



SET AWARDS

2024

Sustainability Excellence

## THAI EASTERN GROUP HOLDINGS PCL

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2 September 2024





นายเฉลิม โภกนุทากรณ์  
ประธานเจ้าหน้าที่บริหาร



นางสาวสินุช โภกนุทากรณ์  
กรรมการผู้จัดการ



นายวงศ์กฤษณ์ เจียมศรีพงษ์  
ประธานเจ้าหน้าที่บริหาร  
ฝ่ายกลยุทธ์องค์กร



ดร.กมลทิพย์ โกมลยุทธแพทย์  
ประธานเจ้าหน้าที่บริหาร  
ฝ่ายการเงินและการบัญชี



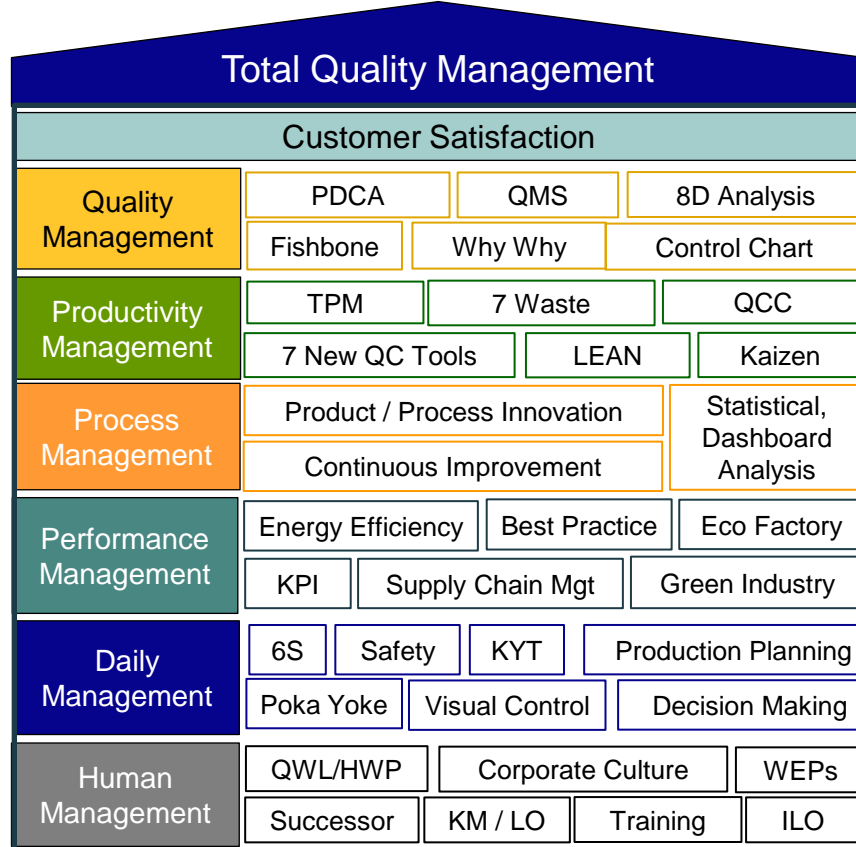
นางศิริวรรณ โภกนุทากรณ์  
ผู้อำนวยการ  
ฝ่ายทรัพยากรบุคคล

01

# Sustainability Strategy



# TEGH Strategic Management Framework





# Our Value Chain



- 1 Raw Material Sourcing and Handling**
  - Farmers
  - Dealers
  - Logistics
  - Community
  - Government (RAOT)
  - Staff
- 2 Other Material Procurement**
  - Suppliers
  - Logistics
  - Community
  - Government
  - Staff
- 3 Operation and Production**
  - Suppliers
  - Investor
  - Banking
  - Community
  - Government / Regulator
  - Staff
- 4 Shipment and Delivery Service**
  - Suppliers
  - Logistics / Shipping
  - Community
  - Government
  - Staff
- 5 Sales, Marketing and Customer Relations**
  - Customers
  - Community
  - Government / Regulator
  - Staff

## UPSTREAM

## INTERNAL OPERATION

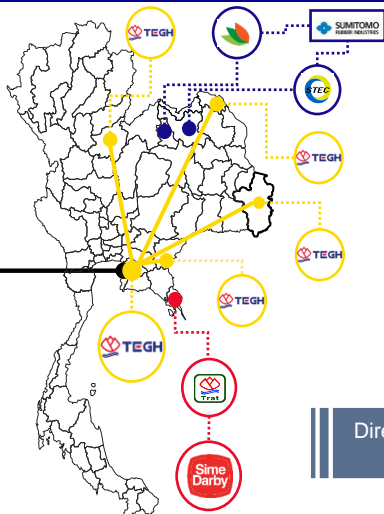
## DOWNSTREAM



Unit	2024
Rai	52,880
Rai	10,100
Ton	100,000



Unit	2024
Rai	25,000
Rai	100,000



Direct Sales  
98%



EUDR Traceability 100%

**6.01%** Share of Thailand NR Production

**13.75%** Share of Thailand STR Production

**22.36%** Share of Thailand's NR Consumption

World Class Customers > 95%

GOVERNANCE / ECONOMIC	ENVIRONMENT	SOCIAL	
<p><b>G1. Sustainable Supply Chain:</b> การบริหารจัดการห่วงโซ่อุปทานอย่างยั่งยืน</p> <ul style="list-style-type: none"> <li>Fair price / Transparent Raw material buying system</li> <li>Seeding Quality – Palm</li> <li>Green Procurement</li> <li>Due Diligence Audit</li> </ul>	<p><b>E1. Energy Management:</b> การบริหารจัดการด้านพลังงาน</p> <ul style="list-style-type: none"> <li>Affordable and Sustainable Energy</li> <li>Energy Efficiency</li> <li>Renewable Energy</li> </ul>	<p><b>S1. Human Rights:</b> การคำนึงถึงสิทธิมนุษยชนและการปฏิบัติต่อแรงงานอย่างเป็นธรรม</p>	<ul style="list-style-type: none"> <li>Human Right Policy</li> <li>Equal Rights</li> <li>Gender Equality</li> </ul>
<p><b>G2. Sustainable Materials:</b> สินค้าที่มีความยั่งยืน</p> <ul style="list-style-type: none"> <li>FSC/ RSPO/ EUDR</li> <li>Premium Quality Product</li> <li>ECO Product and Services</li> </ul>	<p><b>E2. Low-Carbon Economy:</b> การลดการปล่อยก๊าซเรือนกระจกสู่ชั้นบรรยากาศ</p> <ul style="list-style-type: none"> <li>RE100</li> <li>CFO, CFP</li> <li>CO2 emission reduction</li> <li>Carbon Capture</li> </ul>	<p><b>S2. Knowledge Management/Learning Organization:</b> การพัฒนาพนักงาน</p>	<ul style="list-style-type: none"> <li>Equality Learning Opportunities</li> <li>Work Integrated Learning</li> <li>Scholarship</li> </ul>
<p><b>G3. Innovation and Digitalization:</b> การมุ่งสร้างสรรค์นวัตกรรมและเทคโนโลยีใหม่ๆ</p> <ul style="list-style-type: none"> <li>Traceability App</li> <li>R&amp;D Project</li> <li>Product Development</li> <li>Digitalization</li> </ul>	<p><b>E3. Water Management:</b> การบริหารจัดการน้ำใช้และการบำบัดน้ำเสีย</p> <ul style="list-style-type: none"> <li>Water Quality Monitoring</li> <li>Water Footprint</li> <li>Zero Discharge</li> </ul>	<p><b>S3. Happy Workplace:</b> การดูแลพนักงาน เสริมสร้างสิ่งแวดล้อมที่ดีในการทำงาน รวมถึงด้านอาชีวอนามัยและความปลอดภัยของพนักงาน</p>	<ul style="list-style-type: none"> <li>Quality of Life</li> <li>First Housing Project</li> <li>Maternity Support</li> <li>Healthcare System</li> <li>Safety Control</li> </ul>
<p><b>G4. Corporate Good Governance:</b> การกำกับดูแลกิจการที่ดี</p> <ul style="list-style-type: none"> <li>Risk Management</li> <li>CAC</li> <li>Governance Policy</li> <li>Whistleblowing</li> <li>Compliance Audit</li> <li>Disclosure</li> </ul>	<p><b>E4. Eco product &amp; services:</b> การบริหารจัดการการผลิตสินค้าและบริการ เพื่อลดผลกระทบต่อสิ่งแวดล้อม</p> <ul style="list-style-type: none"> <li>Traceability</li> <li>FSC, RSPO, USDA-NOP, GOLs, GMP&amp;HACCP Cert.</li> <li>GPSNR member, Rubber way</li> <li>EUDR due diligence</li> </ul>	<p><b>S4. Stakeholder Engagement:</b> การมีส่วนร่วมต่อผู้มีส่วนได้เสีย (เกษตรกร ลูกค้า พนักงาน ชุมชน)</p>	<ul style="list-style-type: none"> <li>Farm Labor's Quality of life</li> <li>Worker rights (No Child Labor/ Forced Labor)</li> <li>Yield to Farmers</li> </ul>
	<p><b>E5. Biodiversity:</b> การอนุรักษ์ทรัพยากรป่าไม้ เพิ่มพื้นที่สีเขียว และการคำนึงถึงระบบนิเวศและความหลากหลายทางชีวภาพ</p> <ul style="list-style-type: none"> <li>Resources Utilization</li> <li>Deforestation Free</li> <li>Biodiversity Conservation</li> </ul>		
	<p><b>E6. Waste Management:</b> การจัดการของเสีย และการบริหารจัดการตามหลัก Circular Economy</p> <ul style="list-style-type: none"> <li>Zero Waste</li> <li>10Rs</li> <li>Circular Economy</li> </ul>		

