



Supply Chain Management Awards 2025

***Development of Recycled Material Innovations from
Household Stretchable Plastic Waste
into Reusable Plastic Pallets in Warehouses***

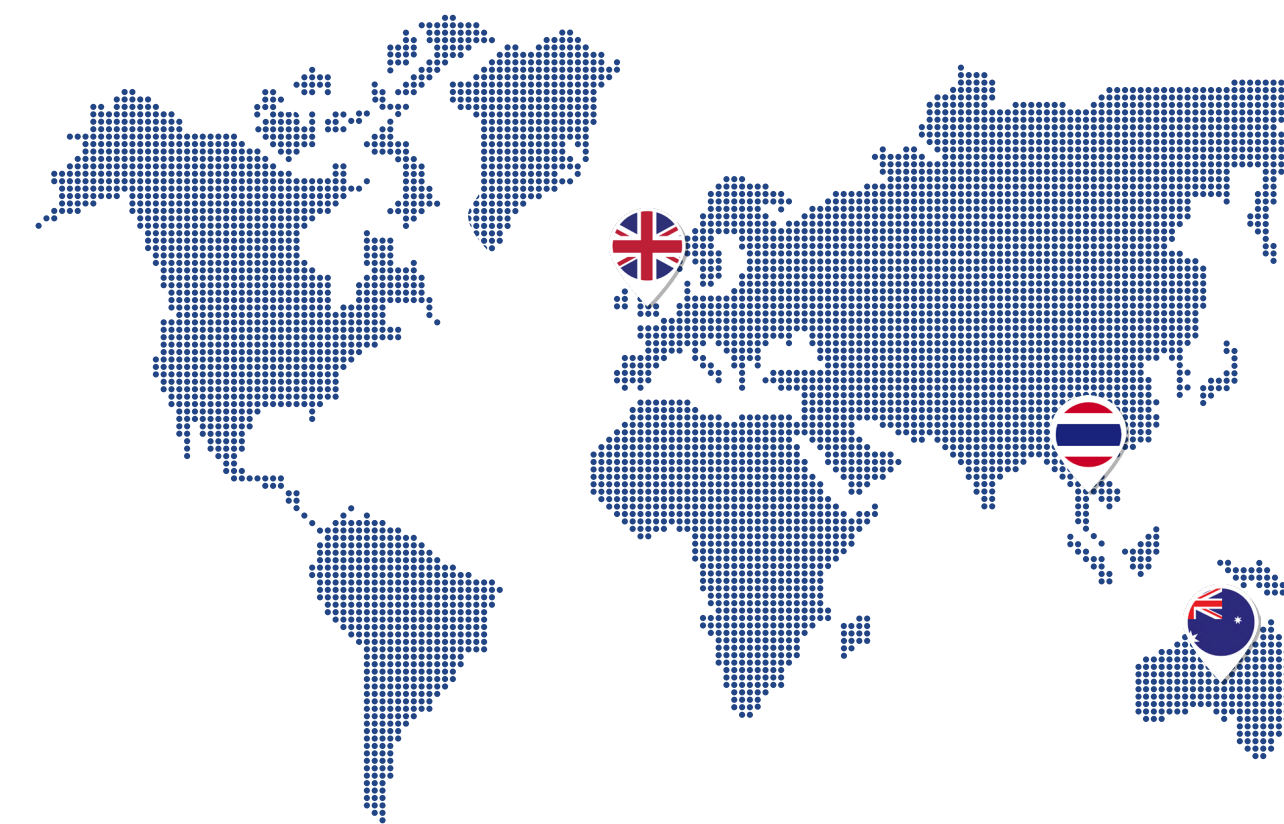




Founded : 1987

1H 2025 Revenue : 2.4 Billion THB

Group Employees : 1,944



Consumables: Rayong

Headquarter: Sampran

Flexibles: Sampran

Paper: UK



TPBI Business Divisions



Consumables

*Garbage bags, Loop-handle bags,
Mailing Order bags, Compostable bags*



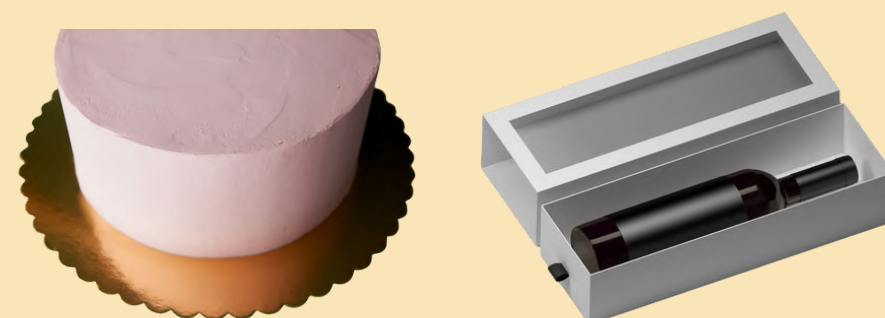
Flexibles

*Lamination Film, Barrier Film,
Stretch hood, Flexible Packaging,
Digital printing for short production*



Paper

*Bakery bags, Cups and Bowls,
Flat & Satchel, Block Bottoms, Die-cut
SOS bags, Paper Tape Handle bags*



Others

*PP Woven, Jute Reusable bags,
Paper boxes & trays, Insulated bags*



TPBI's Vision

“To be a leading packaging manufacturer who achieves sustainable growth together with all stakeholders”

As an industry leader, we take responsibility for designing and improving eco-friendly packagings that meet consumer demands while ensuring sustainability throughout production process



