



HMC Polymers

A Most Admired Company

An associate of PTTGC & LyondellBasell

FY2020 Update



Customer Focus

Acquiring insight into customer needs and responding rapidly to ensure customer satisfaction.



One Team

Ensuring cooperation, trust, mutual respect and alignment towards common goals.



Strive for Excellence

Detailed understanding of strategies, continuing personal development, and assuming accountability for excellence.



Innovation

Readiness to think and operate in different ways to create more value.

Vision and Mission

Vision

To be A Most Admired Company and Asia's Preferred Partner



Mission

To capture and deliver the full potential of polypropylene and HMC for our customers

We deliver **exceptional value** by bringing **the latest technology** that improves the **quality of people's lives**.

We **differentiate** our business through **customer service and operational excellence**
based on **ethical and sustainable practice and uncompromised safety**.

Medical Personal Protective Equipment

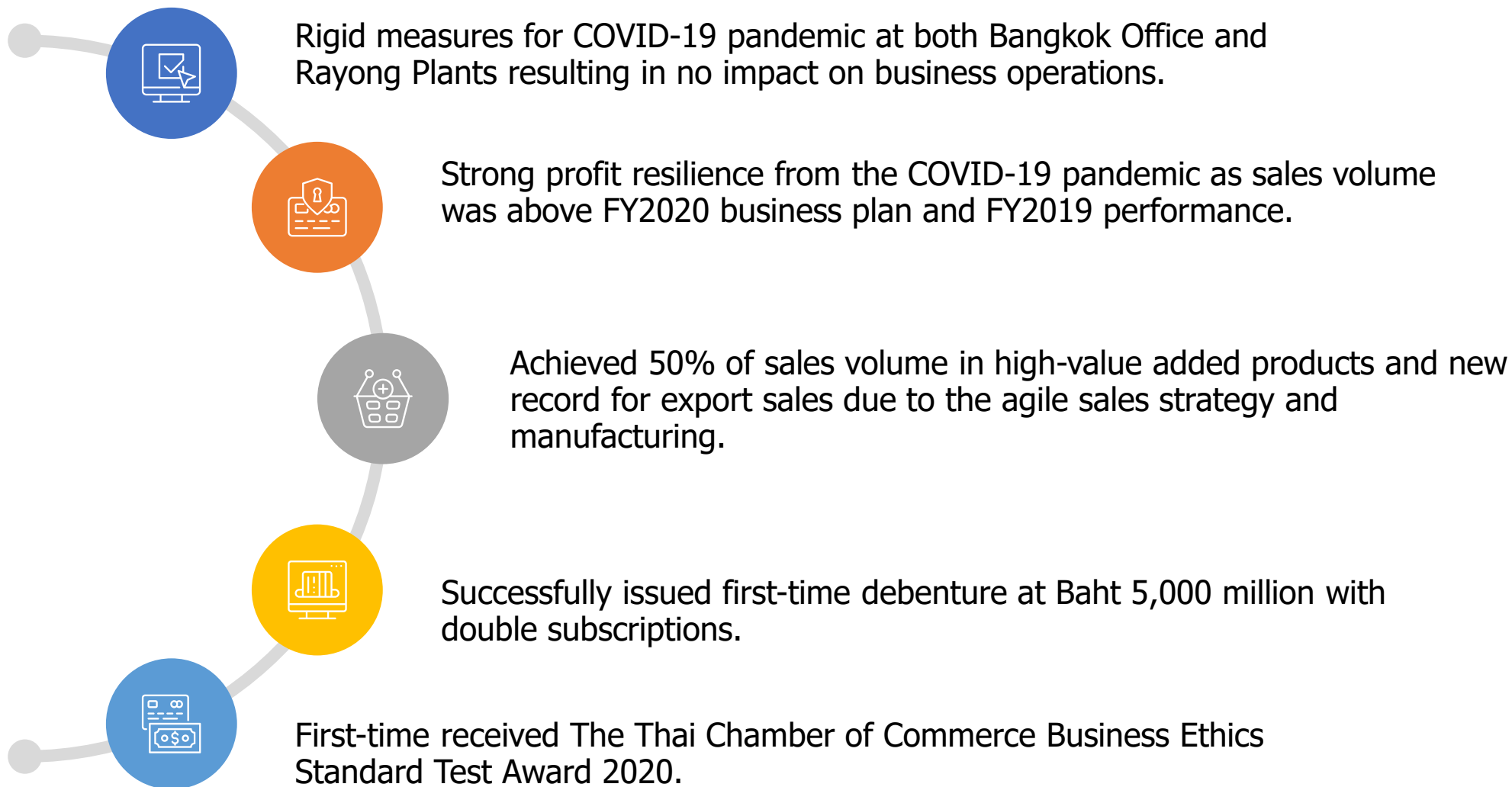
Fighting against the COVID-19 pandemic



We provided more than 10,000 pieces of specially produced Personal Protective Equipment made from our resins including isolation gowns and face masks to assist doctors, nurses and frontline workers at hospitals nationwide.

