



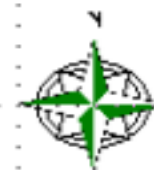
INDUSTRI PETROKIMIA

HERI HERIYANTO

27.08.2024

ANYER - CILEGON - MERAK INDUSTRIAL AREA

PROVINSI BANTEN



**Upstream Olefin
Petrochemical Industry
The only one in Indonesia**

**Power Plant
Suralaya**

**Location-3 (20 Ha)
2 Train SM Plants-Badger-Lummus-USA**

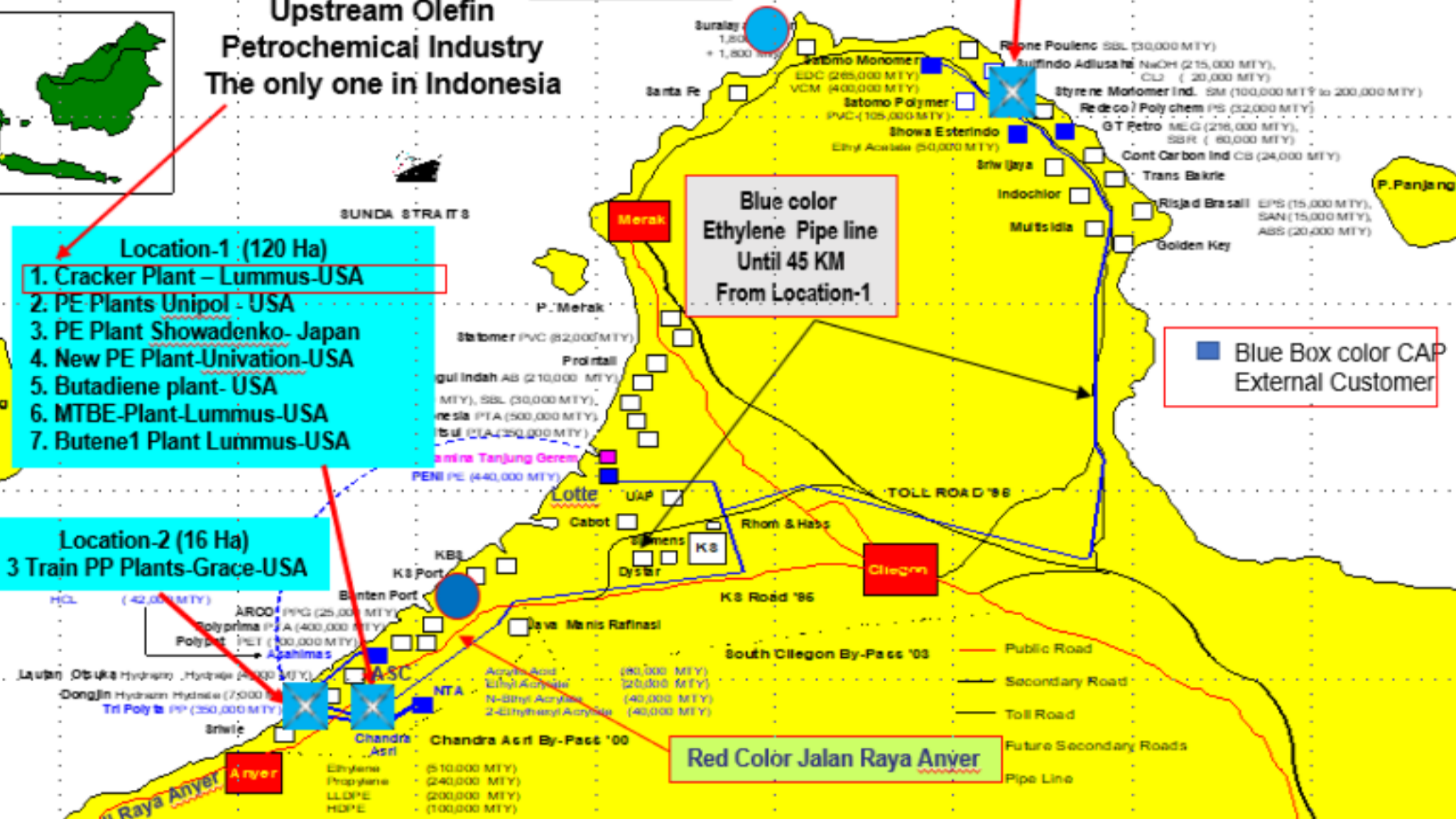
- Location-1 (120 Ha)**
1. Cracker Plant – Lummus-USA
 2. PE Plants Unipol - USA
 3. PE Plant Showadenko- Japan
 4. New PE Plant-Univation-USA
 5. Butadiene plant- USA
 6. MTBE-Plant-Lummus-USA
 7. Butene1 Plant Lummus-USA