# TEGH SUSTAINOMY

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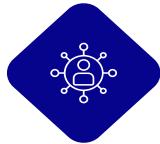
“Your **Leading Global Strategic Partner**  
that creates **Sustainable Value Chain**”



## Corporate Mission



**Sustainable Materials**



**Bio Circular Green Economy**



**Corporate Innovation**



**Continuous Growth**



**Operational Excellent**



**Smart People**

## SUSTAINABILITY TO PROFITABILITY

PRIMARY ACTIVITIES	RU	<p><b>Global Leading Sustainable Material (NR) Producer</b></p> <ul style="list-style-type: none"> <li>• Top 5 Producer BR in Thailand</li> <li>• New Expansion Production</li> <li>• Robotic &amp; Digitization</li> <li>• Sustainability leader in supply chain</li> </ul> <ul style="list-style-type: none"> <li>• Leading of Sustainable product (FSC, GOLs, EUDR, Low Carbon, Odorless)</li> </ul>			
	PU	<p><b>Leading Sustainable Palm Oil Complex</b></p> <ul style="list-style-type: none"> <li>• Increase %MUR, %Eff.</li> <li>• Waste to Value: EFB, Ash</li> <li>• New Expansion Project</li> <li>• Innovation Product: Nano Emulsion</li> </ul> <ul style="list-style-type: none"> <li>• New Product : SBE, EUDR, ISCC waste oil</li> <li>• Spin Off Opportunity</li> <li>• Sustainable Palm Complex</li> </ul>			
	EU	<p><b>Leading Organic Waste Processor and Green Gas company in Asia</b></p> <ul style="list-style-type: none"> <li>• Biogas Solution Provider &amp; Services</li> <li>• BOM Model, Joint Service Operator</li> <li>• New Business : Bio-LNG, Fertilizer</li> <li>• Innovation product: Bio-H<sub>2</sub>, Bio-Acetic</li> </ul> <ul style="list-style-type: none"> <li>• OWM hub of EEC</li> <li>• Max Biogas Utilization</li> <li>• Create new S Curve</li> <li>• CO<sub>2</sub> capture</li> </ul>			
	JV	<p><b>Partner of Choice for Sustainability</b></p> <ul style="list-style-type: none"> <li>• Profit maximization</li> <li>• Partnership Collaboration</li> <li>• New JV Partnership</li> </ul> <ul style="list-style-type: none"> <li>• M&amp;A Opportunity</li> <li>• Sustainability Supply Chain</li> </ul>			
	SUPPORT ACTIVITIES	<p><b>Marketing and Sales</b></p> <p>China &amp; India Penetration New Product Sales Sustainable Product Accrued Margin Pricing Premium Matching Growth</p>	<p><b>Technology</b></p> <p>Data Security Digital Innovation / Robotic Dashboard Management Remote System Flexible IT System Data Integrity</p>	<p><b>R&amp;D Innovation</b></p> <p>Innovated Product Product Improvement Lab Services Provider Realtime Cert. Application CCUS Value added</p>	<p><b>Human Resources</b></p> <p>No.1 &amp; 2 Successor Employer of Choice FLEXIBLE Working eUnite program HRDD Learning Organization</p>



# Sustainability Goals



Based Year : 2023 , Scope III min 70% (Cat.1 Purchased goods and services)

## Climate Change

- Reduce Scope I+II 42% and Scope III 25% by 2030 (Compare to Y2023)
- Carbon Neutrality by 2030
- Renewable Energy 100% by 2030
- Reduce Scope I+II+III 90% by 2050 (Compare to Y2023)
- Net Zero Carbon by 2050
- Renewable Electricity 100% by 2040



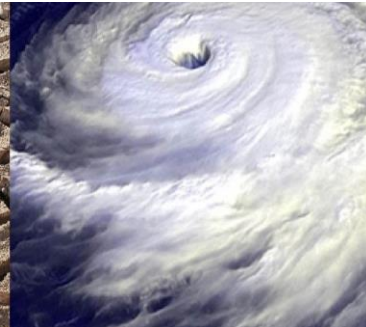
## Operational Risk

- COSO Evaluation
- Internal Audit 100% on plan
- CAC Rating : \*\*\*\*\*
- Emergency response Plan 100%
- Tris Rating downgrade
- Successor Plan >75%

## Biodiversity

- Community Forest > 150 rai by 2030
- Preserve and conserve biodiversity >70 species

## Stakeholder Engagement



- Stakeholders Engagement Activities :  
Farmer (No. of Activities, No. of Participants)  
Employee (No. of Activities, No. of Participants)
- Supplier signed Code of Conduct >80% by 2025
- SME Suppliers intend to join CAC Membership. > 10
- Compliance Audit 100%
- Tier 1 Supplier 50% by 2024

## Disclosure

- Double Materiality Evaluation by 2024
- GRI , TCFD, IFRS S1-S2, GPSNR Compliance Report by 2025
- SET ESG Rating : > A

## Sustainable Supply Chain

- Deforestation Free 100% by April 2019
- EUDR – CL: 50% (150,000 ton) by 2024, 100% (300,000 ton) by 2025
- EUDR - FFB 100% by 2025
- EUDR – FL 80% by 2024, 100% by 2025
- Farmer Self Due Diligence 100% by 2025
- RSPO 50,000 Rais by 2025