2020 Key Highlight

Moving forward amid cyclical petrochemical market and the COVID-19 pandemic



Agenda



1. Financial Performance and Projection

2. Strategic Directions

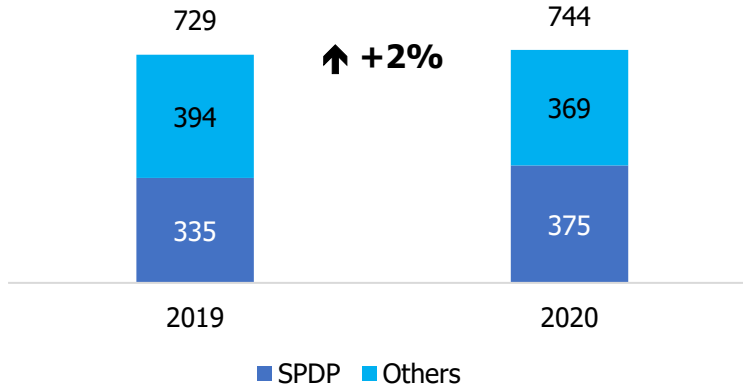
3. Operation Highlights

4. Market Outlook

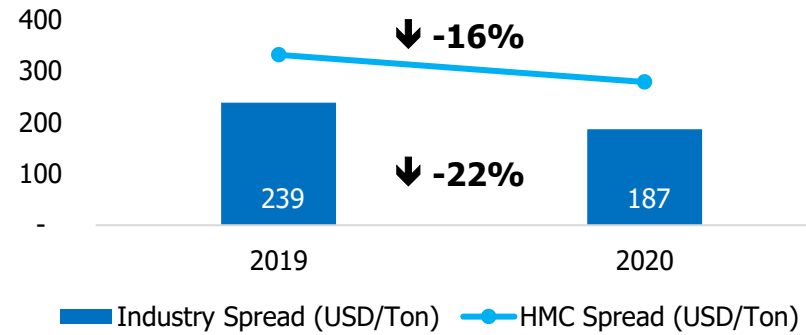
2020 Financial Performance

Profit resilience amid cyclical petrochemical market and the COVID-19 pandemic

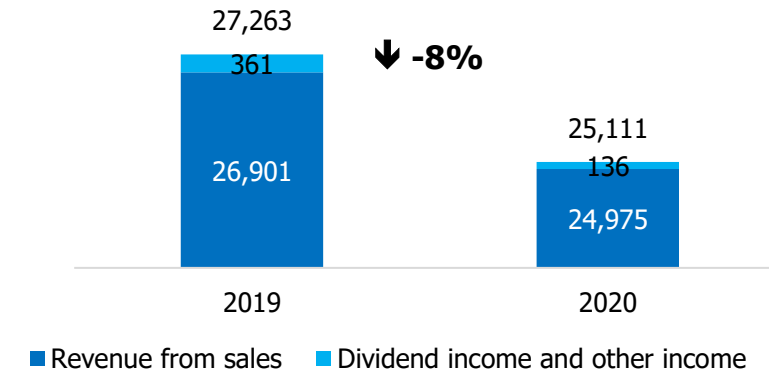
Sales Volume in Kilo Tons



Polypropylene - Propylene Spread in USD



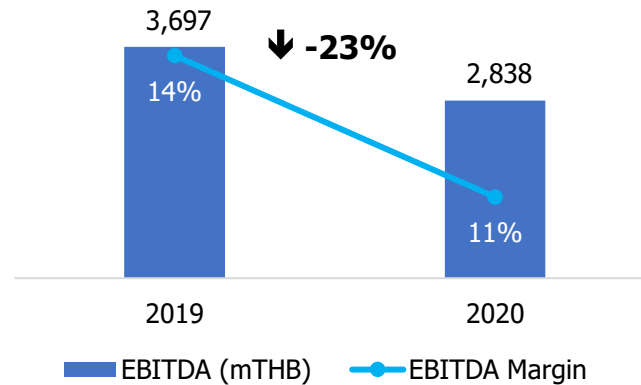
Total Revenues in mTHB



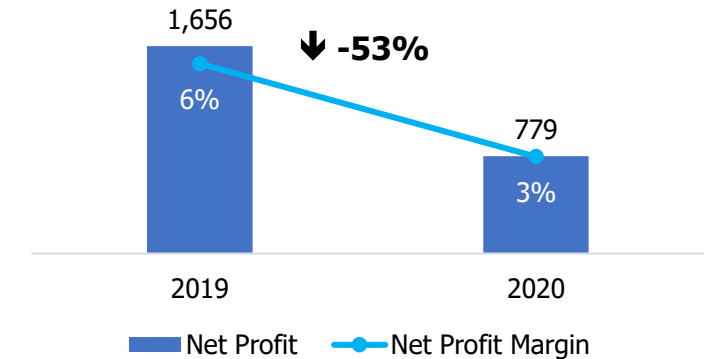
Highlights

- Focus on **high-value-added products** resulting in EBITDA margin of 11%.
- High sales SP&DP = 375KT above plan by 6%** and product mix at 50% from high demand of food packaging.
- Sales volume +2.1%** amid the COVID-19 pandemic resulting from flexible sales plan and agile sales and marketing channels
- New record of monthly export sales in Sep** = 37KT due to peak demand from China market in Q2 and Q3.
- Spread margin protection** around USD 100 per ton above market (49% in 2020 | 39% in 2019).
- Successful issuance of debenture** amounting to Baht 5,000 million.
- Quick win initiatives** to enhance work efficiency and cost savings amounting to Baht 450 million.

EBITDA in mTHB



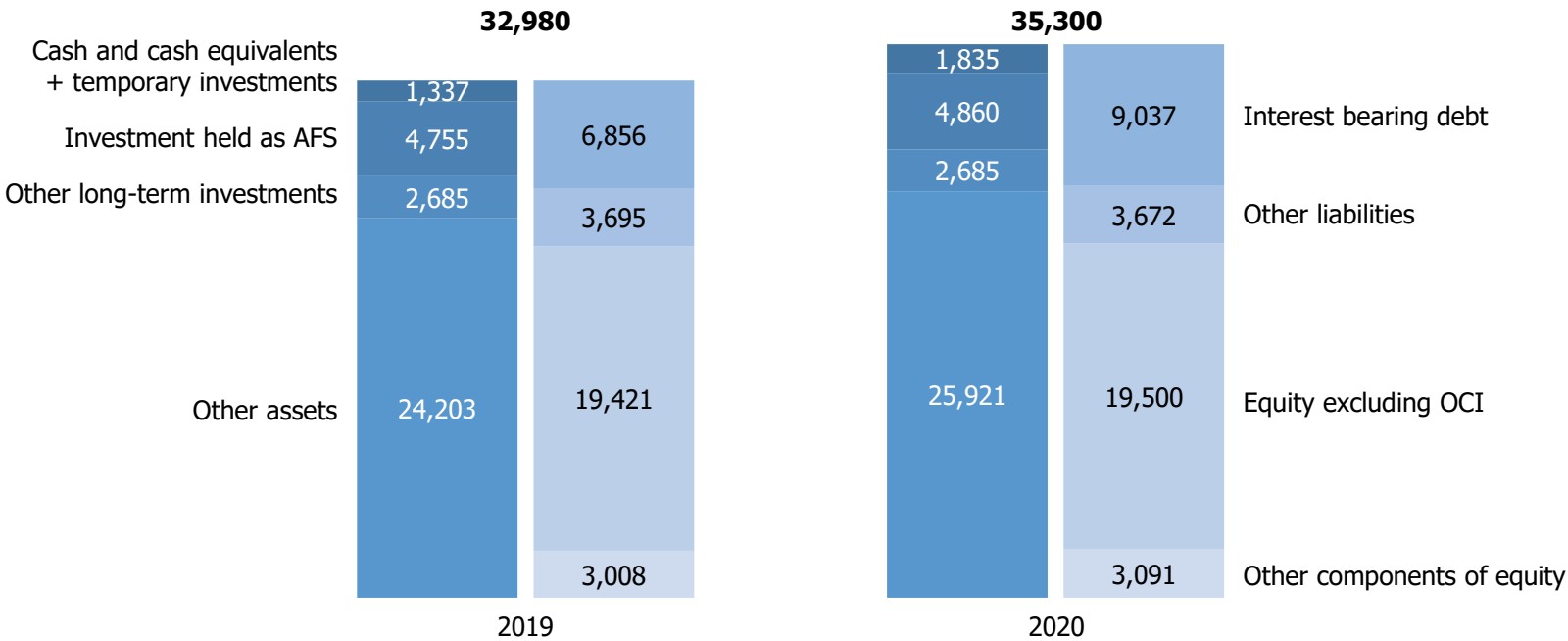
Net Profit in mTHB



2020 Financial Position

Robust financial standing with strong capital base and low leverage ratio

Financial Position in mTHB



Fitch Ratings **A-(tha)**
17 September 2020

Capital Structure

- Net IBD to Equity $\leq 1.0x$
- Net IBD to EBITDA* $\leq 2.0x$

* During PP4 construction, Net IBD to EBITDA will be increased. Net IBD to EBITDA will decrease to below 2.0x by 2025.

