US-Iran war impact to Indonesia's petrochemical industry

Climate Catalyst

About Climate Catalyst

Climate Catalyst builds diverse coalitions to accelerate the decarbonisation of heavy-emitting industries. A non-profit and strategic convenor working across Europe, India and Indonesia, we bring together existing and new civil society and the private sector actors to co-create strategies that secure policy and financial shifts towards a net zero future. We work to secure a just, equitable and prosperous future where global temperature rise is limited to 1.5°C, taking into account the systemic impact heavy emitting sectors have on nature, land use and human health.

Find out more at www.climatecatalyst.org,
on LinkedIn or email us at info@climatecatalyst.org.

This report was commissioned by Climate Catalyst and researched and written by Putu Indy Gardian and Danny Kusuma

Disclaimer

Content

Executive Summary 2
BAU situation of petrochemical sector in Indonesia 3
Overview of petrochemical value chain in Indonesia 6
State-Owned Crude Oil Refineries 6
Private Naphtha Crackers 7
State-Owned Fertilizer Production 7
Impact of US-Iran war to the petrochemical sector 10
State-Owned Crude Oil Refineries 10
Private Naphtha Crackers 11
State-Owned Fertilizer Production 13
Government policies and intervention 17
Possible decarbonisation pathways and industry's perception towards green transition 19
Opportunity for policy advocacy 25
The Strategic "White Space" 25
Aligning with National Priorities 25
Considerations for Program Design 26
Strategic Framing and Execution 26
Potential programs for supporting petrochemical sector 25
References 30

Executive Summary

The 2026 US-Iran conflict served as a stress test for Indonesia's petrochemical industry, exposing a sector that has grown impressively in output while becoming structurally more dependent on imported feedstock. This assessment examines how the conflict affected the industry, what it reveals about the policy environment, and where the opportunities lie to strengthen both feedstock security and decarbonisation.

A thriving industry atop a shrinking resource base. Indonesia's oil and gas sector has been in steady decline for a decade, with crude output now roughly half its 1990s peak and refining capacity stagnant through 2016 to 2025. The chemical industry, by contrast, has flourished, growing around 55 percent in real terms since 2016 even as the upstream contracted by a fifth. This divergence reflects a welcome shift toward manufacturing value addition, but it also defines the sector's central vulnerability: a fast-growing, oil-and-gas-reliant industry now sits on top of a declining domestic resource base and a stagnant refining system, with critical feedstock such as naphtha sourced heavily from imports.

Highly asymmetric exposure to the conflict. The impact of the conflict was sharply uneven across Indonesia's three largely disconnected value chains. State-owned crude oil refineries experienced moderate, facility-specific disruption driven mainly by price inflation and crude-slate constraints. Private naphtha crackers suffered severe distress: because domestically refined naphtha is retained for national fuel blending, these producers import all of their naphtha and were fully exposed to the Strait of Hormuz disruption, with one major producer declaring force majeure and domestic plastic resin prices spiking by 30 to 80 percent, hitting food and beverage MSMEs hardest. The state-owned fertilizer sector, by contrast, was almost entirely insulated and even profited, shielded by 100 percent domestic gas supply and the capped gas price while exporting surplus volumes into a high global price environment.

A policy framework that protects energy and consumers more than industrial feedstock. Government intervention is forceful but selectively directed. The state prioritizes energy security and consumer protection, freezing retail fuel and LPG prices and capping fertilizer prices through the budget, and it extends genuine protection to priority gas-based industries through the capped gas price and dedicated supply quotas. In practice, however, hydrocarbons are steered toward transportation and household energy rather than industrial feedstock, with naphtha directed to gasoline and light gases to household LPG. The state's protection policy for of petrochemicals is limited. .