## TEGH's Top Priority Topic

Impact to Stakeholder

<p>Sustainable Material</p> <p>Corporate Good Governance</p> <p><b><u>Keep Informed</u></b></p>	<p>Sustainable Supply Chain</p> <p>Green Transition</p> <p>Climate Adaptation</p> <p>Stakeholder Engagement</p> <p><b><u>Top priority</u></b></p>
<p>Waste Management</p> <p>Innovation and Digitalization</p> <p>Human Rights</p> <p>Eco Product and Services</p> <p><b><u>Monitored</u></b></p>	<p>Happy Workplace</p> <p>Knowledge Management and Learning Organization</p> <p>Biodiversity</p> <p>Water Management</p> <p><b><u>Keep Satisfied</u></b></p>

→ Action to manage the risks of Climate Change Impacts

## SDGs Top Priority Issue



02

## Sustainable Supply Chain



## Traditional Approach

- เกษตรกรปลูกยางพาราและปาล์ม น้ำมัน และ
- จัดส่งวัตถุดิบให้สาขาบริษัท
- การจัดการสวน ใช้องค์ความรู้ที่ถ่ายทอดกัน
- จากรุ่นสู่รุ่น ซึ่งมีผลผลิตที่ต่ำ

- รับซื้อวัตถุดิบคุณภาพดีจากเกษตรกร
- กำหนดโครงสร้างราคา อย่างโปร่งใสและเป็นธรรม
- ระบบการตรวจสอบคุณภาพที่ได้มาตรฐาน

- ผลิตยางแท่งคุณภาพดี
- เน้นขายกลุ่มลูกค้า Premium
- ใช้ LPG ในการอบยาง

## Sustainable Supply Chain Approach

- ส่งเสริมเกษตรกรให้ได้รับมาตรฐานความยั่งยืน
- FSC / GOLs / RSPO / EUDR
- จัดให้ความรู้และฝึกอบรมเกษตรกรให้มีการจัดการสวนอย่างถูกวิธี
- จัดทำฐานข้อมูล Big Data เกษตรกร
- ตั้งสาขา เพื่อลดระยะการขนส่งของเกษตรกร
- พัฒนาระบบการตรวจสอบย้อนกลับ
- นโยบายไม่รับซื้อวัตถุดิบจาก Deforestation Area
- จัดทำ Due Diligence
- จัด Green Procurement / Supplier Code of Conduct
- เพิ่มเกณฑ์เลือก Supplier ที่มีการดูแลด้าน ESG
- ใช้พลังงานทดแทน (Renewable Energy Mixed)
- ลดการปล่อย CO2
- ใช้น้ำ Reuse ลดการใช้น้ำดิบ
- Zero Discharge Symbiosis
- Zero Waste => Waste to Energy

## Short term Target (by 2025)

- 50% Green procurement (Tier1) by 2024
- 100% Supplier signed code of conduct by 2024
- 50,000 rai RSPO cert. by 2025
- 11,053 rai FSC cert. by 2025
- Deforestation free 100% by April 2019
- EUDR-CL 50% by 2024, 100% by 2025
- EUDR-FFB 100% by 2025
- EUDR-FL 80% by 2024, 100% by 2025



## Long term Target (by 2035)

- 100% Green procurement (Tier1) by 2030
- 65,000 rai RSPO cert. by 2035
- 32,108 rai FSC cert. by 2035
- Maintain Deforestation free 100
- Maintain EUDR-CL 100%
- Maintain EUDR-FFB 100%
- Maintain EUDR-FL 100%






(MOBILITY)

# PIRELLI PRODUCES THE WORLD'S FIRST FSC<sup>®</sup> CERTIFIED TYRE

The certification indicates that the management of forest materials in the plantations preserves the environment and local communities and is a new milestone in the sustainable production of tyres



## THE FSC CERTIFIED PIRELLI P ZERO FOR THE BMW X5 PLUG-IN HYBRID

The world's first <sup>®</sup>-certified tyre made using natural rubber and rayon sourced from FSC<sup>®</sup>-certified plantations marks a new milestone in the sustainable production of tyres. It is the P ZERO made for the new BMW X5 xDrive45e Plug-in-Hybrid. A tyre supplied in sizes 275/35 R 22 for the front and 315/30 R 22 in the rear for the second generation of the BMW X5 with electrified traction, which combines a petrol engine featuring BMW TwinPower Turbo Technology and the fourth generation of BMW eDrive technology.

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# EUDR

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EU Deforestation Regulation



What you need to know





## โครงการส่งเสริมเกษตรกรปลูกโกโก้ในสวนยางพารา



### ข้อมูลโครงการ

- สมาชิกในโครงการ FSC ต.เกาะจันทร์ อ.เกาะจันทร์ จ.ชลบุรี จำนวน 25 ราย
- ปลูกโกโก้แซมรองสวนยาง จำนวน 18,760 ต้น รวมพื้นที่ประมาณ 280 ไร่

### ผลลัพธ์ที่ได้

- เกษตรกรมีรายได้เพิ่มขึ้น รวม 30,000 บาท/เดือน
- บริษัทฯ ได้วัตถุดิบเกรด FSC เพิ่ม 300 ตัน/ปี



# Cost Reduction & Generate Other Income for Farmer

**Fertilizer from  
Digested Sludge**  
from Biogas Production Process



**EFB for mushroom's  
farm**  
to generate other Income



**EFB for cover the  
Palm Oil base**  
Increasing Moisture & Nitrogen









**Ash from Boiler**  
for soil  
improvement (PH)







# The Value of Sustainable Supply Chains Management

	Results	Unit	2022	2023
Output	 Participating Farmers (FSC+RSPO+GOLs)	farmers	1,597	1,601
	 Certified Area (FSC+RSPO+GOLs+EUDR)	rai	62,911	457,400
	 Certified Raw Material (FSC+RSPO+GOLs)	Ton	48,928	60,032
Outcome	 Increased Farmer's Income (FSC+RSPO+GOLs)	THB	10,338,652	35,898,532
	 Economic Value of Supporting Local Products	THB	3,831,221	4,144,122
	 CAC membership	activate	intend	member

Support policy and SGDs





# ISCC for Decarbonization Model





03

# Green Transition

# TEGH Green Transition (as of Dec 2023)



Result

Over 90%  
Water Consumption Reduction

8.8%  
Revenue Increasing  
(compare 2021)

3-5 years  
Increasing Machine  
Lifetime

Zero  
Waste / Discharge

100%  
Organics Waste  
Circulation rate

1.48 Million Nm<sup>3</sup>  
Save Water

81.5% (Best Practice)  
LPG Substitution Rate

30.2%  
PEA Substitution  
Renewable Electricity Rate

1.71 ppm      2.51 ppm  
NOx (STD 200 ppm)      SOx (STD 60 ppm)

100%  
ECO Product / Recyclable Product

254,206 Ton  
OWM

131,137 Ton  
Reduce Landfill (SOW)

2,600 Ton  
Soil Conditioner

289 g CO<sub>2</sub>e/kg  
(Block Rubber)

12.1 MWh  
PEA Consumption  
Reduction

3,377,205 Kg  
LPG Consumption  
Reduction

120,761 tonCO<sub>2</sub>e  
CO<sub>2</sub> Emission Reduction

Sustainability Practices

## Maximize use of Resources

- Increase Machine Useful Life
- Increase Machine Efficiency

## 3Rs Model

- Reuse : Acetic acid, Plastic Sheet, Metal Pallet
- Reprocess : Ammonia recovering
- Reduce : Paperless, Off Spec

## Waste Sorting

- Hazardous Waste
- Organics Waste

## 5Rs Model

- Reduce
- Reuse
- Reprocess
- Recycle
- Refuse

## Water Management

## Best Practice

- Create new usage
- Alternative Material

## Zero Management

- Zero Waste
- Zero Discharge
- Zero Burn
- Zero Reject
- Zero Corruption
- Zero In-Equality

## Waste to Energy

- POME to Biogas
- Biogas substitute LPG
- Biogas substitute Bunker Oil
- Renewable Electricity from Biogas
- Waste Heat from Exhaust Gas