ESG Rating: **AAA**



Corporate Governance: **5 stars**



BEST Sustainability Awards

The TPBI logo, consisting of the lowercase letters "tpbi" in a white, rounded font. Above the letters is a colorful graphic of four overlapping triangles in blue, green, red, and yellow. The entire logo is set against a background of a large, leafy green tree.

tpbi

Think Circular. Think Sustainable.

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Project Background & Objectives



Company's KPIs & Performance Results



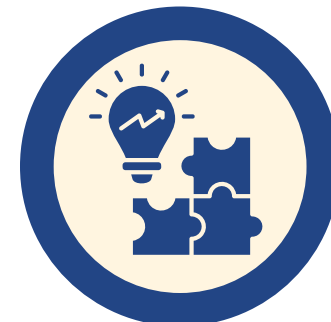
Project Overview & Implementation Timeline



Partners' KPIs & Performance Results



Partnership Role & Collaboration Framework



Strategic Alignment & Business Impact

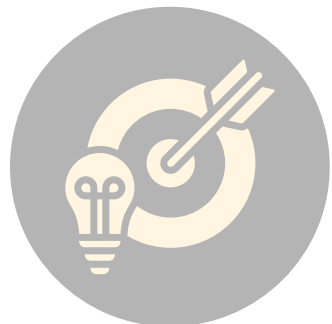
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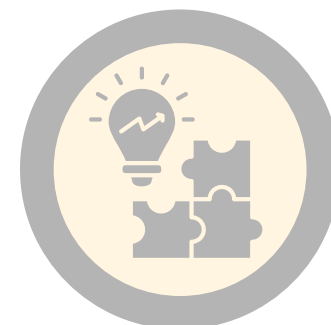
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Project Background

Plastic Pollutions

Household waste is a major source of plastic pollution, with a continuing upward trend.



