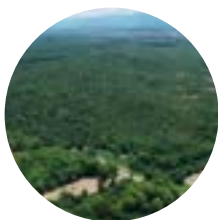
✓ Protection, restoration and sustainable use of forest landscape



Check Dam >115,000 units (2007 – 2023)

- Forest restoration
- Reduce wildfire, drought, flood
- Balance ecosystem

Conserve & maintain community forests

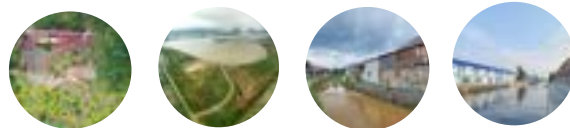


Midstream

✓ Sustainable agriculture systems



✓ Providing space for rivers to naturally flow



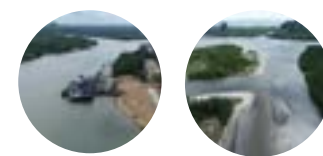
Reduce impact from drought and environment problem

Downstream

✓ Protection or restoration of wetland coastal ecosystem



Planting Mangrove and seagrass

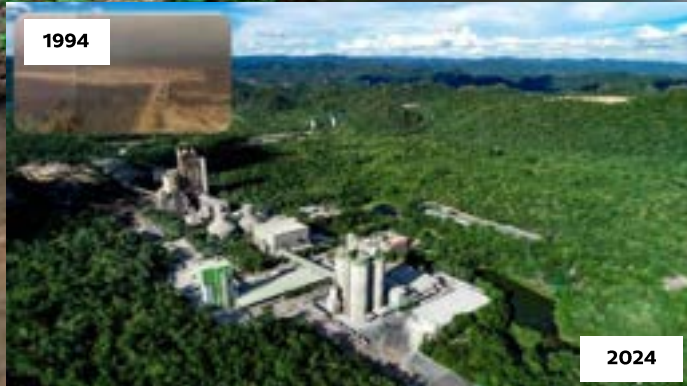


Waste management (Trang river)

Natural Climate Solutions

Restore Forests

Making communities more resilient with natural resources



Restore Ocean

by 3D printing cement technology



Sustainable Community Water Management

2016 - Present

Cooperation between Utokapat Foundation,
the Hydro-Informatics Institute and SCG



Number of Communities
>108



Increased amount of water
**> 28 million
cubic meters**



Agricultural land
143,000 rai



Beneficiaries
**40,000
households**

60,000 people



Increased potential of people
and communities
>160 areas

A mentoring system was
created in the community, the
mainstay and the network



Partnering with Communities to Create a Sustainable Future for All

Create a good quality of life
By creating common values for all stakeholders

“Community Enterprises”

Expanding to the processing of products of 25 communities

Supplementary income

> 70,000 baht/family/year



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Circular Economy



มุ่งสู่ 1 ล้านตัน ในปี 2030

2023 Performance
218,000 tons

Materials of the Future

SCGC Green Polymer our growth acceleration

JV with Braskem (Brazil)
Bio-Ethylene towards Bio-PE of 200 KTA
SCGC 49% and Braskem 51% stake



Global demand growth	
Recycled Polymer (PCR)	7%-8%
Commodity Polymer	2%-3%



Ethanol from sugarcane, cassava

Low Carbon



Bio-based Feedstock

Green Polymer Solutions



Circular naphtha

Post-Consumer Resin (PCR)

Advanced Recycling/
Chemicals Recycling/
Pyrolysis



Video QR Code



Low Waste

Mechanical Recycling



European expansion



Recycling source

- consumers
- municipals
- industrials

Green Polymer: Expansion updates

Mechanical Recycling

SCGC and DOW signed MOU to accelerate the circular plastic ecosystem in Asia

- **First in Asia Pacific market** to seek a holistic value chain solution for circular plastic
- **Technology development** in waste sorting, mechanical recycling, and advanced recycling
- **Recycling a wide range of plastic waste** into **high-value applications**
- Transforming **more than 200 KTA** of plastic waste by 2030.