## R&D

- Suitable Microorganisms for Biogas Production Process
- Increase Biogas yield
- Multi Feed / Multi Digesting system

## SHEE Management

- S&H (Risk) Management
- Environmental Management (Air)
- Energy Management

## Thai Eastern Symbiosis

- Low Carbon Economy
- BCG Model – Best Practice

## Waste to Value Model

- (OWM) : SOW / LOW
- Biohythane
- Soil Conditioner
- Biomaterials

## ECO Product

- Sustainable Material : FSC, GOLS, RSP0
- Low CFP
- Traceability Product
- Rubber Way Program
- GPSNR Membership

## 10Rs Model

- Reduce
- Reuse
- Recycle
- Refuse
- Repair
- Replacement
- Refill
- Redesign
- Rethink

## Carbon Neutral Organization by 2030

- CFO, CFP, CFR in STR
- Member of UNGC, TCNN and CALO
- RE100, I-REC, T-Ver Project, Less Project

## Deforestation Free (2019)

Reuse / Reduce / Reprocess >

Sufficient Economy >

Self Sustainability >

Circular Economy >

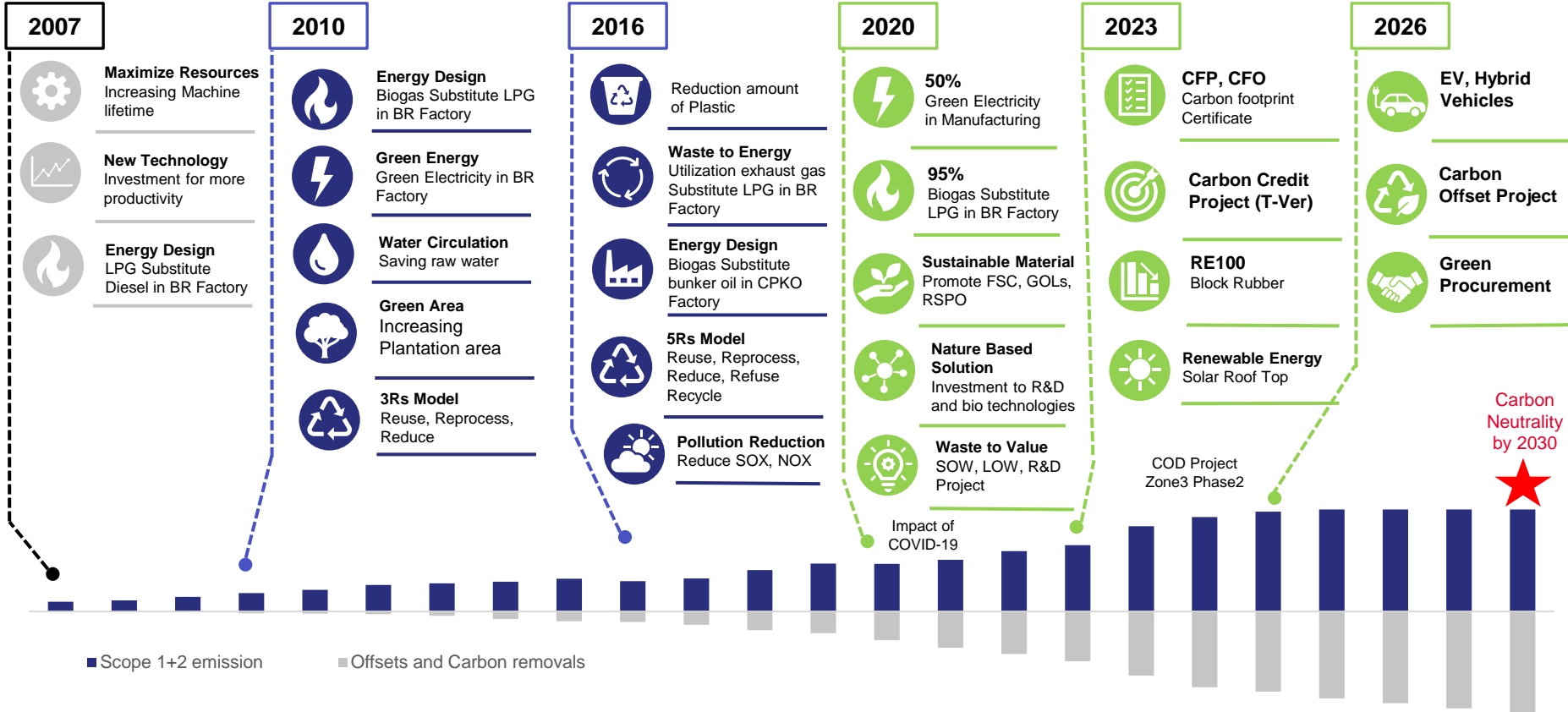
BCG HUB of EEC and Asia



# Carbon Neutral Pathway



**Improvement** | **Energy Efficiency** | **Moving toward Carbon Neutrality**



# Low Carbon Product



**289**

g CO<sub>2</sub>e / kg

# Low Carbon **NATURAL** RUBBER





This Redemption Statement has been produced for

THAI EASTERN INNOVATION CO.,LTD.

by

THAI EASTERN BIO POWER COMPANY LIMITED

confirming the Redemption of

1 230.000000

1 REC Certificates, representing 1 230.000000 MWh of electricity generated from renewable sources

This Statement relates to electricity consumption located at or in

159 M.2 Khaosok, Nongyai, Chonburi 20190 Thailand

in respect of the reporting period

2022-06-01 to 2022-12-01

The stated Redemption Purpose is

Our goal is to achieve RE100 and Reporting our carbon footprint organization's Scope2

# 9,635 REC

Evident



QR Code Verification

Verify the status of this Redemption Statement by scanning the QR code on the left and entering in the Verification Key below

Verification Key

5 1 4 3 0 2 3 0

<https://evident.app/public/certificates/en/E+EKMnaxQK6R8S9vYK1DknhzEN1g1YgbauqARTf9P9okMogP08s>

## Renewable Energy Certificate

โครงการผลิตไฟฟ้า 4MW จาก Biogas



กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม  
โดย  
องค์การบริหารจัดการก๊าซเรือนกระจก (องค์การมหาชน)

ขอมอบใบประกาศเกียรติคุณนี้ให้แก่  
บริษัท ไทยอีสเทิร์น ไบโอ พาวเวอร์ จำกัด  
เพื่อแสดงว่า

โครงการปรับปรุงระบบบำบัดน้ำเสียเพื่อนำไปผลิตก๊าซชีวภาพ โดยบริษัท ไทยอีสเทิร์น ไบโอ พาวเวอร์ จำกัด  
(Wastewater treatment plant modification for Utilization to biogas at Thai Eastern Bio Power Co.,Ltd.)