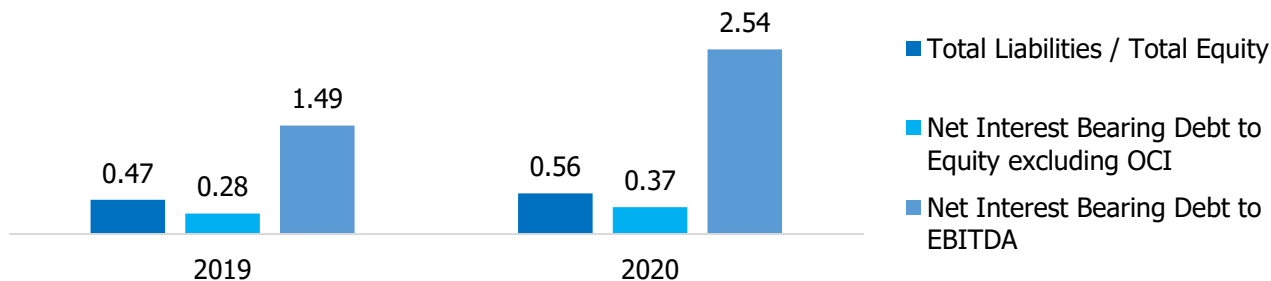
Liquidity

- Voluntary cash reserve for next loan installment with minimum cash around Baht 1 billion
- Committed revolving credit facility of Baht 5 billion available for use

Dividend

- Free cash available after reserved funds as required by law, current and due debt obligations, ongoing expenditures and CAPEX.

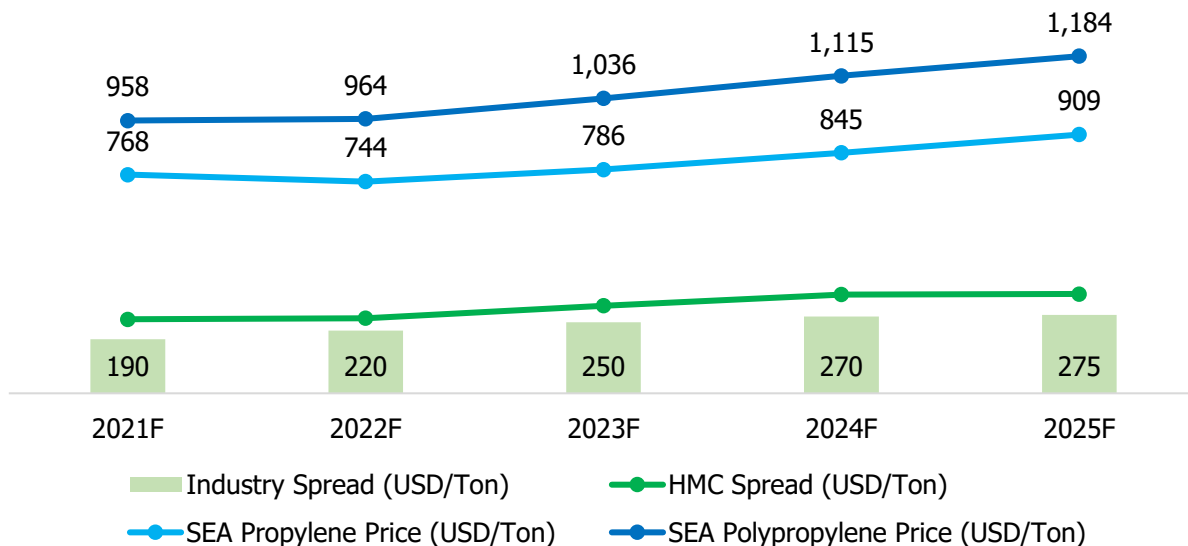
Financial Ratio



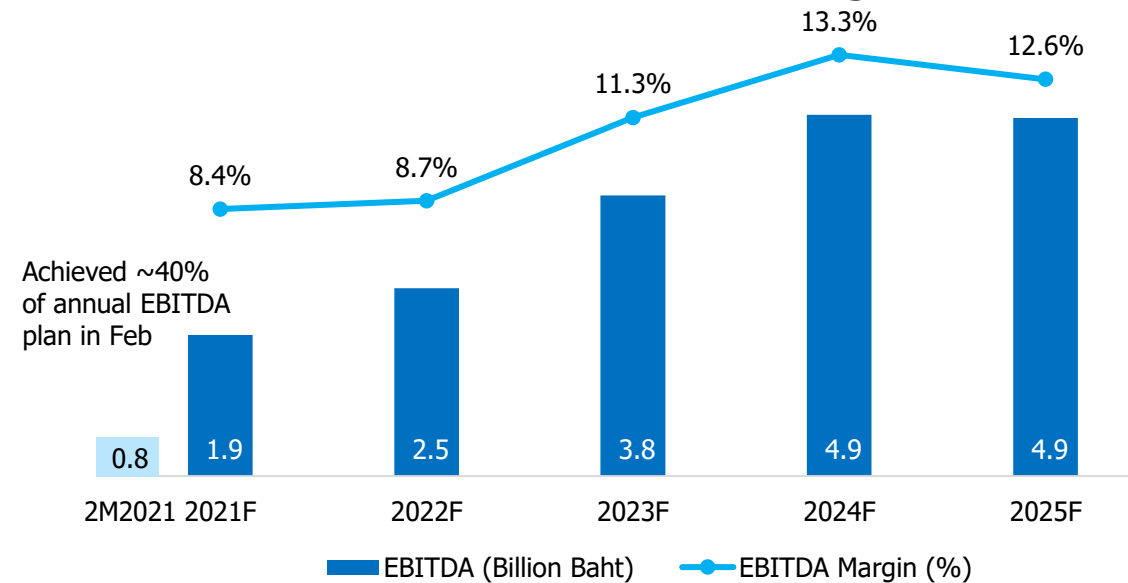
5 Years Conservative Financial Projection

Escalate growth in specialty and differentiated products

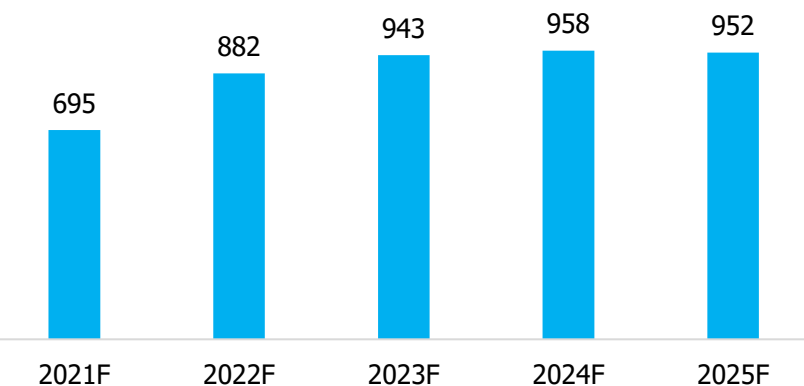
Propylene and Polypropylene Price and Spread



EBITDA and EBITDA Margin



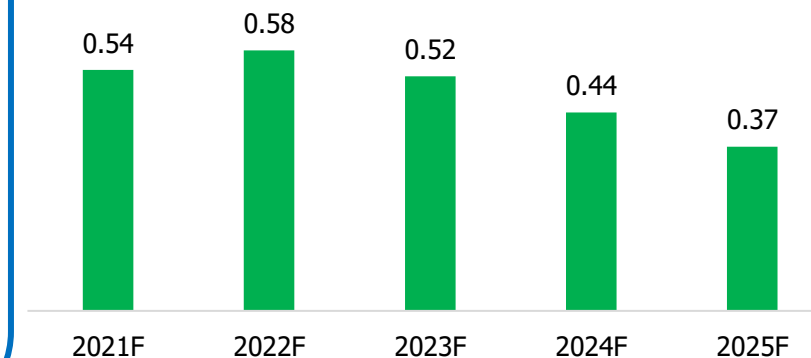
Sales Volume (Kilo Tons)



Key Assumptions

- Operates under production constraint until the completion of silo repairment due to fire loss (expected to be completed in Aug 2021).
- Expected PP4 start-up in 2022Q2 as planned.
- Sales continue to grow due to the increase in demand in APAC especially China and Indian subcontinents amid new PP plants in the region.
- 2 *Spherizone* Plants to support specialty and differentiated products with higher premium.
- Planned turnarounds for PP is every year and PDH are once in every 2 years.