SCGC Green polymer™



Dow's PCR product



Advanced Recycling

Circular Plas and TOYO jointly developed for capacity expansion of demonstration plant in Thailand

- **Scaling up the demonstration**, expect to complete the installation in early 2025.



Thailand collaboration with polymer waste recycling



Collaboration towards circularity



<https://www.homepro.co.th/new-event/>

SCGC internal start-up



Securing supply of sorted materials



<https://www.wakeupwaste.com/>



Engage MNCs for polymer solutions

Enhancing material for Eco-efficiency

Global Brand Owner Collaboration

Up to 20% Less Plastic Use

Ensure Zero Crack with 10% Better Gas Retention



8% Lightweight



LION 12% Lightweight



30% Film Thickness Reduction

รองรับน้ำหนัก 10 กิโลกรัม
Contained 10 kg weight BETAGRO

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Capability Building

Organization of Possibilities



Top 3 Strategic Challenges

1. Polycrisis

- Global Financial Crisis
- Technology & AI Disruption
- Environmental Issues

2. Business Opportunities

- Regional Growth
- Diverse Business Requirements
- Green Growth Economy

3. Workforce Landscape

- D&I and Demographic Shifts
- Young Gen Style & Values

(3) Retain & Engage Talent

1. Enhance Market-Competitive Pay and Key Talent Differentiation
2. Redesign Job Grading Framework (Align with Business Needs)
3. Revisit Benefits & Welfare (Align with D&I Policies)

(2) Develop Talent

1. Flagship Program for Strong Key Talent
2. Internal Start up Development Program (Start the Dot)

(1) Attract Talent

1. Align SCG Employer Brand with "The Organization of Possibilities"
2. Strengthen Strategic Sourcing in Strategic Countries

"Business Transformation"

SCG
Passion for
**Inclusive
Green
Growth**

"Embed **ESG into Employee Development Program** and **Daily work**"

"People Transformation"