Decarbonisation is seen first as a cost, not an opportunity. Both the fertilizer and olefin sub-sectors are hard to abate, because their emissions are embedded in the industrial process rather than in energy use. Modelled decarbonisation raises production costs by around 30 percent for fertilizer and 9 to 17 percent for olefins by 2050. Absent demand-pull policies such as green premium markets, carbon pricing with leakage protection, and a functioning emissions trading system, industry will continue to view the transition primarily as a burden .

A strategic opening for philanthropy and civil society. Heavy industry, such as the petrochemical sector, remains a philanthropic white space, overshadowed by climate finance flowing to renewables and electric vehicles. The entry point is re-emphasising decarbonisation as an engine of feedstock security, industrial resilience, and export competitiveness, aligning it with the government's economic priorities and the looming pressure of the EU CBAM. Given the pre-commercial state of deep-abatement technology and the nascent policy environment, the most promising near-term interventions are ecosystem-building programs, notably a National Industrial LCA and CBAM Readiness Lab and a Green Ammonia Project Preparation Facility, which align across industry, government, and civil society interests and lay the groundwork for the longer transition.

BAU situation of petrochemical sector in Indonesia

Indonesia's modern petrochemical industry started to thrive around the 1960s. The development of several oil refineries by Pertamina, a national oil company, built the foundation. Along the way, fertilizer plants started to develop in the 1960s-80s period, utilizing the nearby natural gas resource which once was abundant. Later in 1995, Indonesia's first naphtha cracker facility owned by Chandra Asri, a major chemical company, was commissioned to support their operation in manufacturing olefin-based products. All of these happened in the era when Indonesia's oil and gas industry was at its peak.

Upstream oil and gas

The situation in recent years shows that the oil, gas, and chemical industry have gone into different directions. At the upstream end, crude oil and gas production has been in steady decline for a decade: crude output, which peaked at around 1.65 million barrels per day in the 1970s (Ministry of Energy and Mineral Resources, Republic of Indonesia, 2012), now stands at roughly half that level, while natural gas production has also trended downward even as it continues to cover domestic needs and exports, supported by domestic market obligation rules. The consequence is a structural and growing reliance on imported oil, a once-dominant contributor to state revenue has effectively become a sunset industry and a fiscal burden.

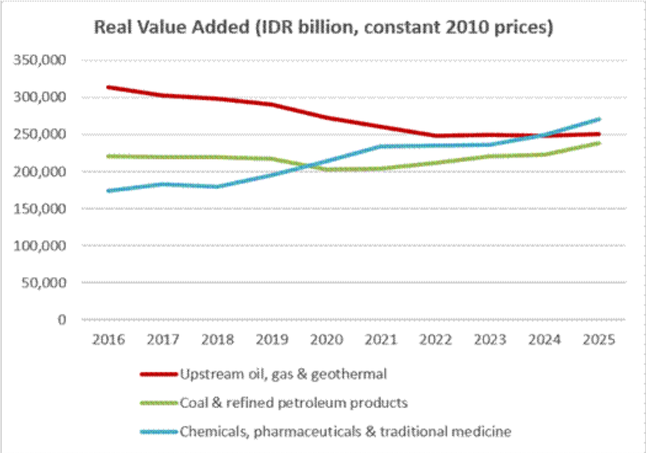
Midstream refinery

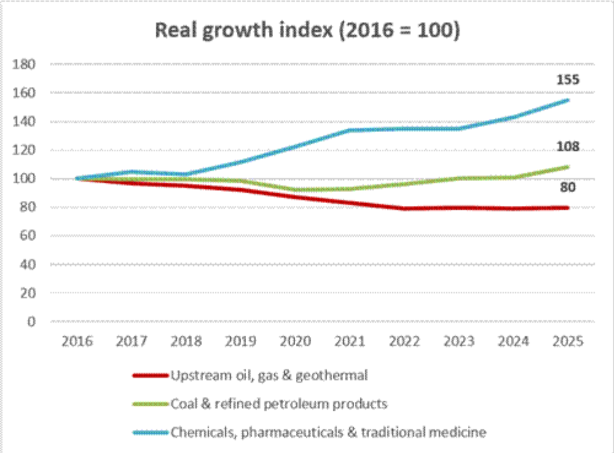
The midstream has been relatively stagnated. Throughout 2016–2025, no significant refining capacity was added to the national downstream sector, leaving Indonesia to bridge widening fuel and feedstock deficits by pushing existing facilities to run harder and by importing oil products, mostly from Singapore. Relief is only now arriving with new refinery facilities entering operation from 2026 onwards, but the decade of stagnation has cemented the country's import dependence at precisely the point in the value chain that should convert domestic resources into higher-value products.