Net IBD to Equity (times)



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Market Leading Innovation – *Capture business opportunity by leveraging our asset utilization, innovation and marketing*

- Become **an innovation leader** in strategic applications such as consumer, industrial and medical sectors.
- Expand and **diversify product portfolio** in durables & industrial, transportation and construction sectors.
- Leverage **capabilities of new PP Line IV** for strategic products including piping, coating and in-line blending of recycled PP.



Outstanding Customer Orientation – *Escalate growth in specialty and differentiated applications*

- Ensure long-term growth by profitable **product mix and sales channels**.
- Continue customer-oriented approach to establish **partnership and co-development** with downstream strategic customers.



World Class Operational Excellence – *Aim towards world class operational excellence*

- Create differentiation through **"Quality in the Eyes of Customers"**.
- Uplift **integrated planning and supply chain system** allowing secured and competitive feedstock.
- Exploit **digitalization tools** to accelerate business growth such as HMC Digital Business Process.
- Step up **sustainability scheme** and drive circular economy.



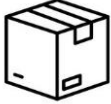













The Most Result-Oriented, Experienced and Engagement People – *Strive for excellence in employee development*

- Enhance HMC Culture – **One Team**.
- **Drive people expertise**, agility and growth to align with company's strategic direction and investment.
- Implement **career development plan**.

Strategic Investment to Grow Business

through Product Portfolio Diversification



Industry					
	Packaging	Hygienic & Medical	Durables & Industrial	Automotive	Construction
APAC					
Market Size	47 MnT/A				
CAGR	4-5% (2021-25)				
Presence					
Leverage Marketing Channels	 HMC Polymers				
			Direct Sales and Agents		

Remark

- Packaging includes flexible and rigid packaging.
- Hygienic and medical include spunbond, fiber and textile.
- Durables and industrial include appliances, crates and pails.
- Construction includes piping.

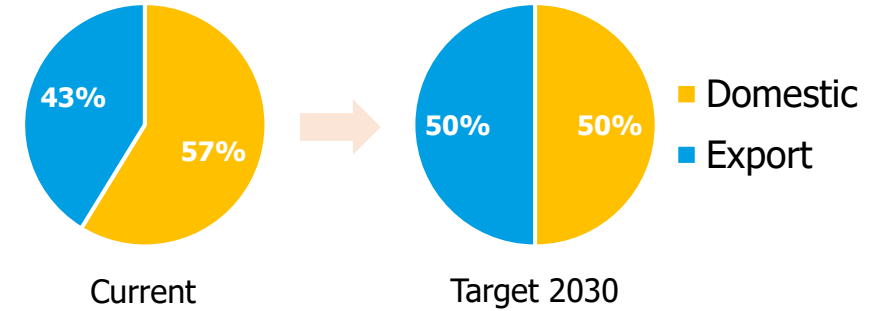
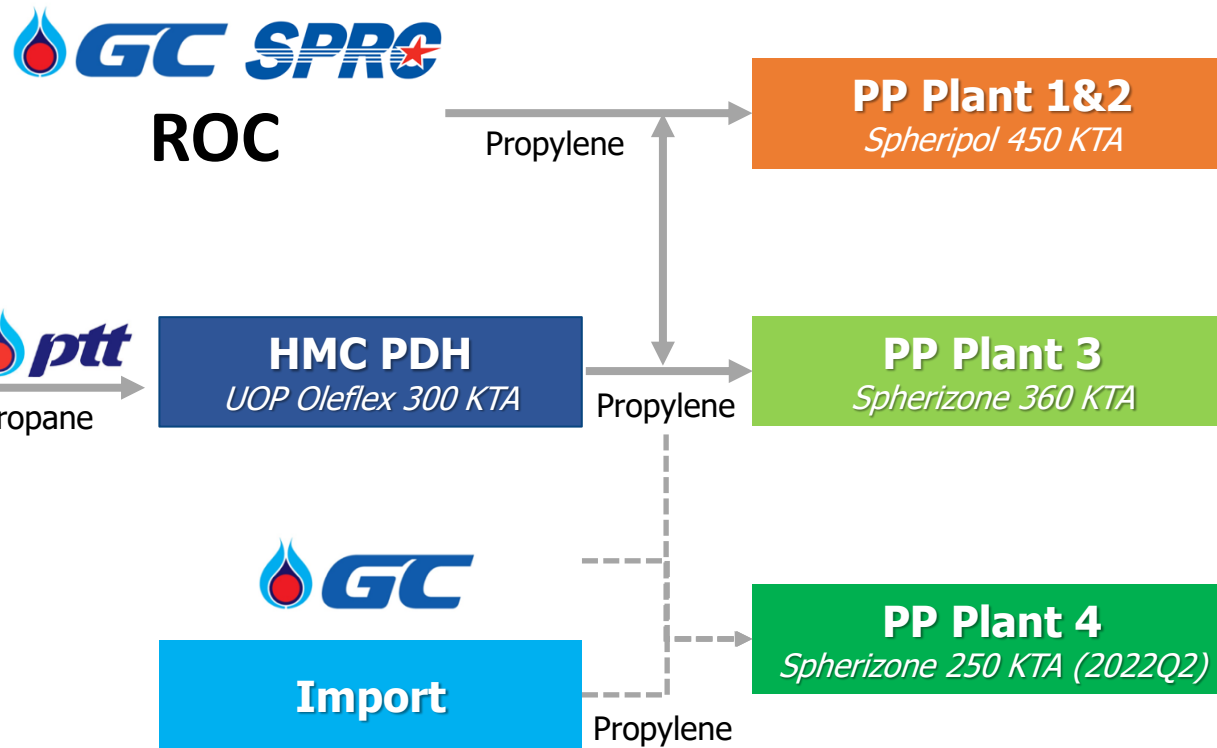
Upstream Integration and Diversified Feedstock