**Location-2 (16 Ha)
3 Train PP Plants-Grace-USA**

**Blue color
Ethylene Pipe line
Until 45 KM
From Location-1**

**Blue Box color CAP
External Customer**

Red Color Jalan Raya Anyer



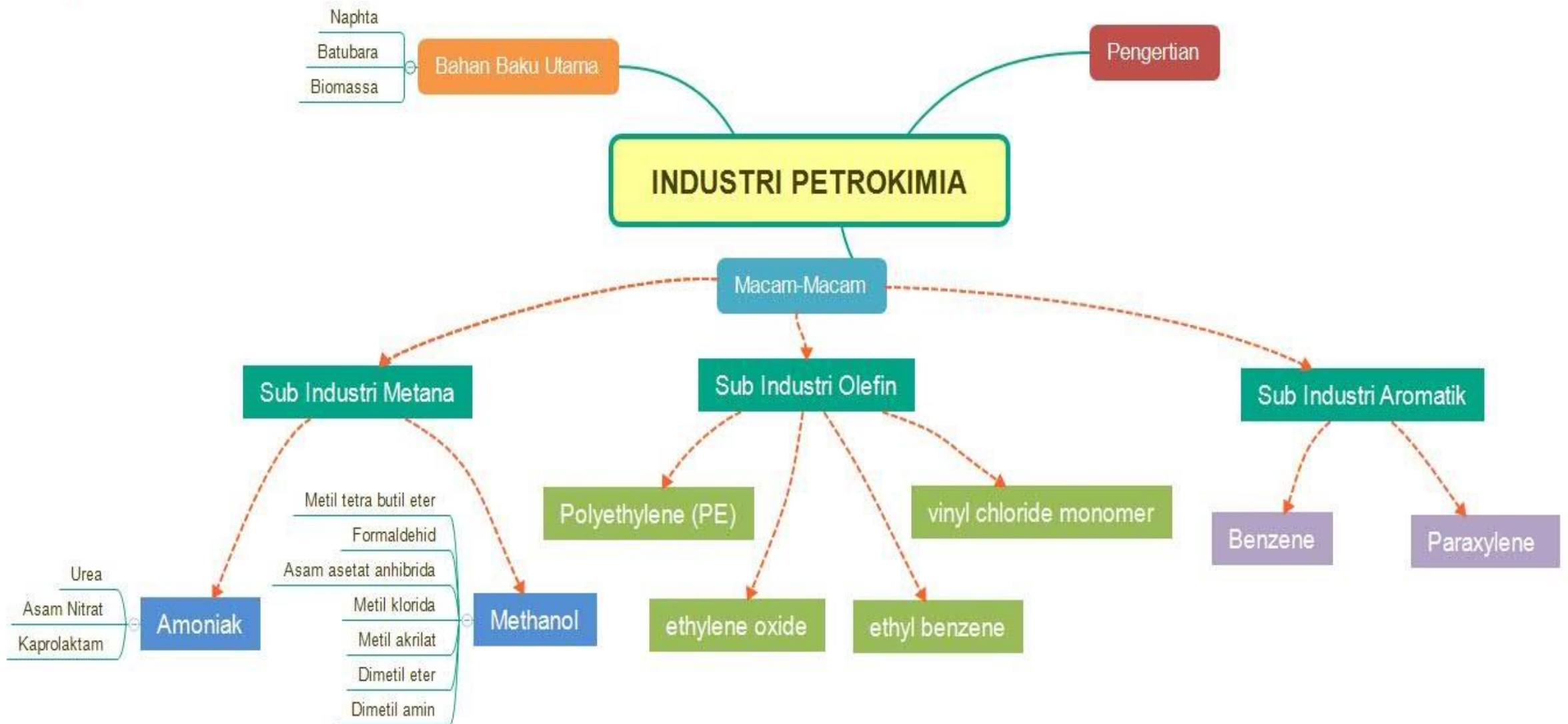
PENDAHULUAN



- Industri Petrokimia adalah sektor industri yang memproduksi bahan kimia dan produk turunan lainnya dari bahan baku minyak bumi (petroleum) atau gas alam.