*Without proper management, it causes **negative impacts** on the environment, economy, and society.*

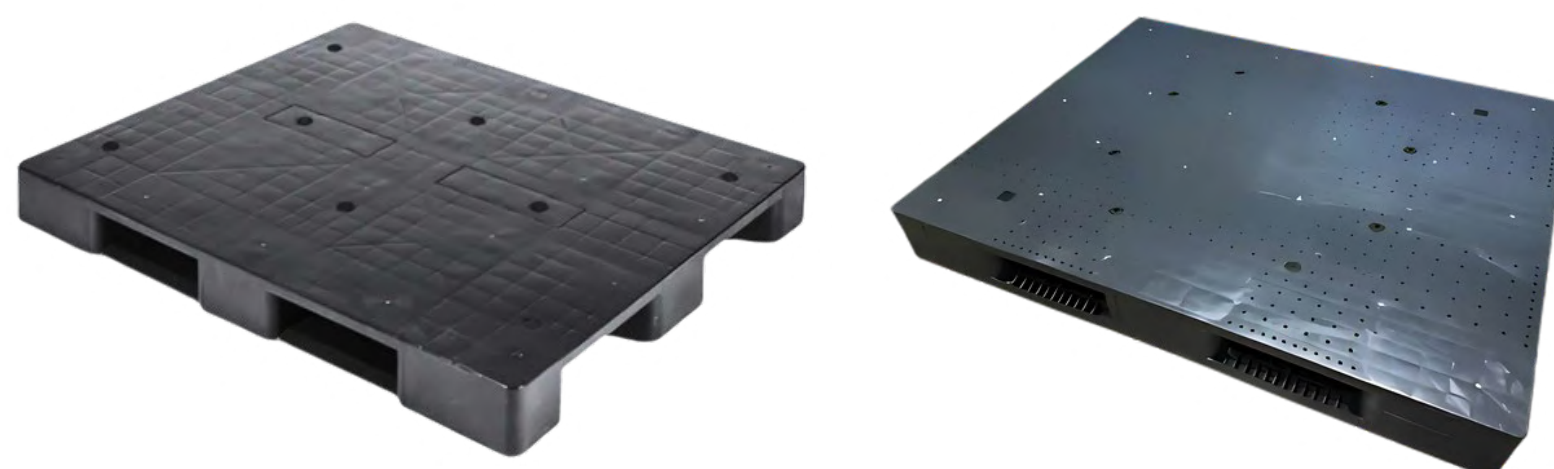


Project Background

Plastic Pallet Overview



One-Way Pallet (PP)
Application: Transport



Warehouse Pallet (HDPE)
Application: General / Hygiene / ASRS / Transport

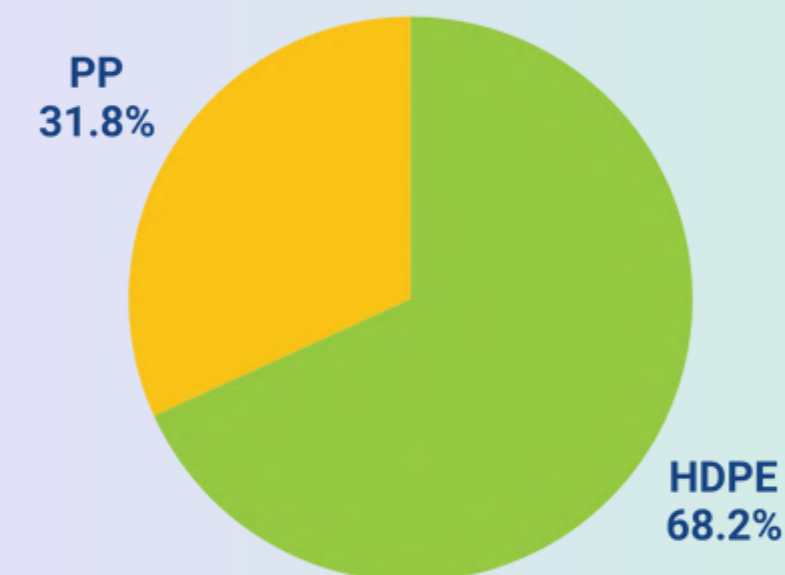
Thailand Market: *Estimated CAGR (2021–2025): 6% to 8%*