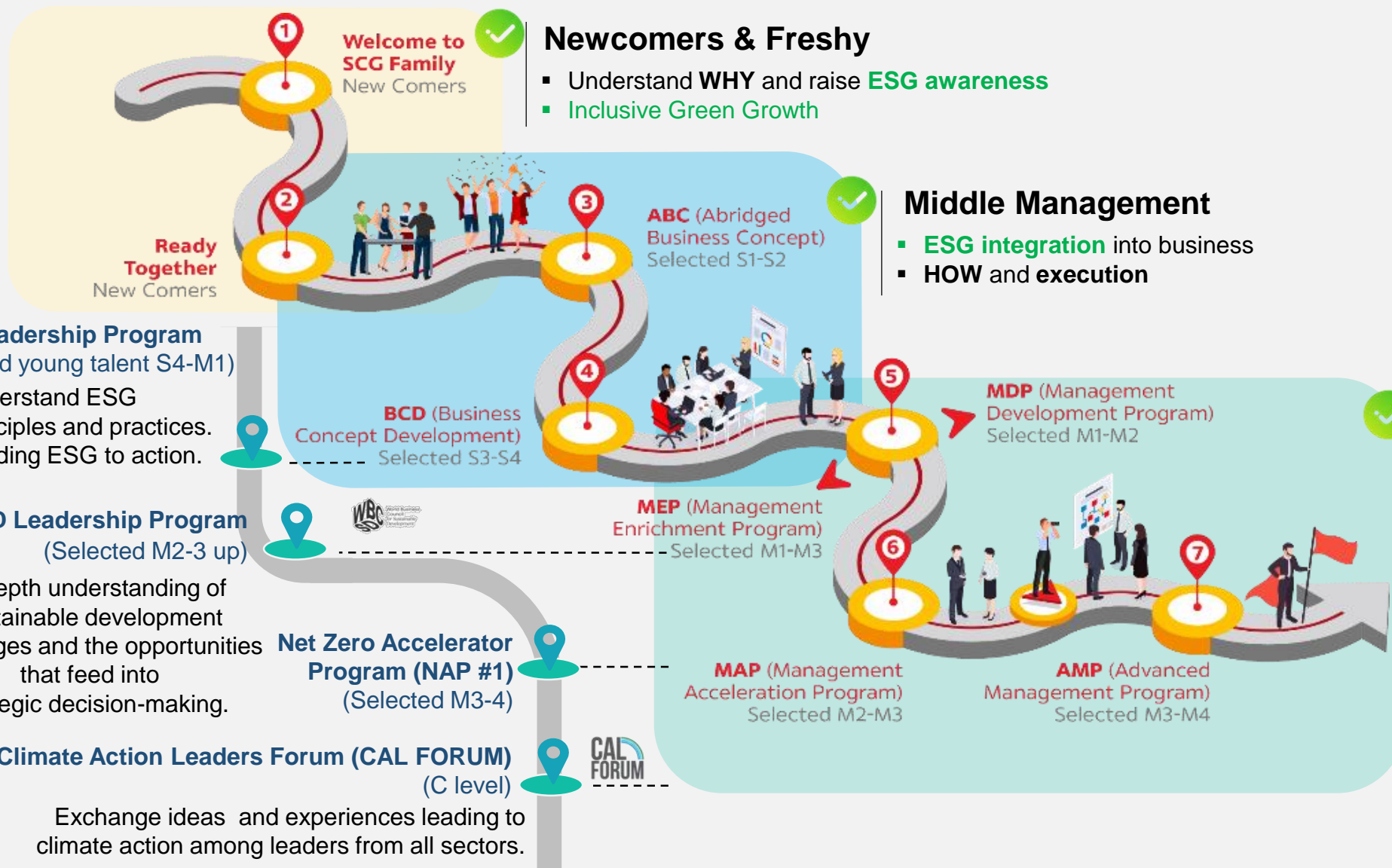
SCG
"องค์กร,
แห่งโอกาส"

Embed ESG into Employee Development Program

(practice, planning and decision-making)

- Corporate Human Resources
- Corporate Sustainability Office

Profession Development Committee



Newcomers & Freshy

- Understand **WHY** and raise **ESG awareness**
- **Inclusive Green Growth**

Middle Management

- **ESG integration** into business
- **HOW** and **execution**

Management

- **Leading organizations** towards **ESG goals**
- **Align with vision, values, and strategy**

ESG Leadership Program (Selected young talent S4-M1)

- Understand ESG principles and practices.
- Leading ESG to action.

WBCSD Leadership Program (Selected M2-3 up)

In-depth understanding of sustainable development challenges and the opportunities that feed into strategic decision-making.

Net Zero Accelerator Program (NAP #1) (Selected M3-4)

Climate Action Leaders Forum (CAL FORUM) (C level)

Exchange ideas and experiences leading to climate action among leaders from all sectors.

Embed ESG into Daily work

(practice, planning and decision-making)

Governed by Steering Team & BUs

Key Objectives:

“Cultivate & create ESG culture for SCG People”

- Know, Understand and Keep up to date with the context of external situations.
- Raise awareness of social responsibility.

Development Program

Embed ESG into Employee Development Program
(Flagship course / Professional course)

Working Environment

Create a working environment that facilitates / encourages visible behavior

Communication

- **Leaders**, as role models, integrating business and ESG Principles, and effectively communicating to both External and Internal Stakeholders.
- **Employees**, as SCG ambassadors, implementing the SCG's business and ESG values to ensure consistent representation.

สร้างคนแบบอย่าง
(People Development)

R&D และความร่วมมือ
(R&D and Open Innovation)

ห่วงโซ่อุปทาน
ที่ครอบคลุม
(Inclusive Supply Chain)

Participate and self-declaration

Recognition Program

Leverage knowledge & experience to outside through government mechanisms.