ได้รับการรับรองปริมาณก๊าซเรือนกระจก  
ภายใต้โครงการลดก๊าซเรือนกระจกภาคสมัครใจตามมาตรฐานของประเทศไทยแบบมาตรฐาน (Standard T-VER)  
๕๑,๗๓๒ ตันคาร์บอนไดออกไซด์เทียบเท่า (tCO<sub>2</sub>e)  
(๑ เมษายน ๒๕๖๕ - ๓๑ มีนาคม ๒๕๖๖)  
ให้ไว้ ณ วันที่ ๒๖ กันยายน ๒๕๖๖

51,732 tCO<sub>2</sub>e

นายเกียรติชาย ไมตรีวงษ์  
ผู้อำนวยการองค์การบริหารจัดการก๊าซเรือนกระจก

## T-Ver

โครงการปรับปรุงระบบบำบัดน้ำเสีย เพื่อนำไปผลิตก๊าซชีวภาพ

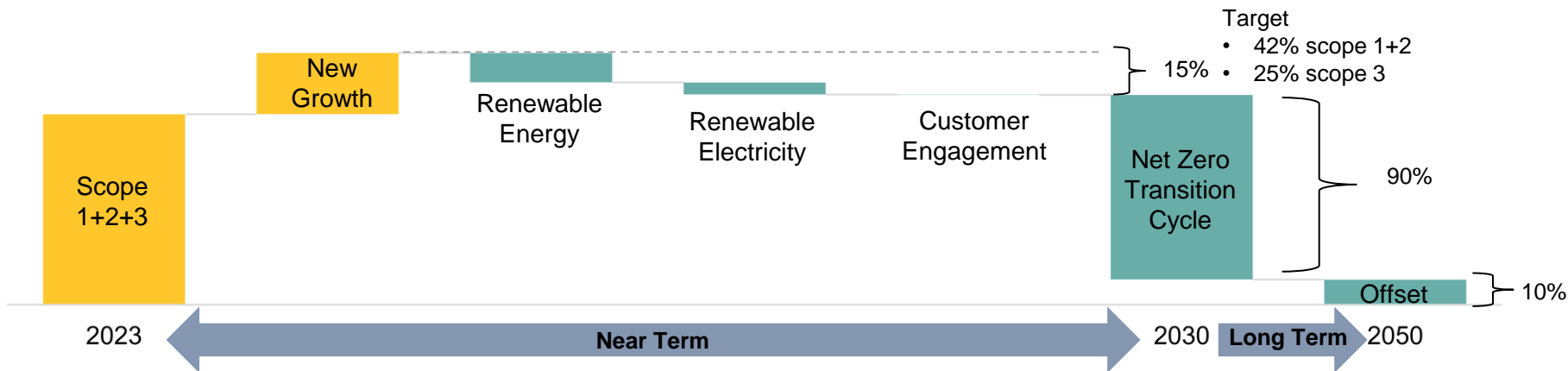




DECARBONIZATION



# TEGH's Decarbonization Roadmap



Scope	1	2	3	Net Zero Transition Cycle	Offset
<b>Emission Reduction</b>	18,480	7,723	62	115,401	15,741
<b>Decarbonization Strategy / Solution</b>					
<b>Reduce</b>	<ul style="list-style-type: none"> <li>• Biogas substitution</li> <li>• 100% Biogas utilization rate</li> </ul>	<ul style="list-style-type: none"> <li>• Green electricity substitution</li> <li>• Biomass power plant</li> <li>• Machine improvement</li> <li>• Energy Efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce plastic</li> <li>• Recycling waste</li> </ul>		
<b>Shift</b>	<ul style="list-style-type: none"> <li>• EV transition</li> </ul>	<ul style="list-style-type: none"> <li>• Solar roof</li> </ul>			
<b>Engage</b>			<ul style="list-style-type: none"> <li>• Employee transportation</li> </ul>		

# Sustainable Shift by Green Transition



	Results	Unit	2022	2023
Output	Water consumption reduction	Nm3	1.27 million	1.48 million
	Renewable Energy Substitution Rate	%	91.7	81.5
	Green Electricity consumption Rate	%	51.3	30.2
Outcome	Reduce to Landfill (SOW)	ton	117,362	131,137
	External Fuel cost reduction	THB	> 63 million	> 70 million
	Pollution reduction (compare STD.)	%	> 98%	> 98%
	CO2 emission reduction (compare industry avg.)	tonCO2e	110,225	120,761
	Number of Complaint	issue	0	0

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ตำบลหนองใหญ่

Support policy and SGDs

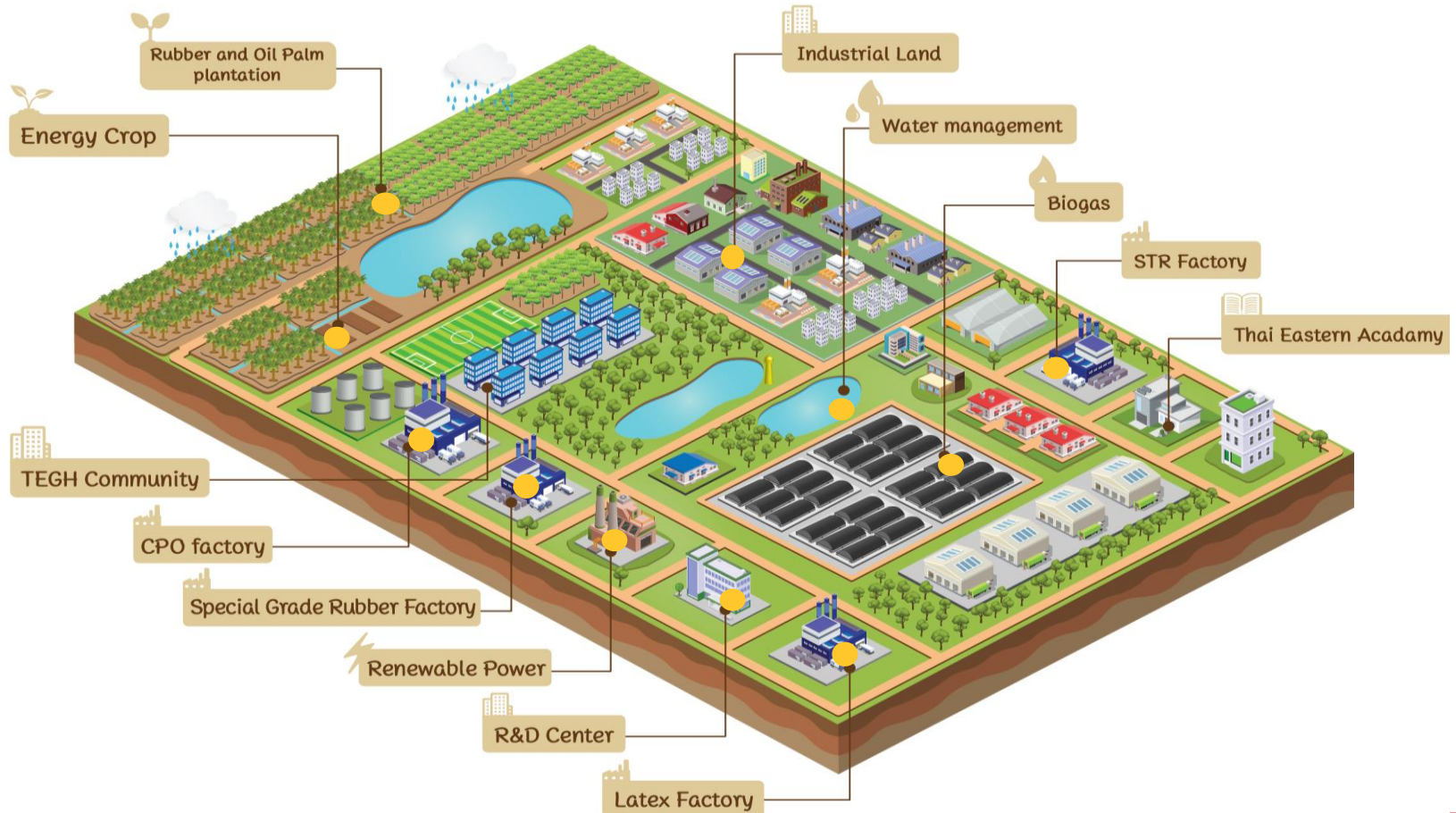


A sunset landscape with a savanna foreground and a red circle containing the number 04.