through PDH plant and secured & diversified long-term contracts with suppliers

Feedstock

Polymerization

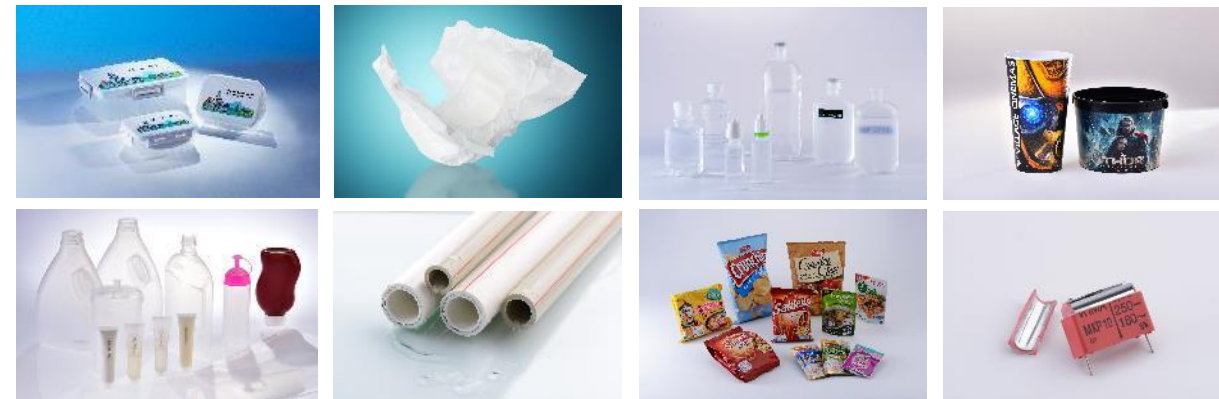
Distribution Channels



HMC Polymers



Direct Sales and Agents



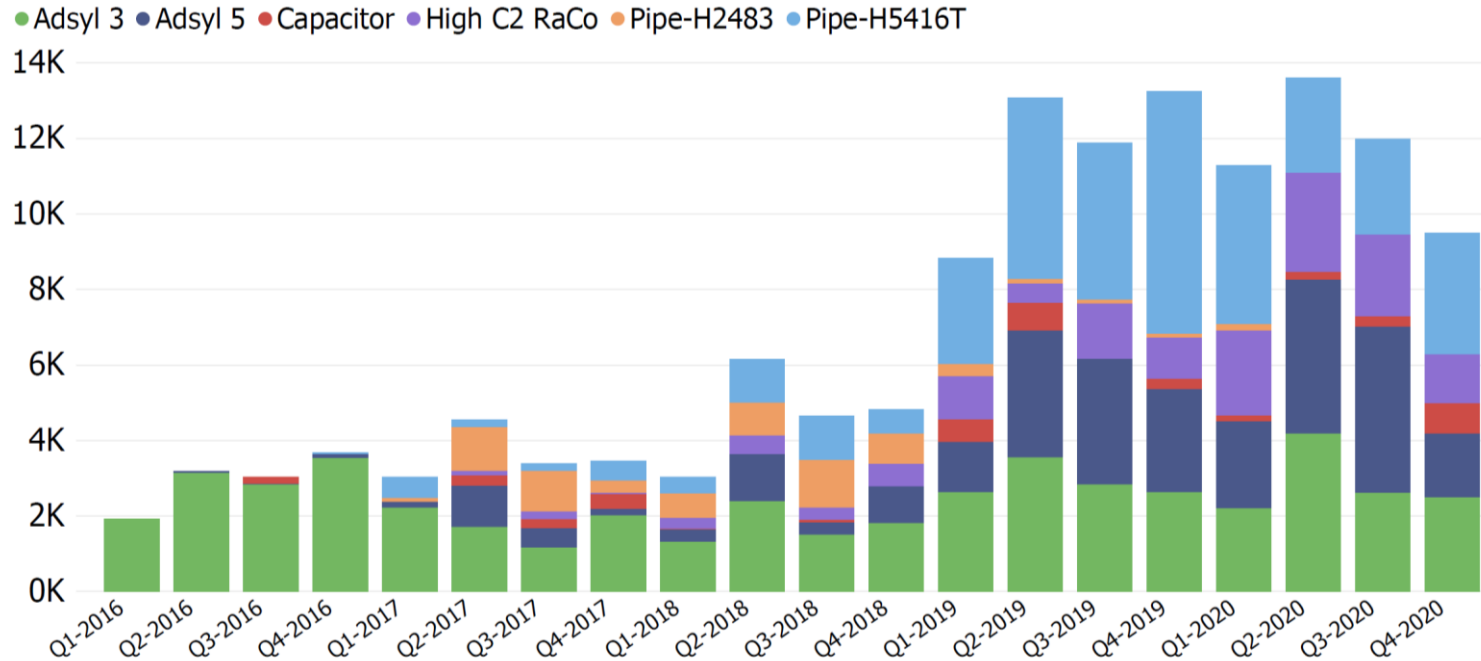
Product Portfolio

1,060 KTA in 2022Q2
The Largest PP Producer in The Region

Market Leading Innovation

Growth in sales of specialty and differentiated products

Quarterly Sales in MT



Leveraging the capabilities of *Spherizone* Technology and/or innovative catalysts from LYB. HMC is actively developing materials to further expand the product portfolio into new applications:

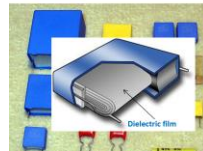
- Dielectric film for capacitors
- Pressure pipe and high stiffness sewage and drainage pipe
- Specialty resins for film functional layer
- Highly modified random copolymers for application requiring softness and transparency

Capacity will be further enhanced by PP4.

Market Leading Innovation – Capacitor

Polypropylene used for Dielectric Film needs to meet stringent requirements regarding

- Purity and catalyst residues
- Stiffness and heat resistance
- Processability



HMC Polymers grade Moplen HP6047 is the world's first PP grade for Dielectric Film produced on state-of-the-art technology - omitting the washing step and hence produced with major cost advantage.

Moplen HP6047 features:

- Ash content < 20 ppm
- Flexural Modulus 1700 MPa
- Technically approved at several Capacitor Film producers in China and India
- Submitted for testing at Capacitor Film producers in Europe

So for this combination of properties could only be achieved by a few PP producers employing 50 year-old slurry technologies including a high cost washing step.

Purell RP171G

- Medical grade High C2 RaCo for Blow Filled Seal (BFS) and EBM applications
- Targeting higher softness and transparency in combination with sterilizability replacing LDPE
- Approved at global leading machine manufacturers such as Rommelaag and Brevetti Angela



In our *Adsyl5* product family HMC is leveraging the capabilities of *Spherizone* technology to incorporate high amounts of ethylene and butene as co-monomers:

- Excellent sealing properties
- Sealing Initiation Temperature 105°C – in line with best in class competitors in Asia
- Third generation products to be launched soon
- Fourth generation products (C6 based) to be launched in 2023

High-Stiffness | High Impact PP-HM for latest generation water management piping systems

COMPANY | HMC Polymers

HMC Polymers is a leading polypropylene manufacturer in the Asia Pacific region. Based in Vietnam, HMC Polymers is a 100% subsidiary of HMC. HMC offers comprehensive Spherizone and Spherizone technologies and distributes PP products in the Asia Pacific region through its subsidiary HMC.

THE NEED | Sustainable Water Management

During the past 50 years global water consumption has increased by 200 percent. Sustainable water management is now a major global issue requiring long-term solutions. Piping systems made from PP can provide sustainable, cost-effective water management for generations to come, including the increasing volume of fresh water and the safe transport of water back to wastewater treatment plants.

THE PRODUCT | HMC Polymers PP H2483

- High stiffness PP impact copolymer for low-pressure pipes
- Suitable for underground sewage, drainage and water management systems, and optional modified fittings
- Classified as PP-HM according to EN15470
- New available in various regional supply
- High stiffness PP impact copolymer for low-pressure pipes
- Excellent stiffness of > 2000 MPa (per EN15470)
- Good low temperature impact properties
- High heat resistance
- Excellent chemical resistance (including hydrogen sulfide)

Advantages PP H2483 for pipe systems technology

- Long-term durability of pipe infrastructure
- Non-corrosive systems highly resistant to chemicals
- Checked and certified (installation and maintenance)
- Good drainage of water due to limited water absorption
- Reusable material and environmental aspects

Advantages PP H2483 for pipe systems technology

- Fast and easy installation using push-fit joints
- Low construction due to availability of long pipe lengths
- Low pipe weight eases pipe handling costs
- Reduced risk of operator injuries
- Broad pipe dimensions up to 1600mm for structural pipes

For Manholes and Joints

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Market Leading Innovation – High C2 RaCo (*Spherizone* Unique)

Cyrel RC2472 is a highly modified random copolymer PP specially designed for improved printability versus competitors alternative.