PPP
Public – Private – People Partnership

Leverage to outside



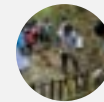
Youth



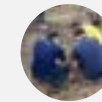
Civil Society

Activities inline to external contexts

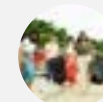
รักษาคุณภาพ มหานที



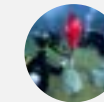
Check dam



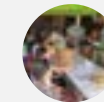
Forestation



Waste



Natural Resources



Community/ Society



Driving resource circularity

1. Innovate product and service with product stewardship and circular economy concept



2. Waste Management, Collection and Upcycling

Ecosystem for plastic recycling





CERT+

Online Carbon Credit Verification & Digitalization for Forest Industry

Complete solution for forest management and carbon credit verification; To alleviate the challenges of labor shortages, high operational costs, and time-consuming processes.



Measurement is not accurate, slow, expensive

10m height, 300/Rai, 1% coverage



Remote Sensing solution

100% coverage, fast, cheap

Integration of Technology

Remote Sensing (Satellite Imagery) is analyzed by specialized AI



Satellite Image



AI



Carbon Stock (Version 4.0)

Automated process



Standard and Collaboration

- Certified tools comply with both domestic and international **standards**
- Developing professional AI requires **collaboration** with various experts to ensure high-quality ground truth data



Certified Tool by TGO, VERRA, GOLD (in progress)



AI developed by experienced team with database from ground truth (UAV, LIDAR and manual)



Partners with Global companies

Embedded ESG into Flagship program

(practice, planning and decision-making)

Net Zero Accelerator PROGRAM

"The learning and communication platform empowers executives to lead greenhouse gas reduction efforts by building knowledge, deepening understanding, fostering and embedding commitment into business operations."



Subject matter and focus



National Policy



Raw & Regulation



SCG Net Zero Roadmap



Observational study



Carbon Pricing mechanism/ Carbon market



Case Sharing



Accelerating to Low Carbon Society

ENERGY SPECIALIST

Taskforce: Smart grid/Grid modernization

Taskforce: Energy Efficiency

Taskforce: Alternative fuel collaboration

Example: Alternative fuel collaboration

Plantation & Sourcing



SCG and Non-SCG Customer



Technology

Technology Implement

1. Pallet shredder
2. Torre faction (Biocoal)
3. Fixed bed gasifier
4. Hot gas generator
5. Hydrogen Combustion



Biocoal



Biochar

Plantation

Sourcing

SCleco

SFT

SCleco

SCGINTL



SCG

Non-SCG

SCleco

SFT

SCleco

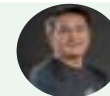
SCGINTL



SCG

GCS

Décor



1 Employee development program



Target

- **100% of executives** attended the Net Zero Accelerator Program (NAP) by 2027
- **100% of key talent** attended the ESG Leadership Program by 2030

2 Participation & Declaration

สร้างการ **“ระเบิดจากข้างใน”**

กิจกรรม

- รัชภัฏพา มหานคร
- กิจกรรมจิตอาสาบำเพ็ญประโยชน์
- ปลุกต้นไม้
- ทารบรีจาก
- ฯลฯ

Employees declare their behaviors through the SCG Employee Connect platform.



Reward & Recognition Program

Target

80% of Employees participated in ESG activities by 2026

- Corporate Human Resources
- Corporate Sustainability Office
- SCG Foundation

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Appendix

People Transformation Y2024



(1) Attract Talent

- Achieve **4 new awards** of Employer branding (Ancor, QGen, Work Ventures, Employee Experience Awards 2024)



- Expand networking and talent communities for strategic sourcing (**OV Expansion**)

SCG Careers Discovery 2024 Open Yourself Up to New Possibilities เปิดงาน SCG ต้อนรับ Future Talents