Key Drivers:

- Thailand's role in regional manufacturing and export logistics.
- Rising demand for hygienic, reusable, and automation pallets
- Shift from wood to plastic due to ISPM-15 compliance and sustainability goals

Growth: *Recycled HDPE pallets are growing fastest due to sustainability mandates.*

Market Share of Plastic Pallets



Ref: Plastic Pallets Market Share, Growth & Trends Report, 2030

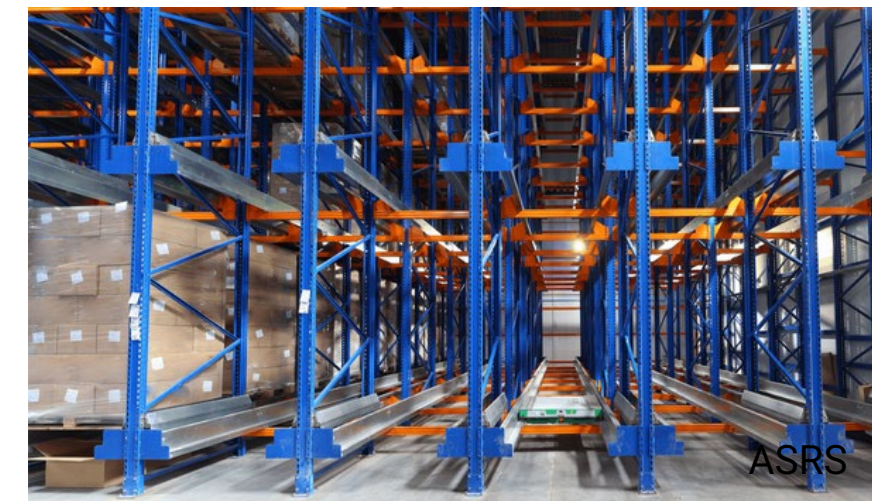
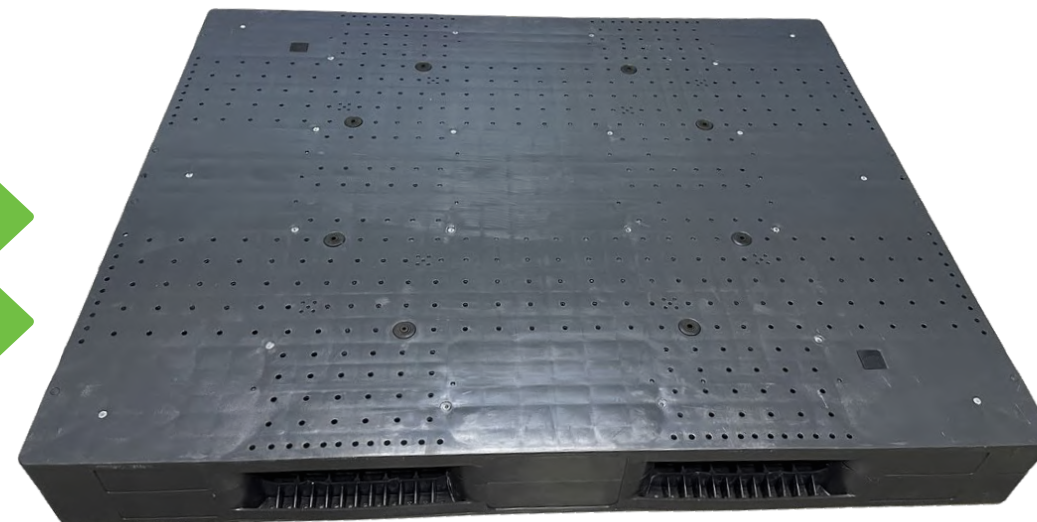
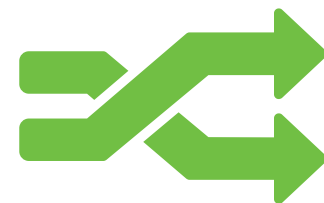


Project Background

Effective waste management at the source and value creation are the key drivers.