It can also be used as sealing layer in BOPP film providing good ink adhesion, good sealing properties and excellent optical properties.



Excellent on adhesion

Good Film Properties

- High clarity and gloss
- Easy processing on high speed BOPP lines

Enabled by Spherizone technology

Good Sealing Properties

- Sealing Initiation Temperature 110°C

Product Portfolio by Product Strategy

Target to achieve 70% SPDP in 2030

- **Target to achieve 70% SPDP in 2030**
- Continues YoY growth enabled by additional plant capabilities of PP4 and organization focus
- Promotes SP and DP in the long run
- Target market in China, Australia, India, Japan and Europe

Specialty Product (SP)

is disruptive product, low or no other competitors, high entry barrier, high profitability end application and low-price sensitivity

Differentiated Product (DP)

is selected product, high growth, limited producers and superior profitability of end application.

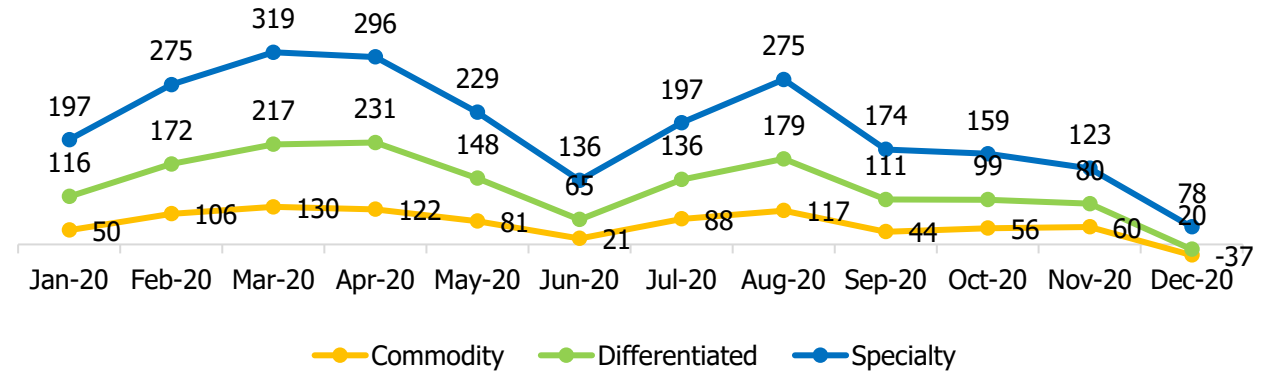
Commodity

is general commodity product, low entry barrier, high competition, low value end application and high price sensitivity.

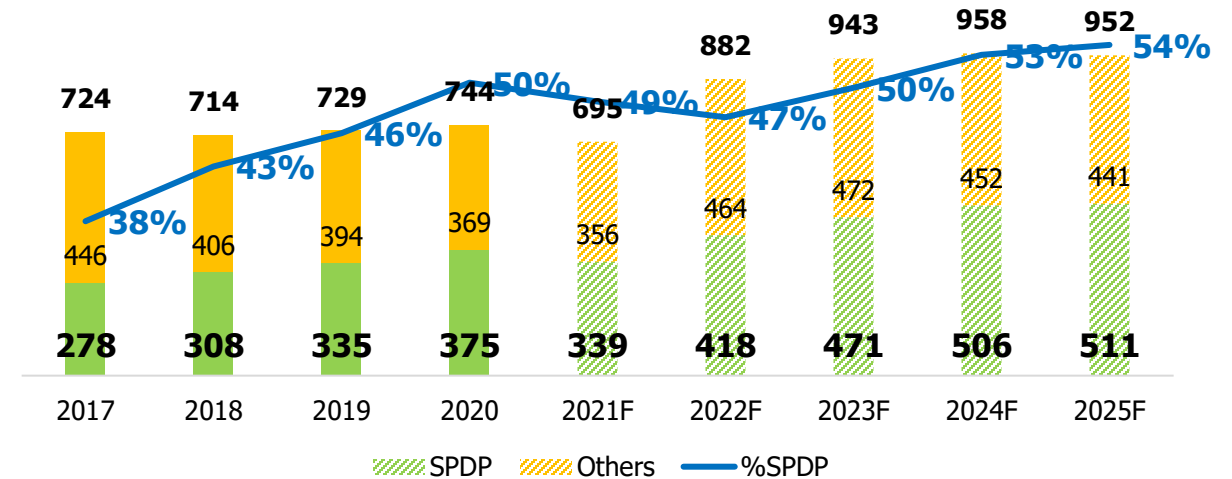
Non-Prime

is transition products and off-specification.

Price Premium in USD



Product Mix in Kilo Tons



Slight decrease of %SPDP in

- 2021 due to production constraint from fire incident in Nov 2020
- 2022 due to PP Line 4 start-up with more commodity products during trial run

HMC as A Most Admired Company

Achieving sustainability through Environmental, Social and Governance

In 2020, HMC was recognized with environment awards for outstanding operational performance with respect to environmental impact.

1. EIA Monitoring Award (Excellent Level) from Ministry of Natural Resources and Environment
2. Smart ECO 4.0 from Ministry of Industry (Thailand)
3. Eco Factory from Federation of Thai Industries
4. Green Industry Certificate level 4 (Green Culture) from Ministry of Industry (Thailand)
5. Certificate of Carbon Footprint for Organization from Thailand Greenhouse Gas Management Organization
6. Plaque of Honor from Thailand Voluntary Emission Reduction Program (T-VER)
7. IEAT Environmental Governance Award from Industrial Estate Authority of Thailand



Thailand Voluntary Emission Reduction



Carbon Footprint for Organization



HMC as A Most Admired Company

Achieving sustainability through Environmental, Social and Governance



HMC has consecutively obtained this CSR-DIW Award since 2010 from Department of Industrial Works as our belief in Care and share for the better life.



HMC as A Most Admired Company

Achieving sustainability through Environmental, Social and Governance

- In November 2020, HMC was awarded The Thai Chamber of Commerce Business Ethics Standard Test Award 2020.



- We are relentlessly developing an anti-fraud culture. Both newcomers and existing employees are trained on Anti-Fraud Policy and Gifts, Entertainment and Travel Policy to ensure that ethical business conduct can be expected.