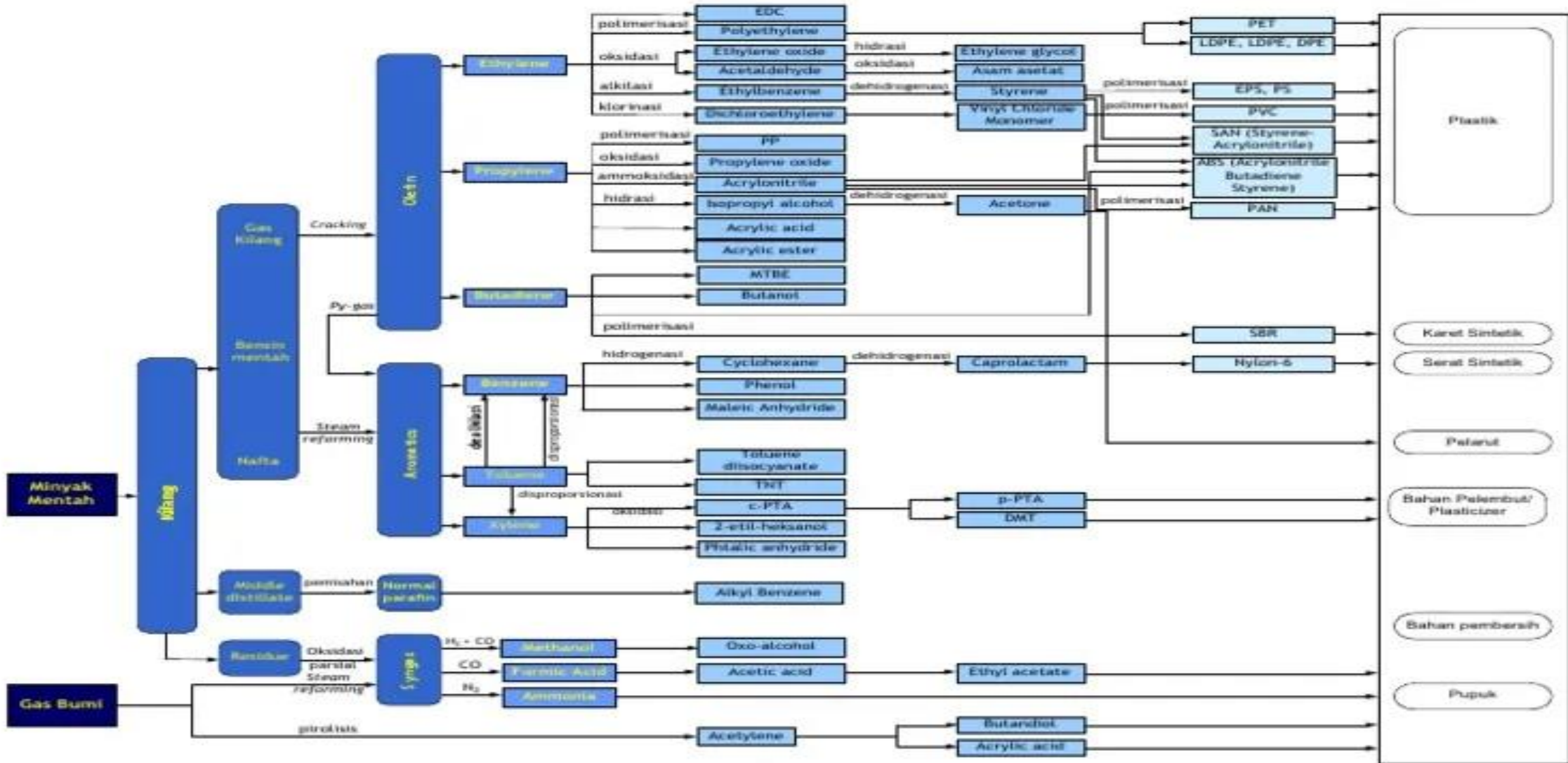
- Olefin → sebagai alkena, adalah sekelompok hidrokarbon tak jenuh yang memiliki ikatan rangkap karbon-karbon ($C=C$) dalam strukturnya.
- Olefin paling sederhana adalah etilena (C_2H_4) dan propilena (C_3H_6).
- Olefin merupakan bahan baku penting dalam industri petrokimia karena digunakan sebagai bahan dasar untuk berbagai produk kimia dan polimer.