SCG Careers Discovery 2024 เป็นกิจกรรมที่เปิดโอกาสให้นักศึกษาและบัณฑิตใหม่ได้มาทำความรู้จักกับ SCG และเรียนรู้เกี่ยวกับงานที่ SCG มีให้ทำ โดยกิจกรรมนี้จะมีขึ้นในวันที่ 15-16 สิงหาคม 2567 ณ โรงแรม Sheraton Grand Bangkok และโรงแรม Sheraton Grand Bangkok (Overseas) สำหรับข้อมูลเพิ่มเติม กรุณาติดต่อฝ่าย HR โทร. 02-001-1111 หรือเยี่ยมชมเว็บไซต์ careers.scg.com



(2) Develop Talent

- Pilot: **Internal Start up Development Program** (Start the Dot: 6 Month Program Journey/ 41 Participants/ 6 Projects)

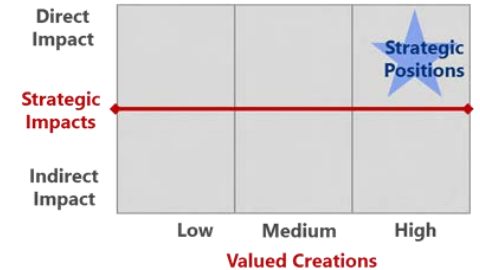


- Embed **AI into Employee Learning Journey** (Flagship Program)



(3) Retain & Engage Talent

- Key Talents Attractive Payment (Differentiation)** Position Allowance scheme for job expansion (Start with vertical enlargement position in 2024)
- Key Talent Career Growth** Fill in Key Talent in Strategic Positions at **23.3%** (307/1,318*)



- Enhance Employee Engagement through **Engagement, Well-being and CSR Activities** (Both of Thai & Overseas)



Climate Action Leaders Forum # รุ่น 3

CAL Forum มิใช่ หลักสูตรฝึกอบรม ผู้บริหารระดับสูง
CAL Forum มิใช่ รูปแบบการเรียน การสอน แต่
CAL Forum เป็น เวทีที่เรียนเชิญ (By invitation only)
ผู้นำองค์กรภาคส่วนต่างๆ ที่มีประสบการณ์ มีความสนใจ
ร่วมดำเนินงานลดก๊าซเรือนกระจก ลดโลกร้อน
เข้าร่วมพบปะพูดคุย แลกเปลี่ยน แนวคิด และประสบการณ์
จำนวน 6 ครั้ง ในรูปแบบ Series of Conferences
พร้อมทั้ง จัดให้มีการเดินทางในประเทศ ศูนย์โครงการ T-VER ครัวเรือน
เครดิตโมประเทศไทย ทั้งโครงการคาร์บอนเครดิต ด้านป่าไม้ และด้านพลังงาน
เพื่อมุ่งหวังให้ ผู้นำองค์กร ภาคส่วนต่างๆ ได้ร่วมพบปะ
แลกเปลี่ยน แนวคิด ประสบการณ์ แสดงพลังการมีส่วนร่วม
ลดก๊าซเรือนกระจก มุ่งสู่การพัฒนาที่ยั่งยืน

จัดโดย
กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม
องค์การบริหารจัดการก๊าซเรือนกระจก (องค์การมหาชน)
กรมการเปลี่ยนแปลงสภาพภูมิอากาศและสิ่งแวดล้อม
สำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม



SCG

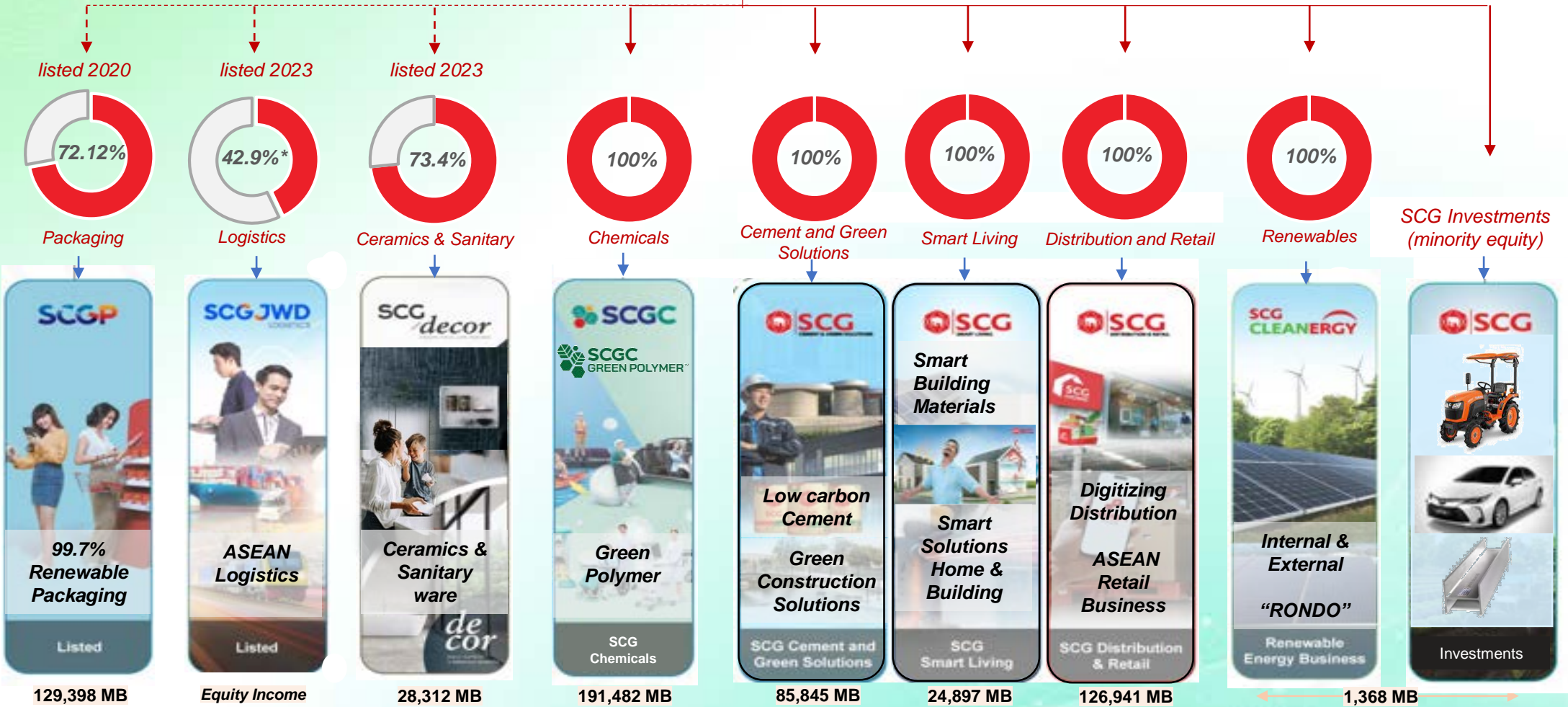
*Inclusive
Green Growth*

Business overview

Agile Organization From thought process into action... and Key deliverables

SCG Consolidated SCG
499,646 MB


SCG's Shareholding (%)