Agenda



1. Financial Performance and Projection
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- 3. Operation Highlights**
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HMC as a PP Flagship of PTTGC

PTTGC Performance Center – Olefins

Feedstock

Gas Separation Plants

Ethane
Propane/
LPG
NGL

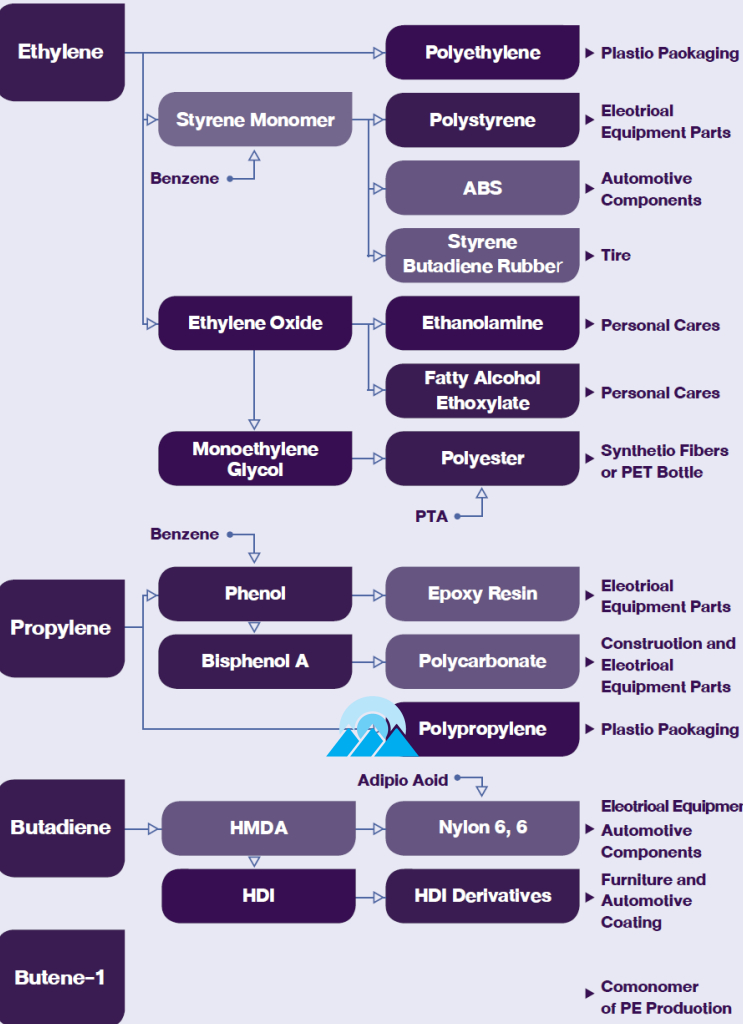
Refinery/
Aromatics
Plants

Naphtha

Olefins Plants

Intermediate

Downstream



- PTTGC consists of 8 business groups and has other businesses and services which GC invested for supporting 8 business groups as follows:



2021 Way Forward – Strategic Importance to PTTGC

- HMC as a major propylene off-taker of PTTGC with higher supply from 15% in 2020 to 30% of total HMC consumption in 2022.
- PTTGC shares research and development facilities.
- HMC leverages marketing channel in CLMVI countries through GC Marketing Solutions.
- PTTGC transfers knowledge in all aspects to synergize and enhance collaboration e.g. Secondment of President, Quick Win Projects, OpEx, GC Way of Conduct, etc.

HMC Measures for COVID-19 pandemic

Care for the well-being of our employees

- ❑ **Setup task force team**, led by President as Chairman with weekly meeting
 - ✓ Follow measures by government agencies and defection reporting
- ❑ **Setup 14 preventive measures** for employees and contractors
 - ✓ Perform 100% of body temperature check before entering the area
 - ✓ Provide facial masks and alcohol gel
 - ✓ Keep social distancing
 - ✓ Screen contractors
 - ✓ Monitor daily health report
- ❑ **Separate key persons and control rooms from usual activities**
 - ✓ Setup a control room as a restricted area
 - ✓ Quarantine boardmen and shift team leaders in a safe house
- ❑ **Keep communicating and regular share knowledge**
 - ✓ Promote awareness through screen and board, computer pop-up and e-mail
- ❑ **Activate Work From Home Program**
 - ✓ Bangkok office 100% of employees
 - ✓ Rayong plants by separating into 2 groups and swap on the weekly basis
- ❑ **Contact Rayong Provincial Health Office**
 - ✓ Rayong Disease Control Department came to audit in April 2020 with positive results



PP4 Project

The most advanced PP plant ever built

- The new PP Plant Line IV site, planning and site preparation is now well underway bringing the Company's total PP capacity to 1.1 mtpa further boosting its position as the largest PP producer in ASEAN.
- Expected PP4 start-up in 2022.

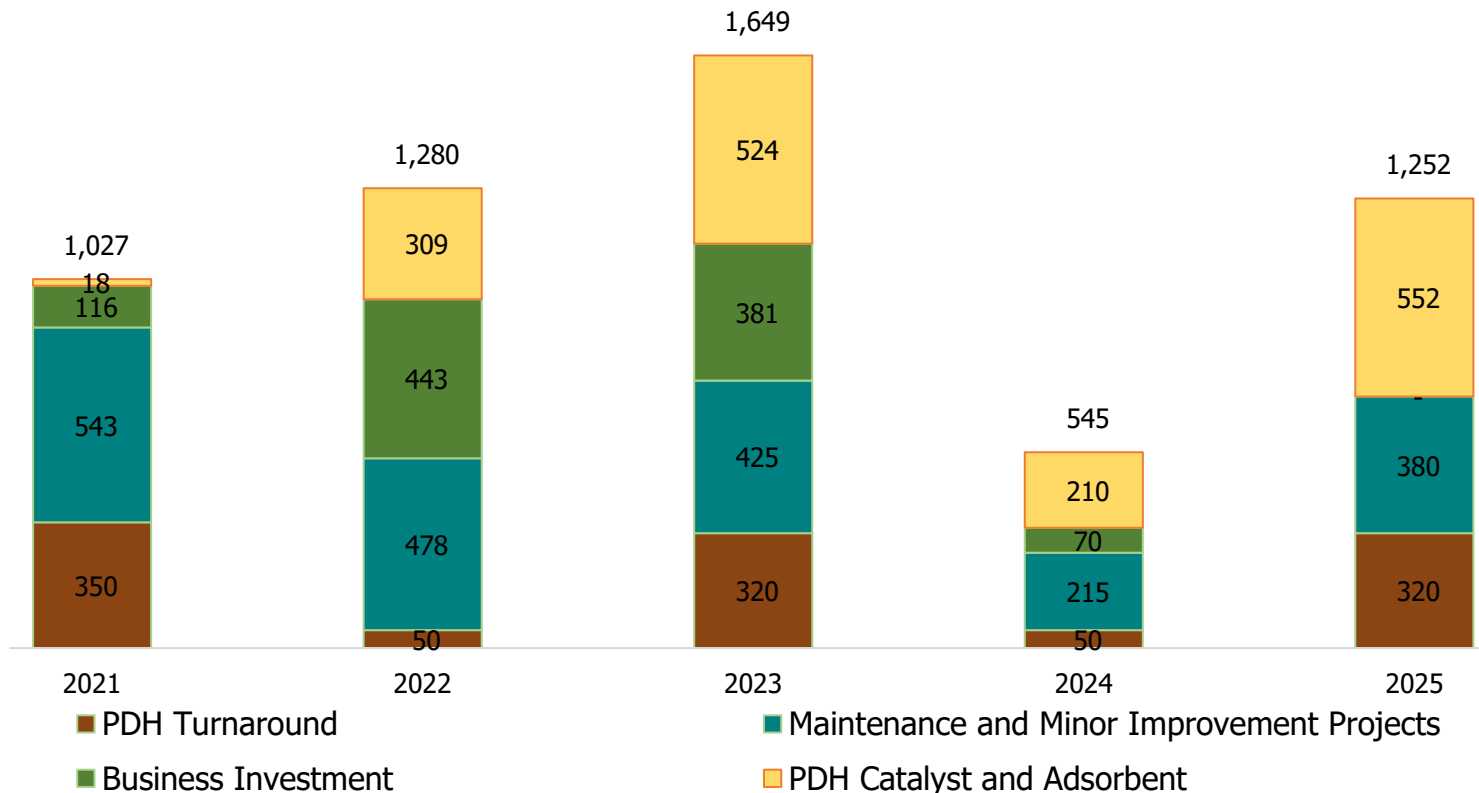


Cumulative Progression	as of 26 Feb 21
• Engineering	99%
• Procurement	87%
• Construction	31%
• Overall	73%

5-Year CAPEX Plan

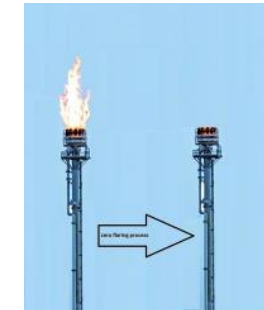
Capital projects to enhance Safety, Reliability, Efficiency and Sustainability

in Million Baht



CAPEX Highlight

- PP Zero Flare from 2021 to 2023 with the value of Baht 550 million aiming CO₂ emission reduction and monomer yield enhancement for sustainable utilization.