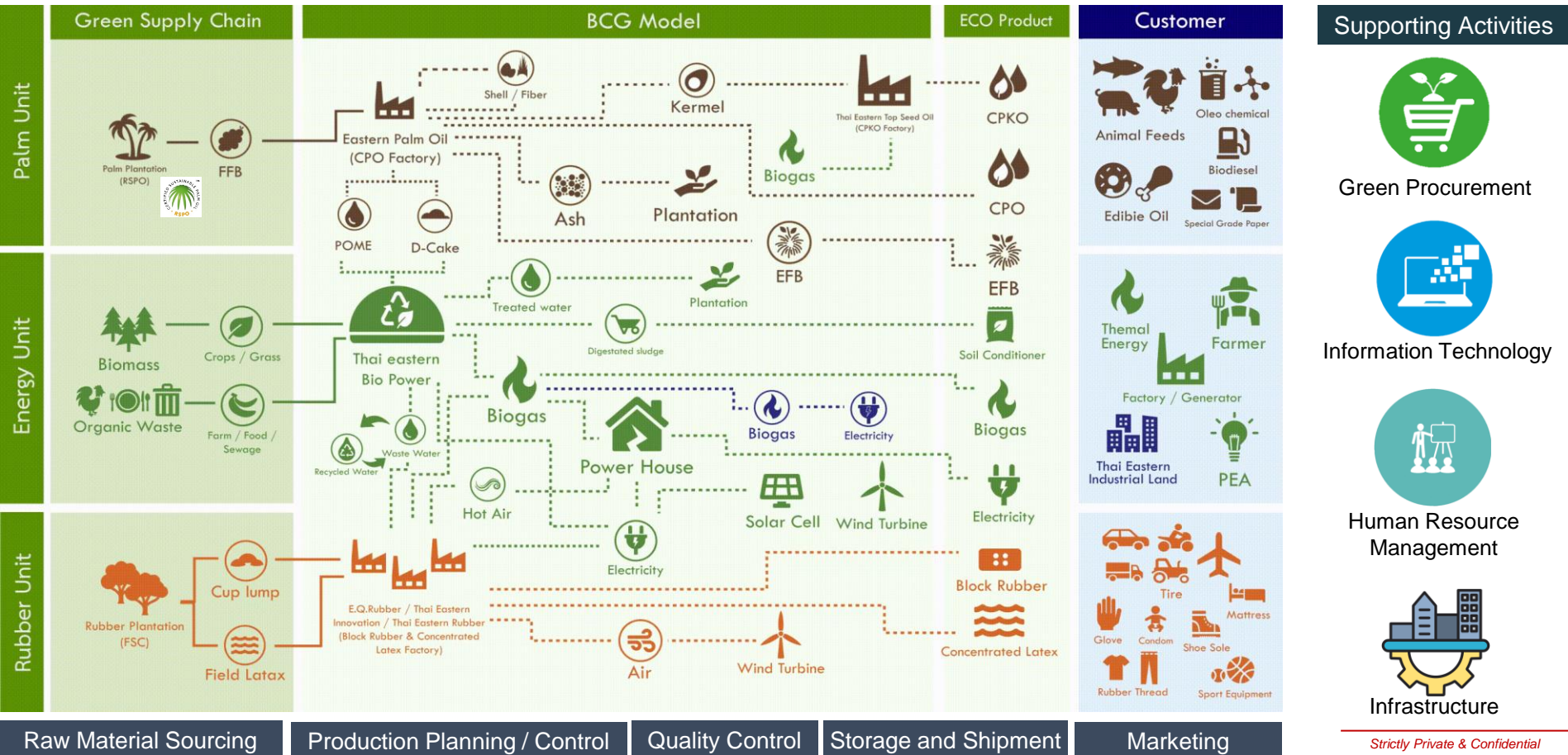
04

# Climate Adaptation





# Thai Eastern Symbiosis



Green Procurement



Information Technology



Human Resource Management



Infrastructure

Strictly Private & Confidential

## Self-Sufficient Economy

THAI  
EASTERN  
SYMBIOSIS



**Water Management**

- Water Utilization
- Reuse/Recycle water
- Tap Water System
- Reservoir Storage Capacity
- Wastewater Treatment
- Zero Discharge
- Sustainable Water Management
- Nutrient Solution

**Energy Management**

- Energy Efficiency
- Renewable & Clean Energy
- Bio Hythane
- Low Carbon Economy
- Self Sustainable Energy
- Waste to Energy
- CCU
- Eco Factory

**Waste Management**

- Resource Utilization
- 3R, 5R, 10R
- Green Manufacturing
- Zero Waste
- Zero to landfill
- Sharing Economy
- Waste to Value
- Pollution Control
- End of Life Product Responsibility
- Circular Design

**Supply Chain Management**

- Good Agricultural Practice (GAP)
- (FSC/ GOLs/RSPO)
- Rubber Way
- GPSNR
- Deforestation Free
- Product Traceability
- Supplier Code of Conduct
- Handling & Logistic Management
- Traceability

**Quality of Life**

- Human Right
- Health and Safety
- Community Support
- Scholarship
- Work Integrated learning
- Housing
- Recreation Area
- Nursing and Emergency Unit
- Environment

**Good Governance**

- Land Use, Risk Mapping
- Due Diligence -ESG
- Biodiversity Conservation
- Risk Management
- Climate Change
- Anti Corruption
- Code of Conduct
- Transparency
- Legal Compliance
- Internal Audit

**BCG Economy**

### Bio Economy

### Circular Economy

### Green Economy

KEY RESULT INDEX 2023

Water Recycle Rate **93.6%**  
**Zero Discharge**

Biogas Substitution **81.5%**

Renewable Electricity **30.2%**

**131,137** Ton Reduce Landfill (SOW)

**120,761** tonCO<sub>2</sub>e CO<sub>2</sub> Emission Reduction

Certified Sustainable Materials Plantation **68,252** rais

Supplier Engagement on Sustainable Policy **84.2%**

Farmer –QOL Improvement **1,921** household

Labor Satisfaction **92.5%**

Deforestation Free (cut of Y2020) **100%**

**76** Species compare to 2021



United Nations Global Compact



## Liquid Waste



POME



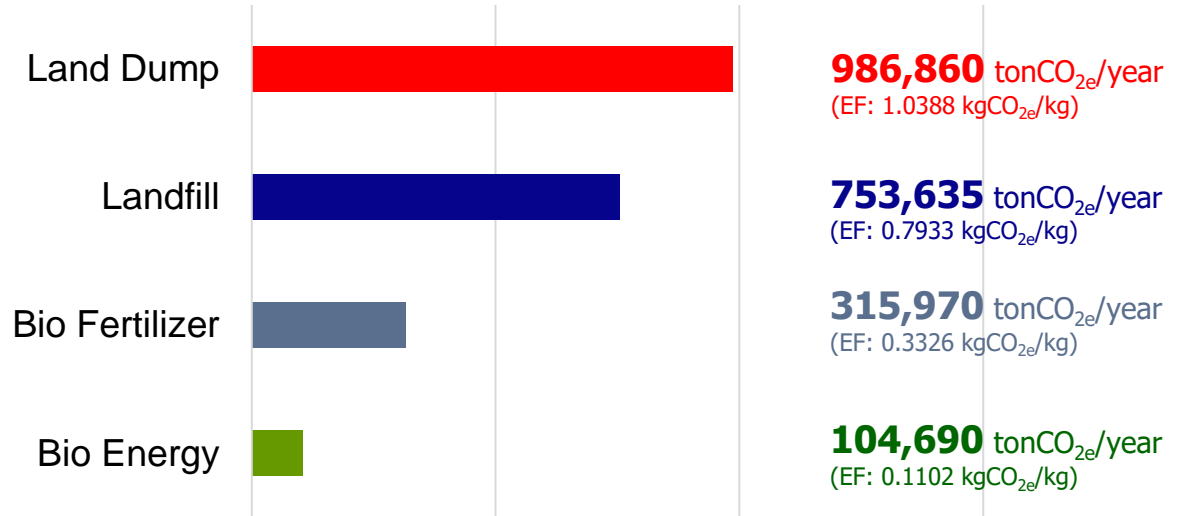
Wastewater

## Solid Waste



Decanter  
Cake

Total Organic Waste Management Capacity **950,000**  
(Ton per Year)