*SCG through its subsidiaries holds 42.9% stake in SCGJWD

SCG's Snapshot


2023 ● **110th year**



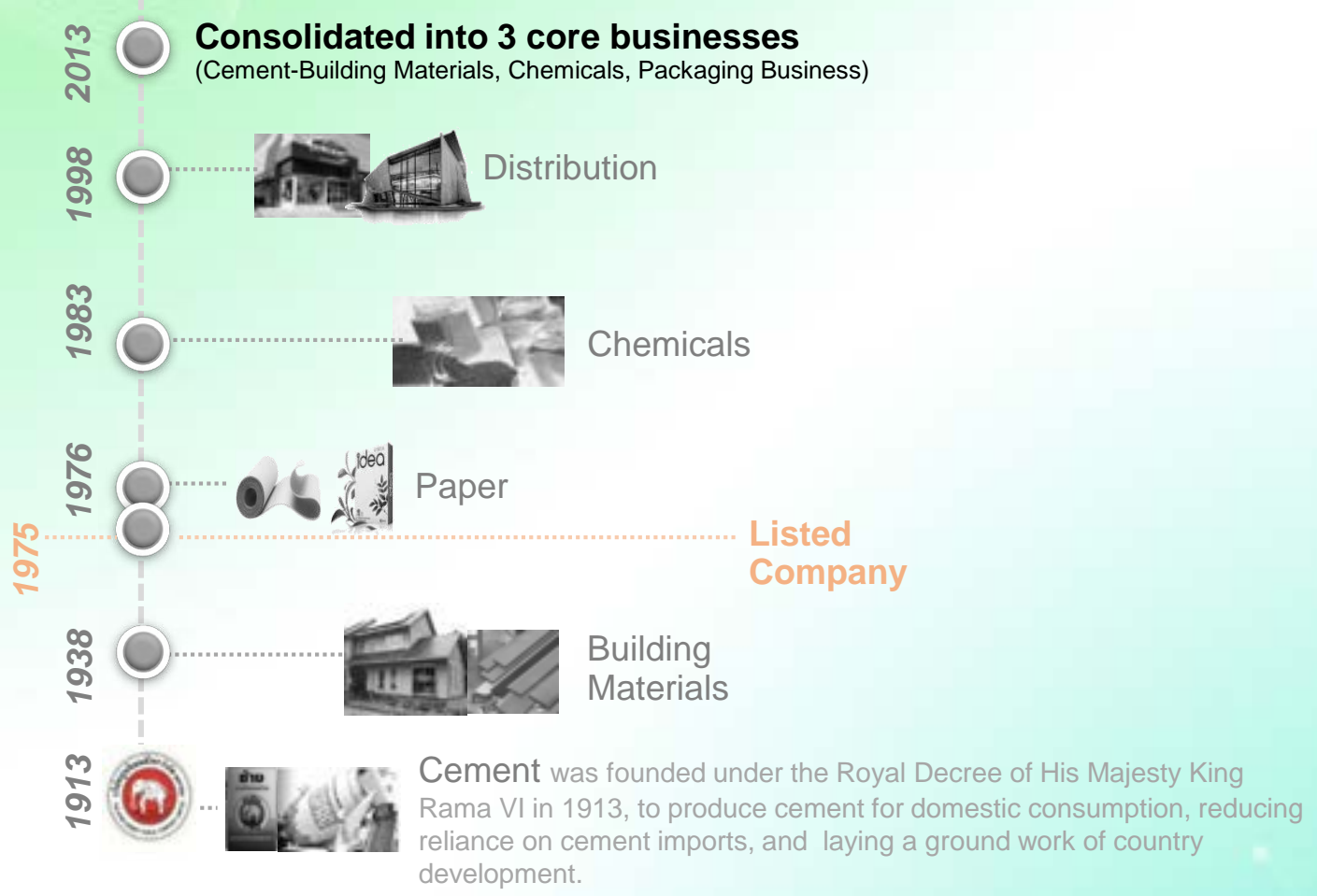
Cement-Building Materials



SCGC
Chemicals Business
(IPO assessment)



SCGP
Packaging Business
(Listed Company)