Industri Petrokimia

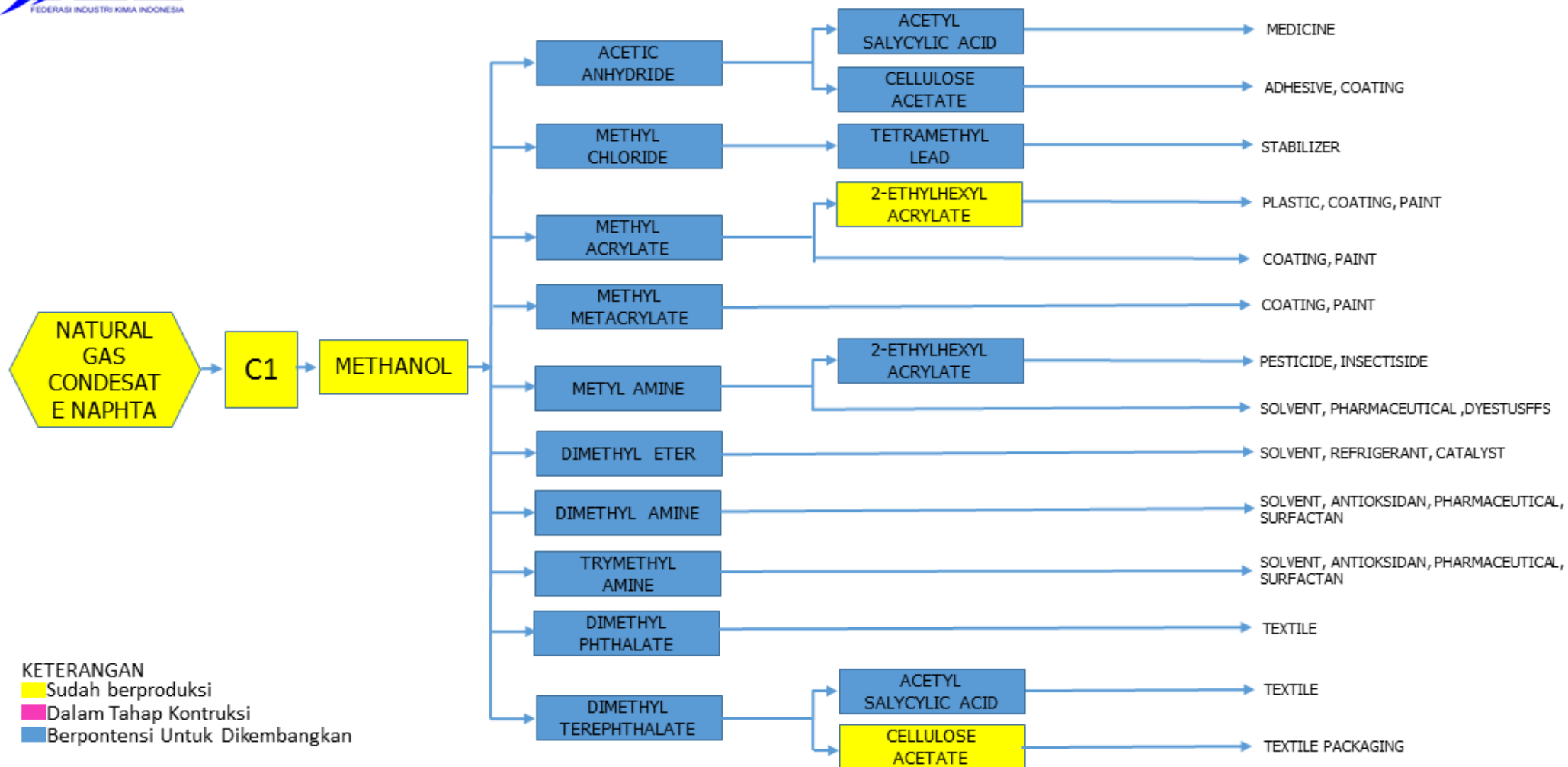


Pohon Industri Petrokimia

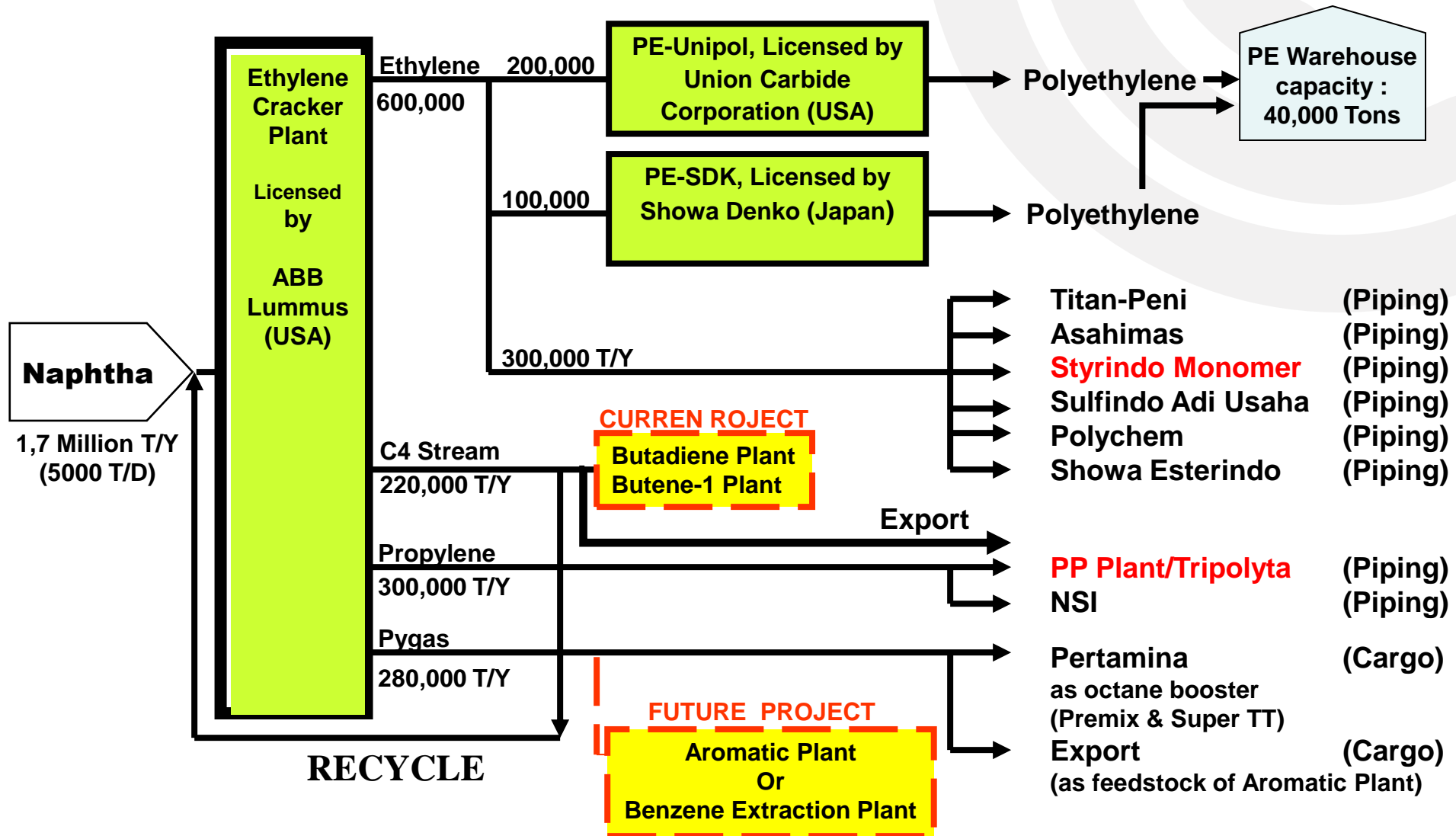
← Hulu → → Antara → → Hilir → → End Use →