Reduce Carbon Emission **↓ 89.39%**

Refer: ค่า Emission Factor แบ่งตามประเภทกลุ่มอุตสาหกรรม





# Low Carbon to Decarbonization Economy



		Results	Unit	2022	2023	
Output		CO2 emission (scope 1+2+3)	tonCO2e	71,861	119,020	
		CO2 intensity reduction (STR) (compare 2016)	tonCO2e/kg	0.0290	0.0269	
		CPF of Block rubber (STR)	gCO2e/kg	289	289	
Outcome		CO2 credit (T-ver)	tonCO2e	0	51,732	
		I-REC	REC	0	9,635.07	
		Additional Revenue from CO2 credit traded	THB	0	1,627,967	
	Regulatory Compliance		Improved Sustainable Brand Image		Engagement of Employees and Stakeholders	
Enhanced Competitiveness						
Support policy and SGDs		EU Green Deal	CBAM	Taxonomy	Climate Change Act	 

# TEGH Climate Resilience

(ความพร้อมในการรับมือการเปลี่ยนแปลงสภาพภูมิอากาศ)

## +1.5c

- 2 Months average length of draught
- Sea Level increase  
48 cm

## +2c

- 4 Months average length of draught
- Sea Level increase  
56 cm

## +3c

- 10 Months average length of draught
- Sea Level increase  
700 cm

## +4c

- ? Months average length of draught
- Sea Level increase  
900 cm



05

## Summary



# EUROPEAN GREEN DEAL



Reduce **55%** GHG emissions by 2030 (compared to 1990)



Regulation on Land Use, Forestry and Agriculture (LULUCF)  
**FLAG, Biodiversity**

CO2 emissions standards for cars and vans

**0** emission of new cars by 2035



Emission Trading System (ETS)

**55%** reduction by 2030  
**net zero** by 2050



Carbon Border Adjustment Mechanism (CBAM)