500+ Billion Baht
Consolidated Revenue

24% of sales
ASEAN Revenue

50,000+ people
Total Employees

400+ companies
Subsidiaries and Associates

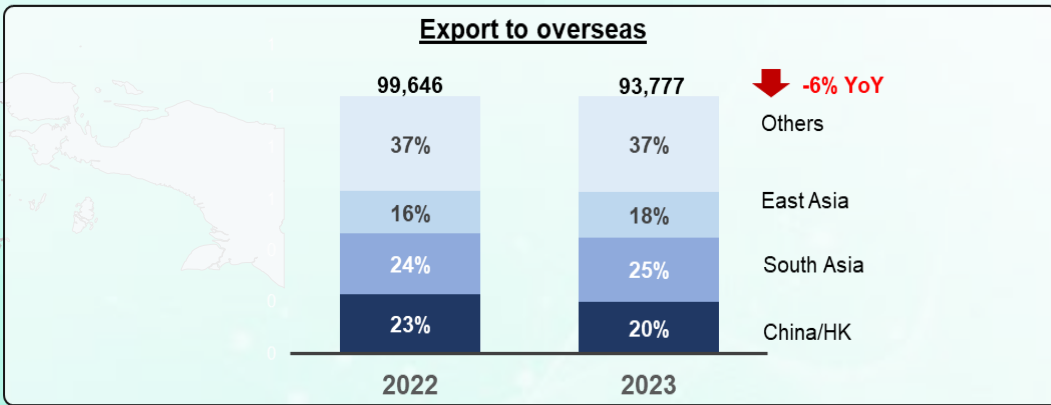
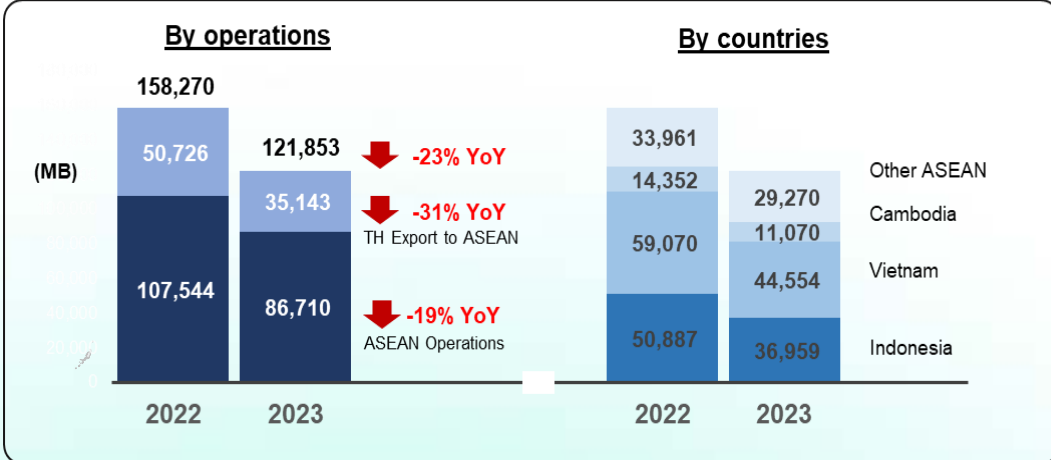
367 Billion Baht (US\$11bn)
Market Capitalization

Figures as of FY2023 consolidated basis

Where We Are in ASEAN (FY2023)



FY2023 Sales Segments



Note: as of FY2023

THE 4 CORE VALUES

Adherence to Fairness

ตั้งมั่นในความเป็นธรรม

Dedication to Excellence

มุ่งมั่นในความเป็นเลิศ

Believe in the Value of the Individual

เชื่อมั่นในคุณค่าของคน

Concern for Social Responsibility

ต่อมั่นในความรับผิดชอบต่อสังคม

SCG

Passion for

Inclusive Green Growth

Driving Low Carbon Society,
Creating Sustainable Competitiveness,
And Fostering Inclusive Prosperity

4 ENGINES



1

องค์กรคล่องตัว ยืดหยุ่น
Agile Organization



2

นวัตกรรมกรีน
Green Innovations



3

องค์กรแห่งโอกาส สร้างความเป็นไปได้ใหม่ ๆ
Organization of Possibilities



4

ไม่ทิ้งใครไว้ข้างหลัง
Inclusive Society



PASSION FOR BETTER