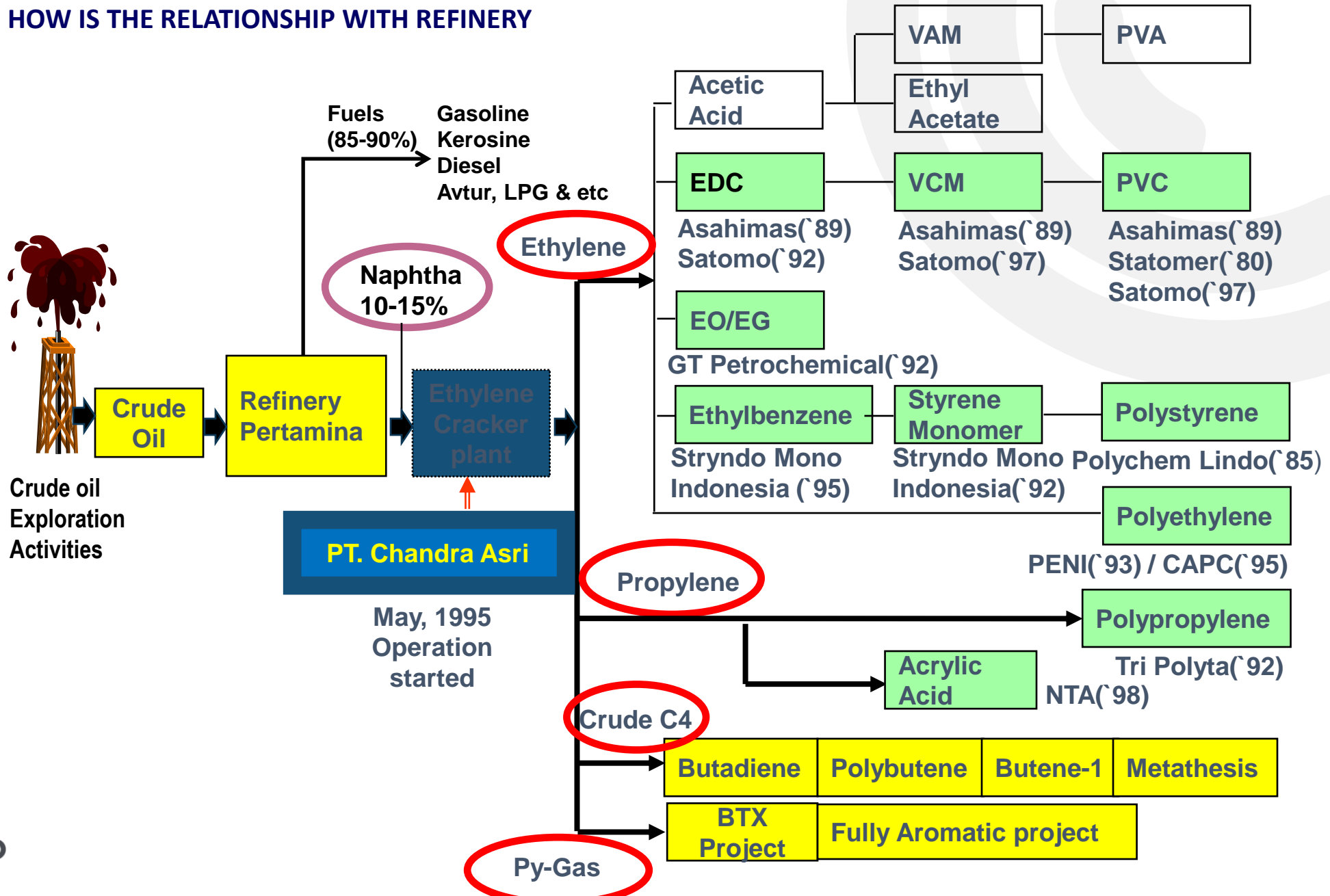
POHON INDUSTRI PETROKIMIA INDONESIA BERBASIS C1



BLOCK DIAGRAM CHANDRA ASRI EXISTING FACILITIES (120 Hectares area)