**Effective Jan 2026**



Renewable Energy Directive

**RE mix 40%** by 2030



ReFuel EU Aviation Regulation

**2%** in 2025, **6%** in 2030, **20%** in 2035, **34%** in 2040, **42%** in 2045, **70%** in 2050

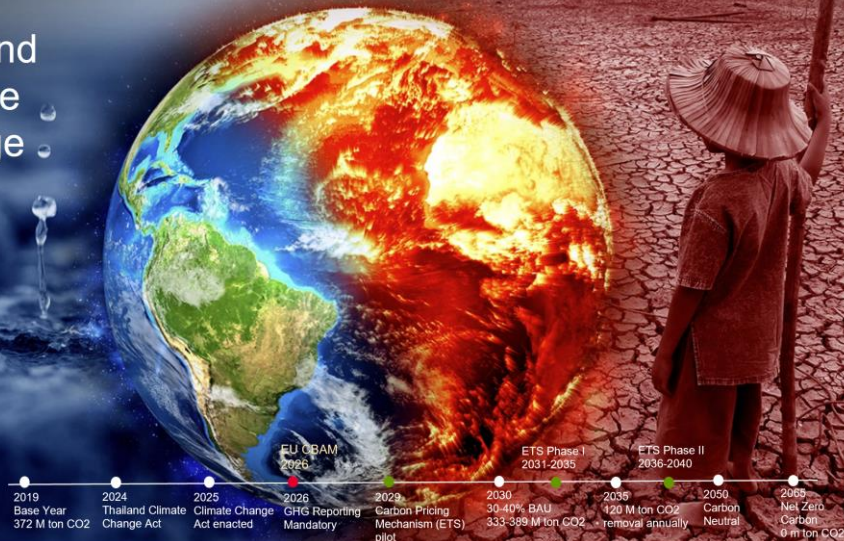


FuelEU Maritime Regulation

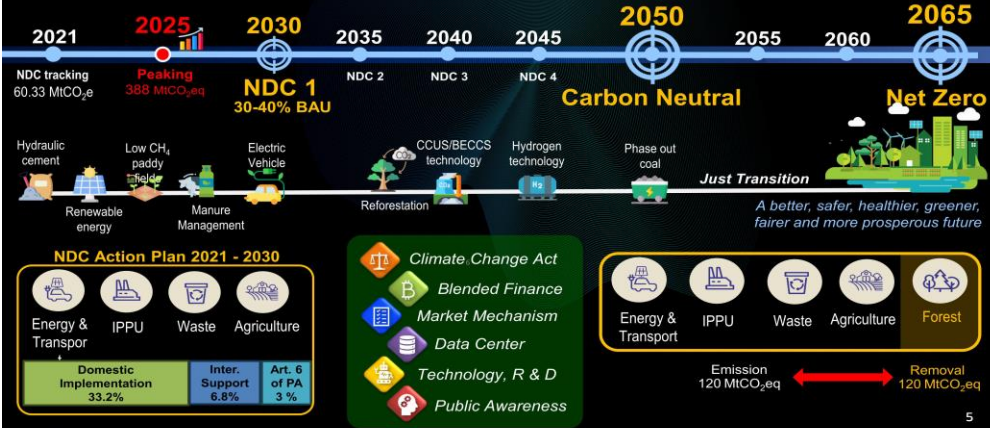
**2%** in 2025  
**80%** by 2050



## Thailand Climate Change Act



## Thailand's Decarbonization Pathway





# Self Sustainable Industry - TEGH

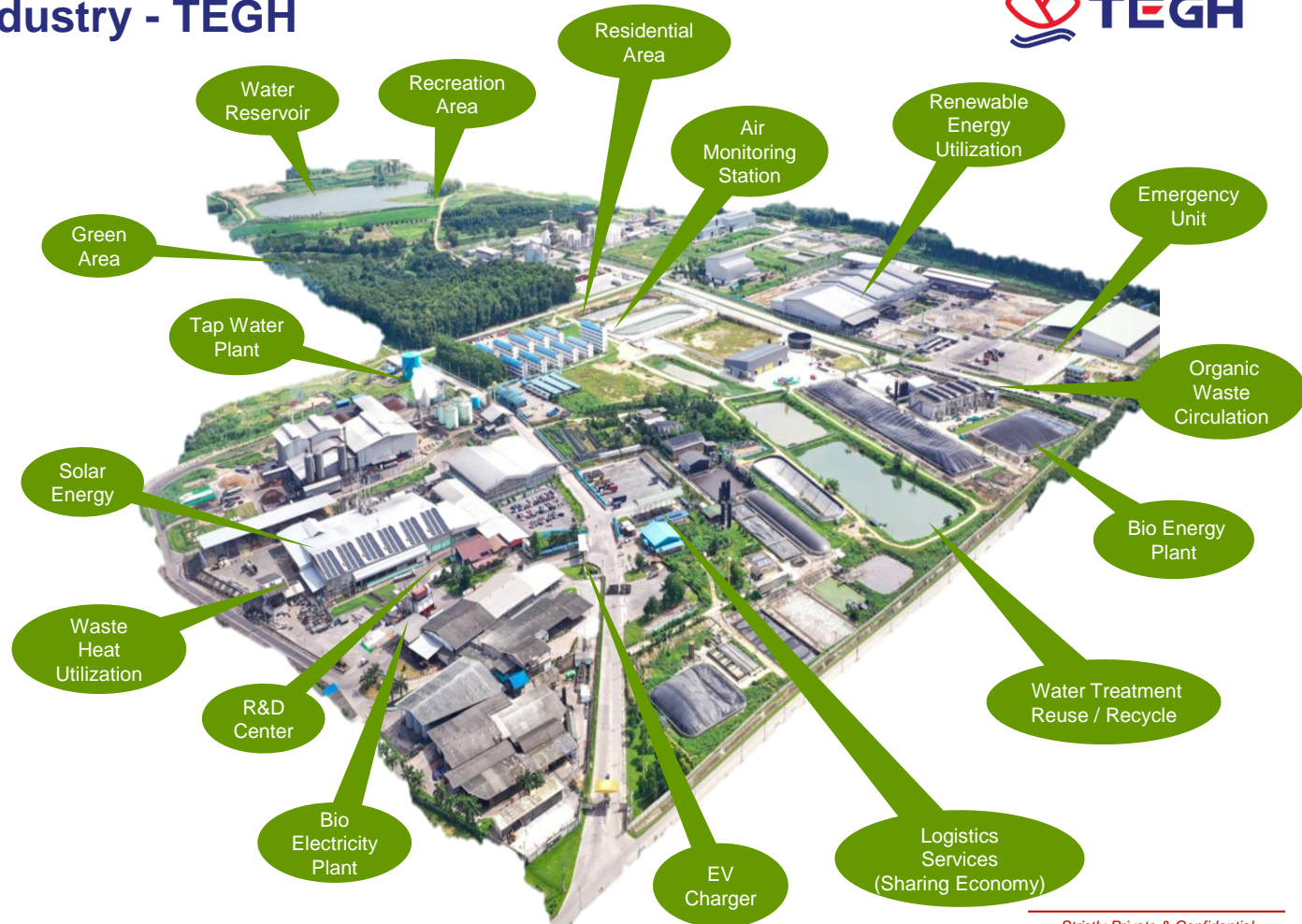


## Opportunity :

- Waste to Energy : Use of Lower-Emission Source of Energy
- Renewable Energy mixed
- Renewable Electricity mixed
- Participation in carbon market
- Shift toward decarbonized organization

## Potential Impacts:

- Reduce cost of carbon tax
- Decrease Energy Cost
- Decrease exposure to fossil fuel price increase
- Decrease exposure to GHG Emission
- Increase demand of Eco Product (Low Carbon Material)
- Access to Green Funding





### Renewable Energy

TEGH's Circularity Model help support company energy transition from LPG to Bio Energy with the substitution rate of:

# 81.5%

### Deforestation Free

Since Apr 2019, TEGH had cutoff any raw material supply from unidentified right of use area to comply with EUDR.

# 100%

### Ecovadis Rating

Global platform that provides sustainability ratings and assessments to evaluate on sustainability practices and performance standards.



### Decarbonization

TEGH Symbiosis model that support the collaboration among the group of company can help reduce carbon emission (Compare to industry standard)

# 120,761

tonCO<sub>2</sub>e CO2 Emission Reduction

### Sustainable Supply Chain

The company supports rubber farmers in obtaining FSC certification and encourages farmers to achieve RSPO certification to promote sustainable materials.

# 68,252 Rai

### Water Storage

TEGH creates own water reservoir to secure water consumption.

# 16 months

### Farmers' Well Being

The company promotes additional income generation for farmers through sustainable rubber and oil palm plantations model.

# 35.90 Million Baht

### Biodiversity Conservation

TEGH helps protection, conservation and management of biodiversity in order to obtain sustainable benefits for future generations

# 76 Species

## Q&A session

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**Thank you**

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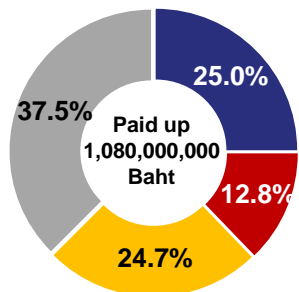
## Appendix

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<b>Company</b>	Thai Eastern Group Holdings Public Company Limited
<b>Ticker</b>	<b>TEGH</b>
<b>Type of Business</b>	The Company operates as holding company with three core businesses. The three core businesses are following: <ol style="list-style-type: none"> <li>(1) Rubber business</li> <li>(2) Palm oil business</li> <li>(3) Renewable energy and organic waste management</li> </ol>
<b>Secondary Market</b>	The Stock Exchange of Thailand ("SET")
<b>Industry</b>	Agro and Food Industry
<b>Dividend policy</b>	Pay dividends at a rate of not less than 40% of net profit after income tax and legal reserves

## Shareholding Structure

(as of 20 Mar 2024)

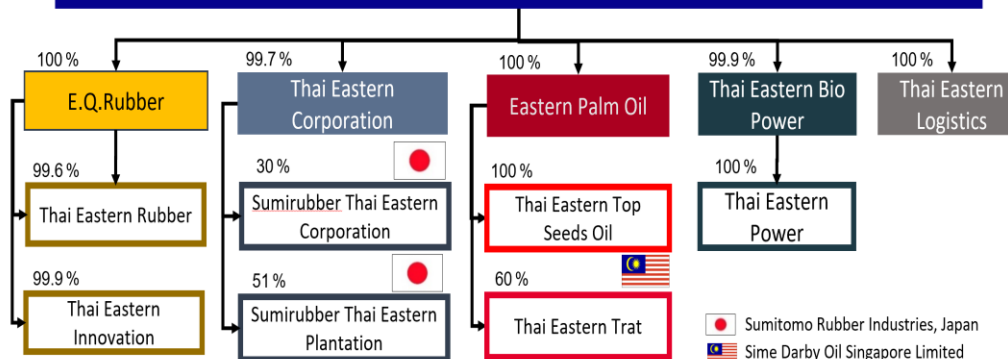




- TEG ASSET CO., LTD.
- SK INTERTRADE PTE. LTD
- Family Individual
- Investor

**Remark:** TEG ASSET CO., LTD. is wholly owned by Kokanutaporn Family.

SK INTERTRADE PTE. LTD. is holding company, established under the laws of Singapore, and held by K Ventures Company Limited. And K Ventures Company Limited is wholly owned by Kokanutaporn Family.

## THAI EASTERN GROUP HOLDINGS PUBLIC COMPANY LIMITED (TEGH)



 Sumitomo Rubber Industries, Japan  
 Sime Darby Oil Singapore Limited

# Our Products and Services



## 1 Manufactures and Distributes Natural Rubber

### 1 Block Rubber

Industrial Grade and Premium Grade



STR 10

STR 20 / STR 20 (FSC)



CV Rubber

Compound Rubber



### 2 Concentrated Latex

#### Industrial Grade

- o High Ammonia (HA)
- o Medium Ammonia (MA)
- o Low ammonia (LA)



#### Premium Grade

- o Ultra Low Ammonia Latex
- o Sustainable Product : Organic Latex (GOLS)

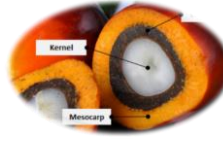


## 2 Manufactures and Distributes Crude Palm Oil

### 1 Crude Palm Oil



### 2 Palm Kernel



### 3 Crude Palm Kernel Oil



### 4 Kernel Cake



### 5 By Product

Decanter Cake



Shell



Empty Fruit Bunch: EFB



Palm Fiber



## 3 Renewable Energy Business and Organic Waste Management

### 1 Organic Waste Management (OWM)

- Solid Organic Waste
- Liquid Organic Waste



### 2 Production and Distribution of Biogas



### 3 Production and Distribution of Electricity from Biogas





## Board Structure

### Board of Directors

Audit and Corporate Governance Committee

Risk and Sustainability Management Committee

Nomination and Remuneration Committee

Executives Directors

## Diversity Expertise



# Corporate Governance, Risk, Sustainability Committee