'WON Project' was established in 2018 with **the objective of closing the loop** from consumers to converters, manufacturers, and brand owners in developing a collection system for stretchable plastic waste under the Circular Economy concept.





Project Objectives



To ***promote the circulation of resources*** by transforming stretchable plastic waste from household into high-quality recycled materials that can be used in industrial production processes



To ***build*** effective community and household ***participation in waste management***



To ***enhance business capabilities for sustainable growth***, create added value from existing resources, and strengthen confidence among stakeholders at both national and international levels

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Project Overview

"This project converts **household stretchable plastic waste** into high-quality **recycled materials** for **reusable plastic pallets** in automated warehouse through integrated collaboration across the supply chain, engaging all relevant stakeholders."



Sourcing feedstock from
household stretchable
plastic waste



Producing new raw material
tailored for specific
applications



**Formulating and
compounding**
post-consumer
recycled materials



Manufacturing
reusable plastic
pallets



Utilizing PCR plastic pallet
in automated warehouse





Project Overview

*"This project converts **household stretchable plastic waste** into high-quality **recycled materials** for **reusable plastic pallets** in automated warehouse through integrated collaboration across the supply chain, engaging all relevant stakeholders."*



Sourcing feedstock from
household stretchable
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Producing new raw material
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**Formulating and
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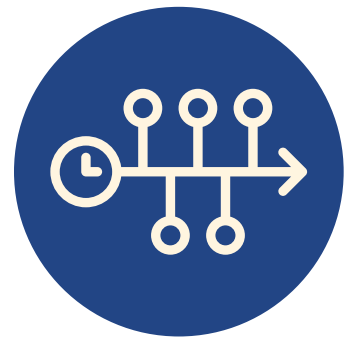
Manufacturing
reusable plastic
pallets