**BANTEN PROVINCE
OLEFIN PETROCHEMICAL INDUSTRY
HOW IS THE RELATIONSHIP WITH REFINERY**



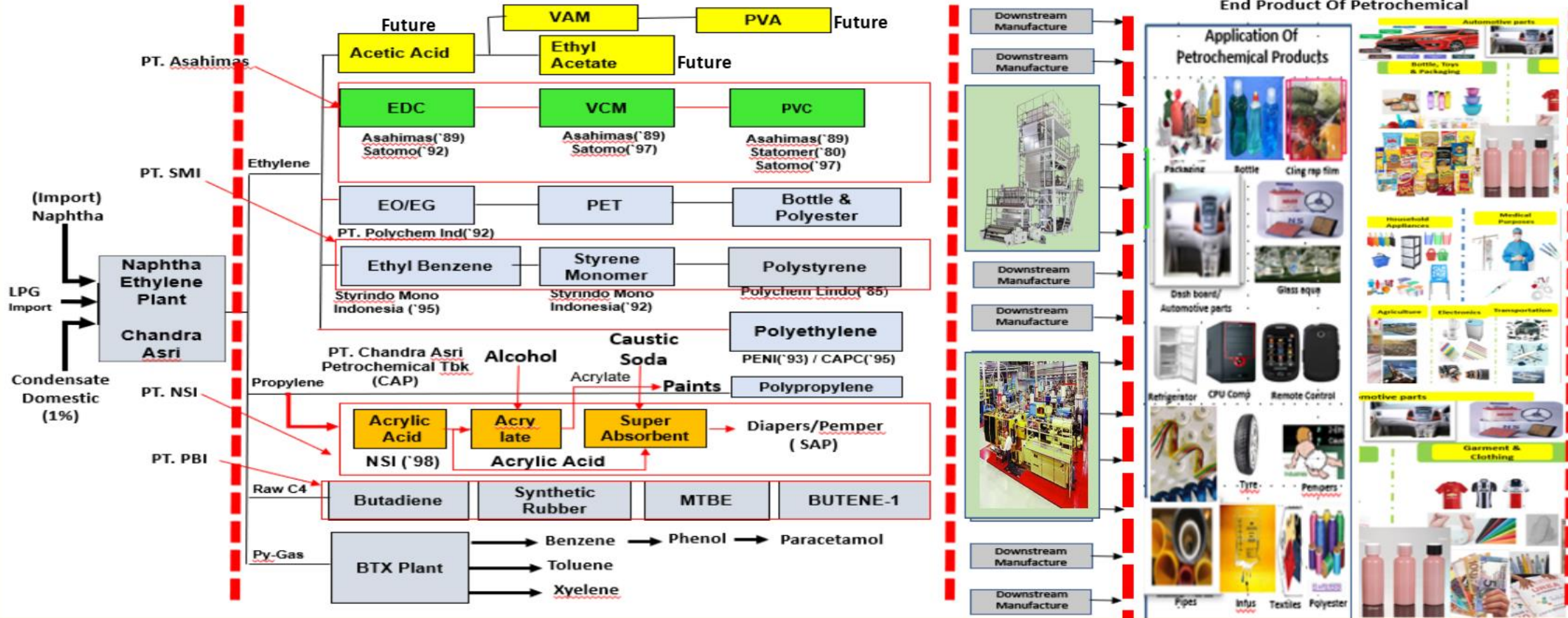
Upstream
Petrochemical Industry
(D3)

Intermediate
Petrochemical Industry
(D3)

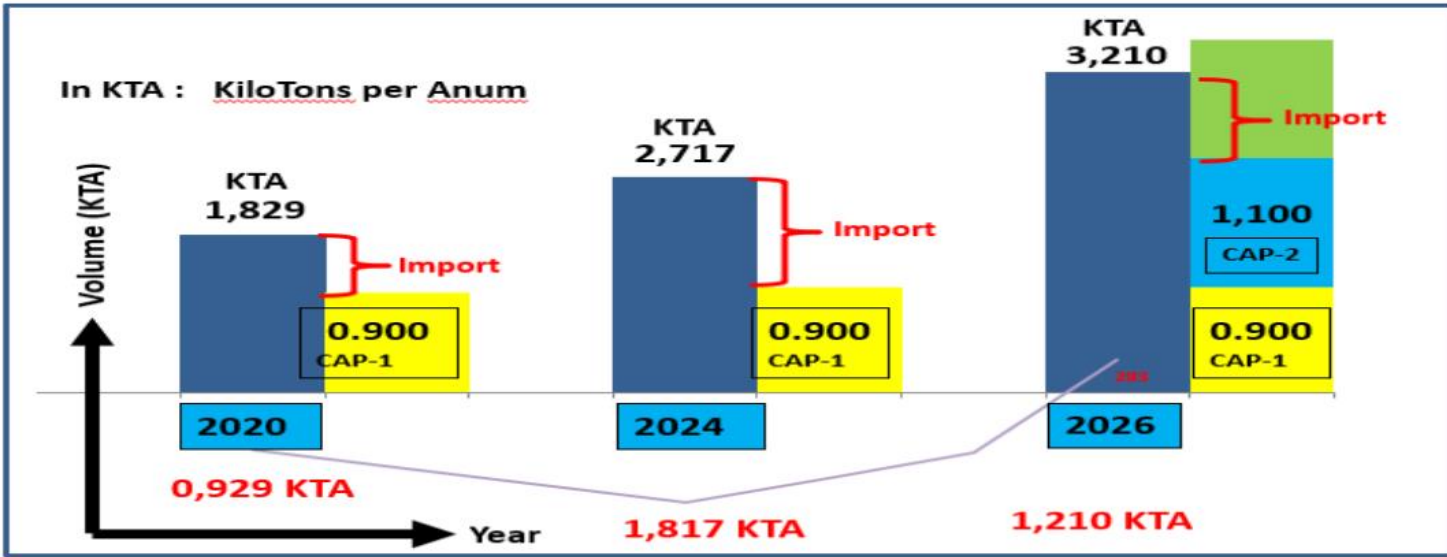
Downstream
Petrochemical Industry
(D1)