- PDH Turnaround from 2021 to 2025 with the value of Baht 1,090 million reaching higher level of reliability and efficiency.

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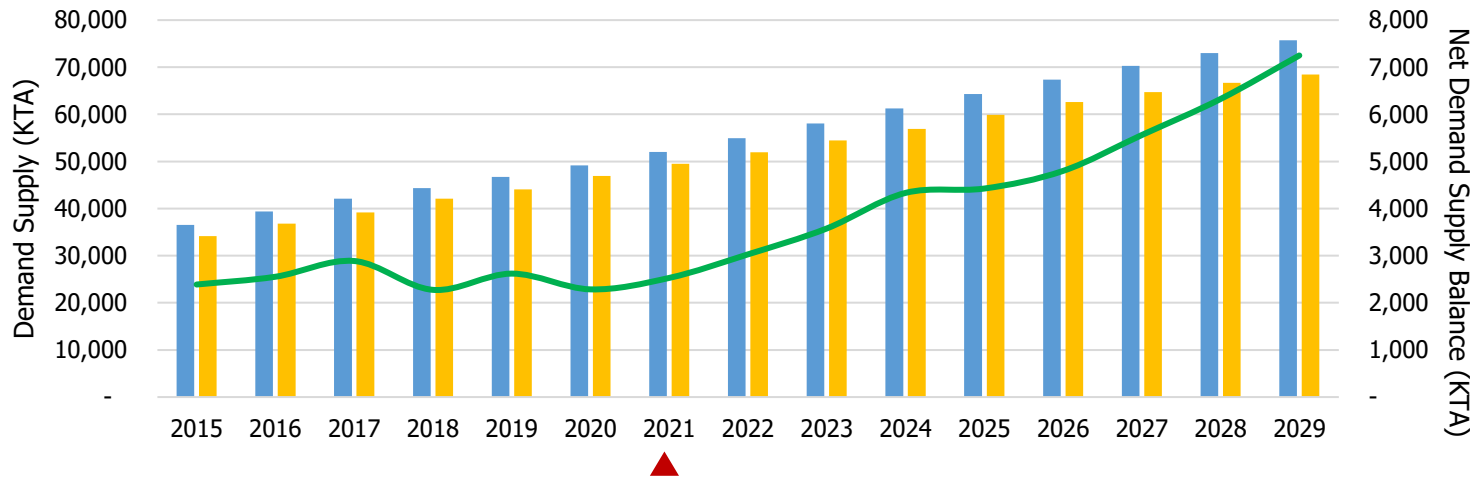
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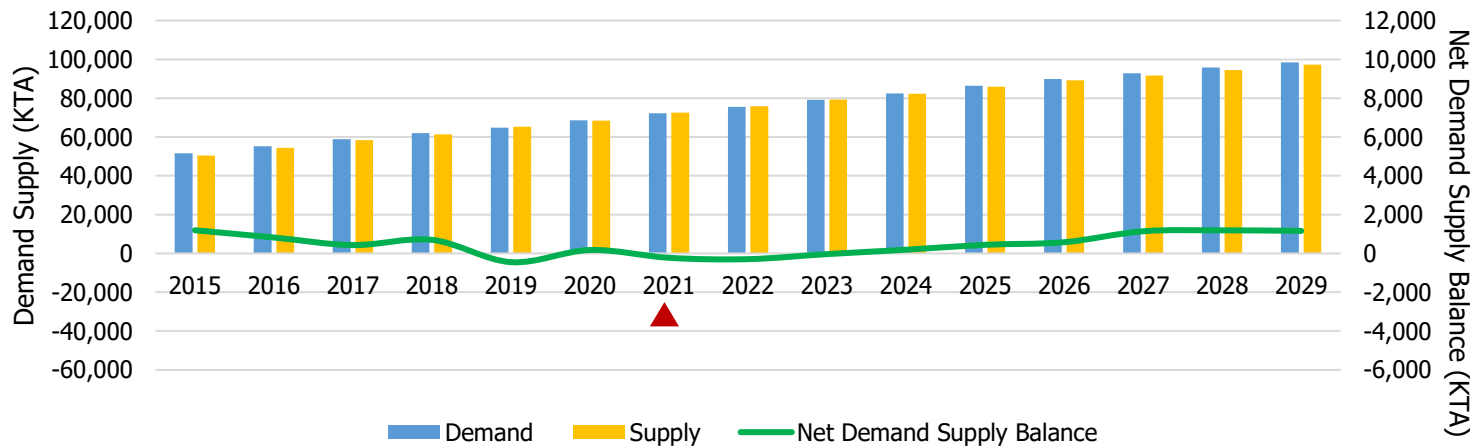
Polypropylene and Propylene

Demand Supply Balance in Asia Pacific

Polypropylene Demand and Supply in Asia Pacific



Propylene Demand and Supply in Asia Pacific



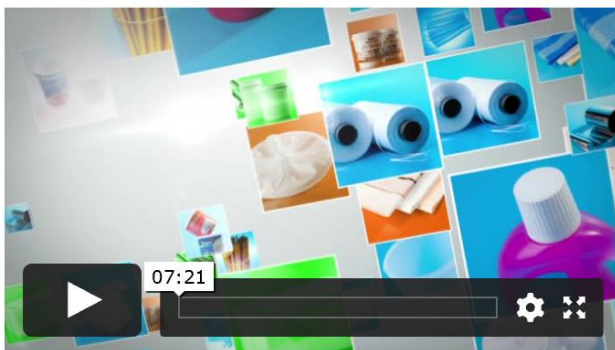
- Asia Pacific comprises Northeast Asia, ASEAN and Indian subcontinent.
- In 2020, petrochemical industry and crude oil demand decline due to the COVID-19 pandemic. **However, PP demand in packaging, consumer and medical sectors experience positive advantages.**
- Some new polypropylene players, planned to start up in 2020, are expected to roll over to next years.
- **Propylene market in Asia Pacific is expected to be a bit tighter from 2022, driving the slight import volumes.**

Source: IHS

HMC Investor Information

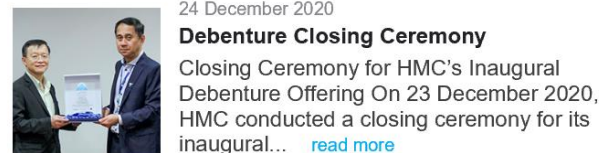


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