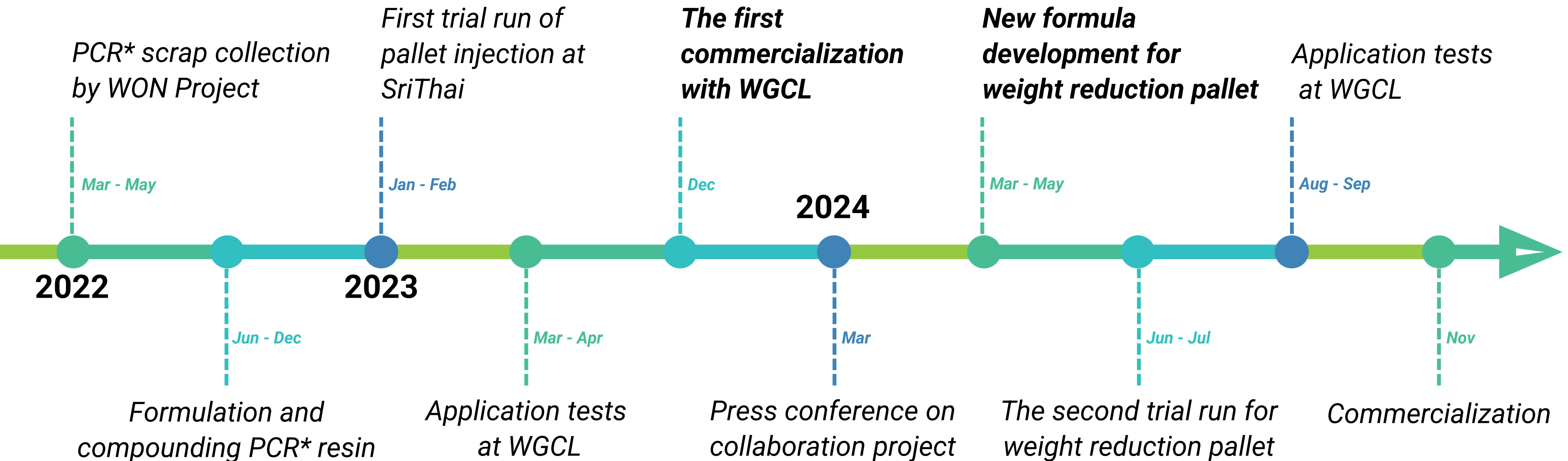


Project Overview





Project Implementation Timeline



* Post-Consumer Recycled

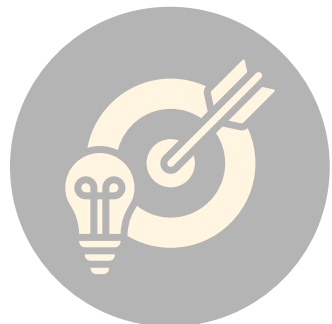
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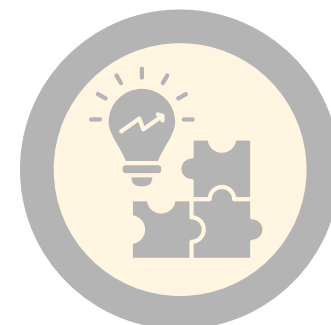
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**Partnership Role &
Collaboration Framework**



Strategic Alignment &
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Roles and Responsibilities of TPBI & Partners



Sourcing Feedstock from Household
Stretchable Plastic Waste



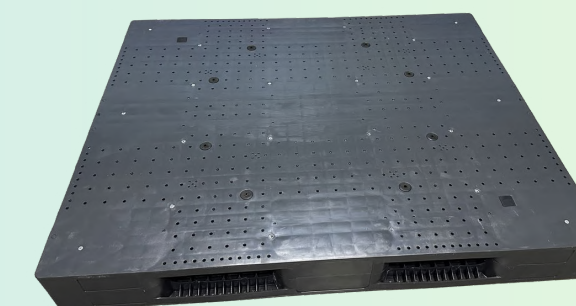
Formulating and Compounding
Post-Consumer Recycled Resin



Physical Testing of PCR Resin



Virgin resin development for
injection molding applications



Production and Quality inspection
of PCR plastic pallets



Collaborative Roles and Responsibilities as Co-developers



Development of PCR Raw Material
Formulations and Adjustment for Injection
Molding Process



Analysis and Optimization of Production
Conditions for PCR Plastic Pellets



Joint Presentation of PCR Reusable Plastic
Pallet Solutions to Industrial Customers



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**Company's KPIs &
Performance Results**



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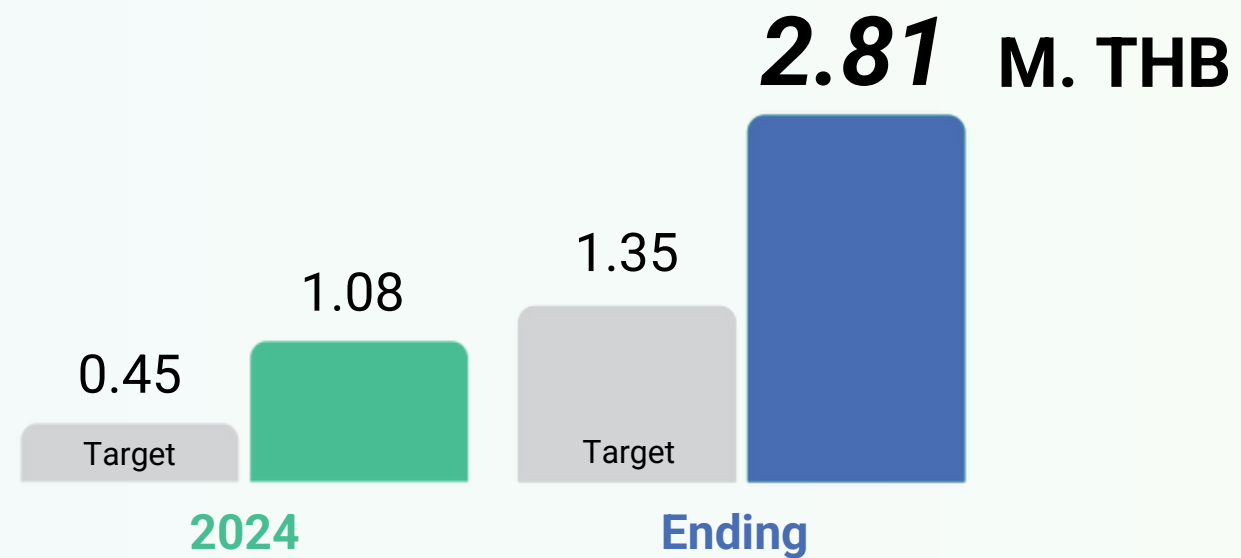