End Products
Petrochemical Industry

Kondisi dan Perkembangan Industri Petrokimia di Banten



Supply & Demand Balance Major Products Petrochemicals



IMPOR KOMODITAS PETROKIMIA 2020 TOTAL 7,32 JUTA TON SENILAI US\$ 7,13 MILIAR

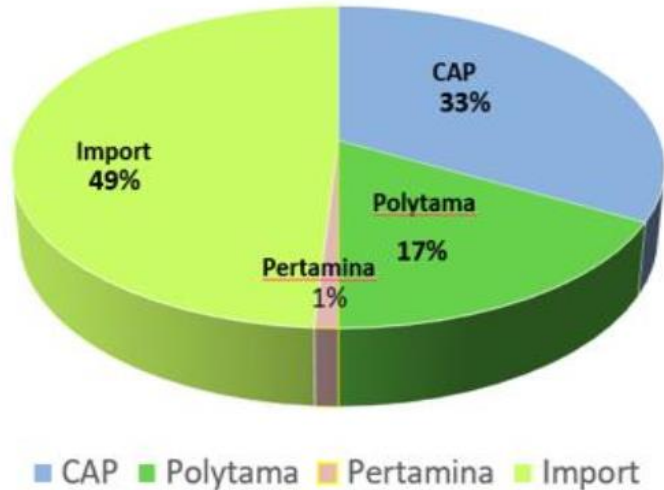
| Produk | Volume (Juta Ton) | Nilai (Miliar US\$) |
|-------------------------|-------------------|---------------------|
| Petrokimia Hulu | 2,92 | 1,6 |
| Petrokimia Intermediate | 0,71 | 0,54 |
| Petrokimia Hilir | 3,69 | 4,99 |
| Total | 7,32 | 7,13 |

| Produk | Volume (Juta Ton) | Nilai (Miliar US\$) |
|-------------------------------------|-------------------|---------------------|
| Hulu Olefin | 0,99 | 0,76 |
| Hulu Aromatik | 1,08 | 0,62 |
| Hulu CI | 0,84 | 0,21 |
| Petrokimia Intermediate | 0,71 | 0,54 |
| Bahan Baku Plastik & Serat Sintetis | 2,35 | 2,63 |
| Resin Sintetis | 1,01 | 1,82 |
| Karet Sintetis | 0,31 | 0,54 |
| Total | 7,32 | 7,13 |

7,13 Billion USD

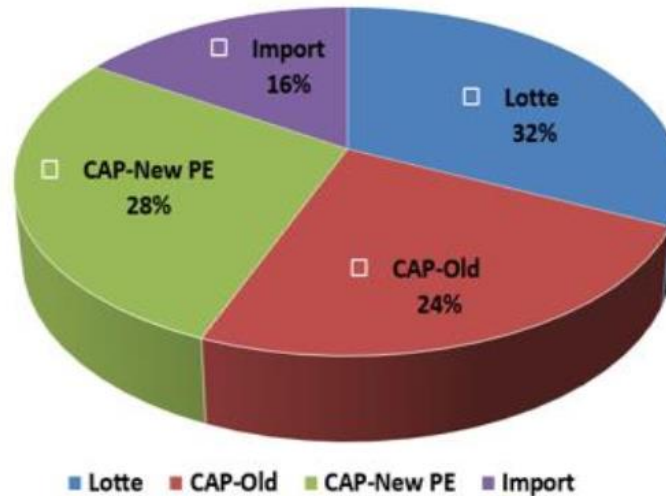
DOMESTIC SUPPLY & DEMAND BALANCE (POLYPROPYLENE)

(With Total Demand 2020 around 1,8 Million Tons Per Year)