Strategic Alignment &
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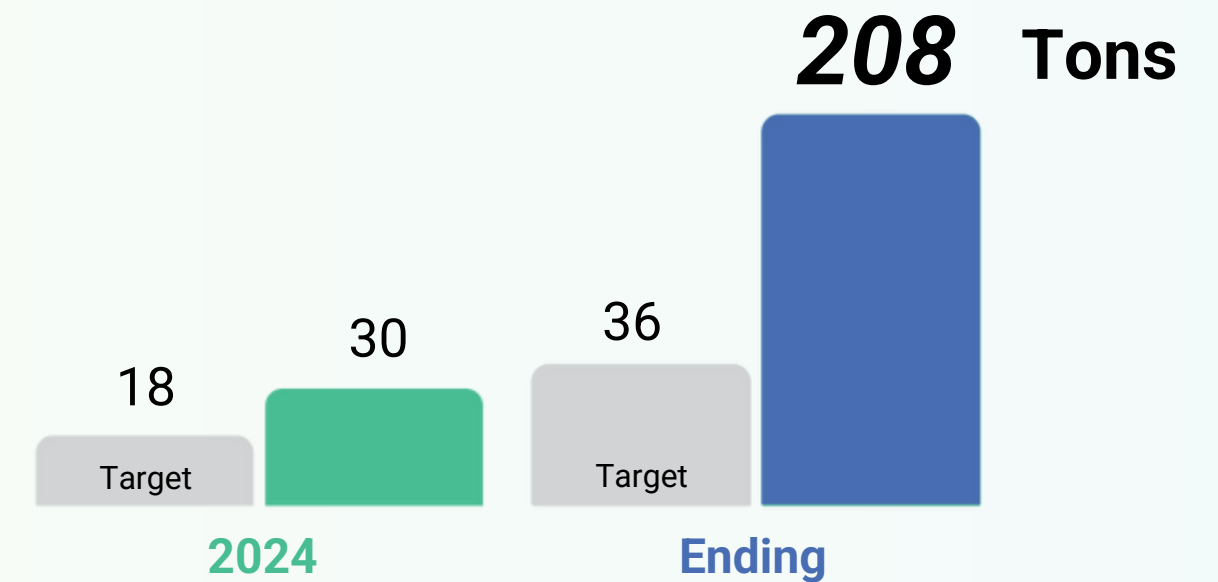


KPIs & Quantitative Targets Vs. Performance of TPBI

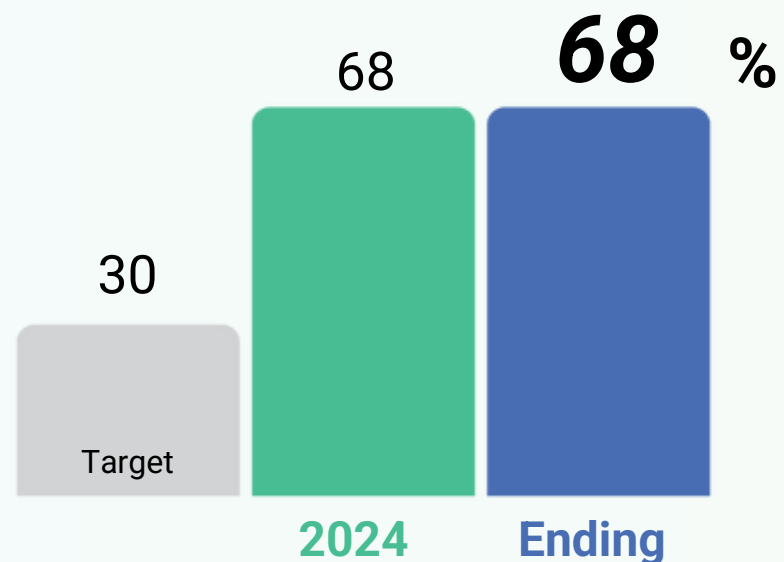
Sales of PCR-HD resin for plastic pallet application



Reduction of stretchable plastic waste contaminated to environment



Carbon emission reduction of PCR resin (Compared to Virgin resin by TGO)



New formulation/Certification of PCR resin



Formula



Standard



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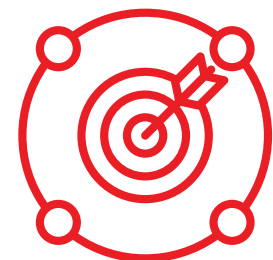
Quantitative Targets of Partner



Sales of PCR Plastic pallet



Target in 2024: **300 units**



Result in 2024: **800 units**

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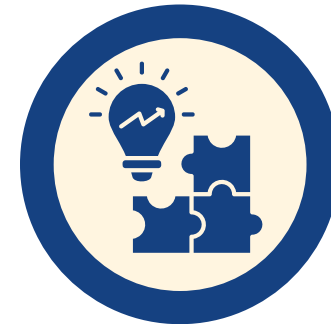
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Strategic Alignment

Business Growth Expansion

Core Business: *Focus on maintaining production volume*

High-Potential Business: *Promote growth in high-potential business segments*

Business Expansion: Accelerate the development of new businesses

Elevating Operational Excellence

Efficiency and Quality: *Enhance operational efficiency*

Cost Management: *Implement systematic cost reduction measures*

Build Synergy across organization: *Integrate collaboration across business units to leverage Economies of Scale.*

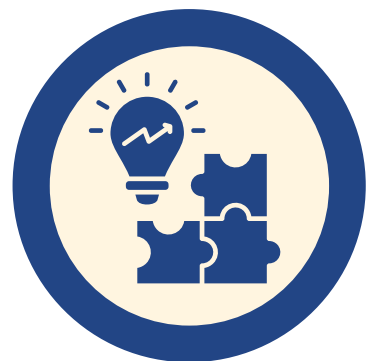
Sustainable Business Operations

Environmental Innovation: Create business opportunities through the development of green products

Sustainability Development: Drive ESG goals across all operations



*“The project on developing innovative recycled materials from household stretchable plastic waste into reusable plastic pallets for automated warehouses **is aligned with the strategy of Business Growth Expansion and Sustainable Business Operations.**”*



Business Impact

Key Performance

Result in 2024

Contribution to Business Strategy



Sales of PCR-HD resin for plastic pallet application

1.08 M. THB

9%



Reduction of stretchable plastic waste contaminated to environment

30 Tons

20%



Development of new formulation

1 Formula

25%



Certification of PCR resin related to the circular economy

2 standards

50%

SUMMARY

Effective collaboration across the supply chain to achieve long-term sustainable development goals

Potential to transform low-value plastic waste into high-quality raw materials for industrial use

Balance environmental benefits, economic value, and commercial scalability

Strengthen capacity to meet stakeholder expectations under ESG principles

Our Supply Chain



Question & Answer