DOMESTIC POLYETHYLENE SUPPLY & DEMAND BALANCE

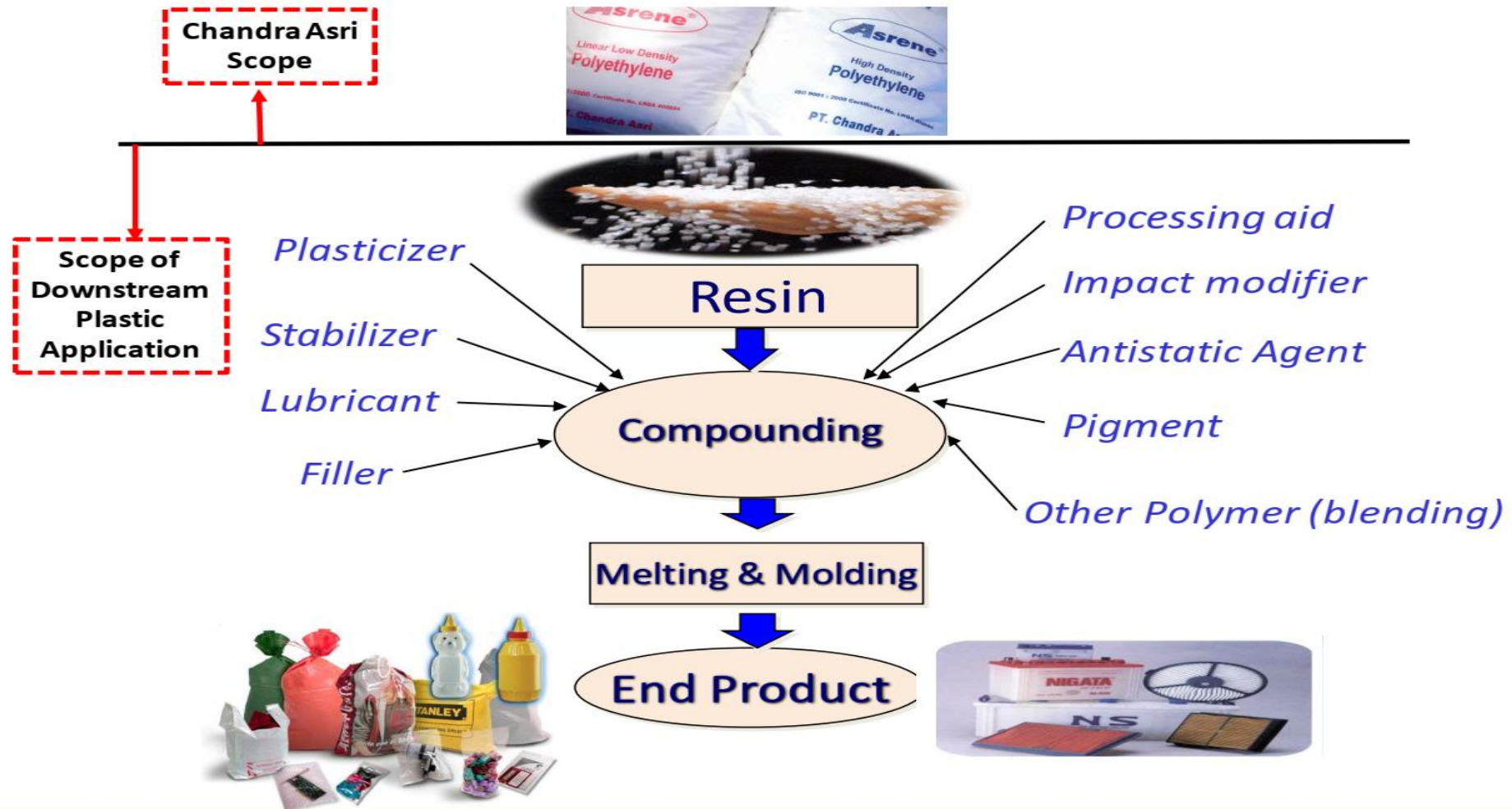
(With Total Demand 2020 around 1,7 Million Tons Per Year)



Area Petrokimia Banten

| No | Proyek | Kapasitas Per Tahun | Nilai Investasi (USD) |
|------------------------------------|--|---|-----------------------|
| 1 |  PT. Chandra Asri Perkasa | Ethylene = 1.100 KTA Propylene = 550 KTA HDPE = 450 KTA LDPE = 300 KTA LLDPE = 450 KTA Polypropylene = 450 KTA | 5,000,000,000 |
| 2 |  PT. Lotte Chemical | Ethylene = 1.000 KTA Propylene = 520 KTA Butadiene = 130 KTA Benzene + Tolouene + Xylene (BTX) = 370 KTA | 4,000,000,000 |
| 3 |  PT. Nippon Shokubai | Acrylic Acid (AA) Super Absorbent Polymer (SAP) = 100 KTA = 24 KTA | 205,000,000 |
| 4 |  PT. Asahimas Chemical | PVC = 200 KTA | 100,000,000 |
| 5 |  PT. Cabot Asia Pacific. South | Carb Master Batch 25 KTA | |
| 6 |  PT. Mitshubishi Chemical PET-Film | Metalized PET Film = 7.500 Tons Plain PRT Film = 48.000 Tons | 156,000,000 |
| Total Investasi (2017-2027) | | | 9,561,000,000 |

Mechanism From Polymers Become Various End Products In The Customer machines



Diskusi

- Aplikasi Olefin dalam berbagai produk → Kelompok
- Resume artikel ilmiah tentang tren terbaru dalam industri olefin → Individu

Pemanfaatan Plastik Dalam Keseharian Kita

Kemasan Makanan



Pakaian



Peralatan Rumah Tangga



Agrikultur



Elektronik



Peralatan Medis



Otomotif





TERIMA KASIH