Downstream chemical

However, the picture inverts when the discussion revolves on the chemical sector. The sector has been flourishing, growing some 55 percent since 2016 while the upstream contracted by a fifth *(Badan Pusat Statistik, 2026)*. This divergence underscores Indonesia's shift toward manufacturing value addition rather than commercializing raw materials, but it also exposes the sector's central vulnerability. A thriving industry now sits atop a shrinking domestic resource base and a stagnant refining system, with key feedstock such as naphtha heavily sourced from imports due to competition with other domestic uses. In the event of a global supply disruption, it is this fast-growing, oil-and-gas-reliant chemical industry that stands most exposed.

Figure 1. Real value added for petrochemical sectors and Figure 2. Real growth index

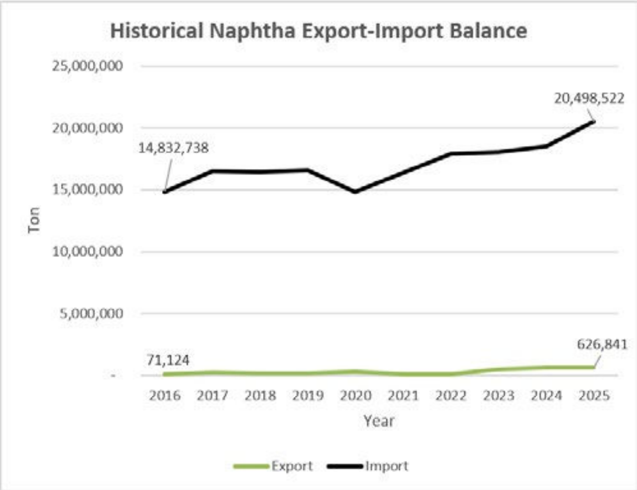


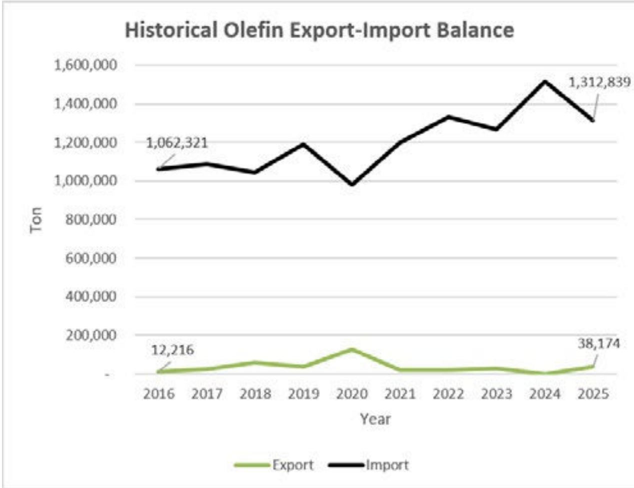


Source: *Badan Pusat Statistik, 2026*

This thesis is strengthened by the historical export-import of naphtha and olefin, which both have an upward trend for the past 10 years. Excluding the outlier year 2020, the CAGR for naphtha and olefin imports are 3.3% and 0.6%, respectively. The numbers are expected to grow larger if there are no measures to tackle import issues.

Figure 3. Indonesia's Historical Naphtha Export-Import Balance and Figure 4. Indonesia's Historical Olefin Export-Import Balance



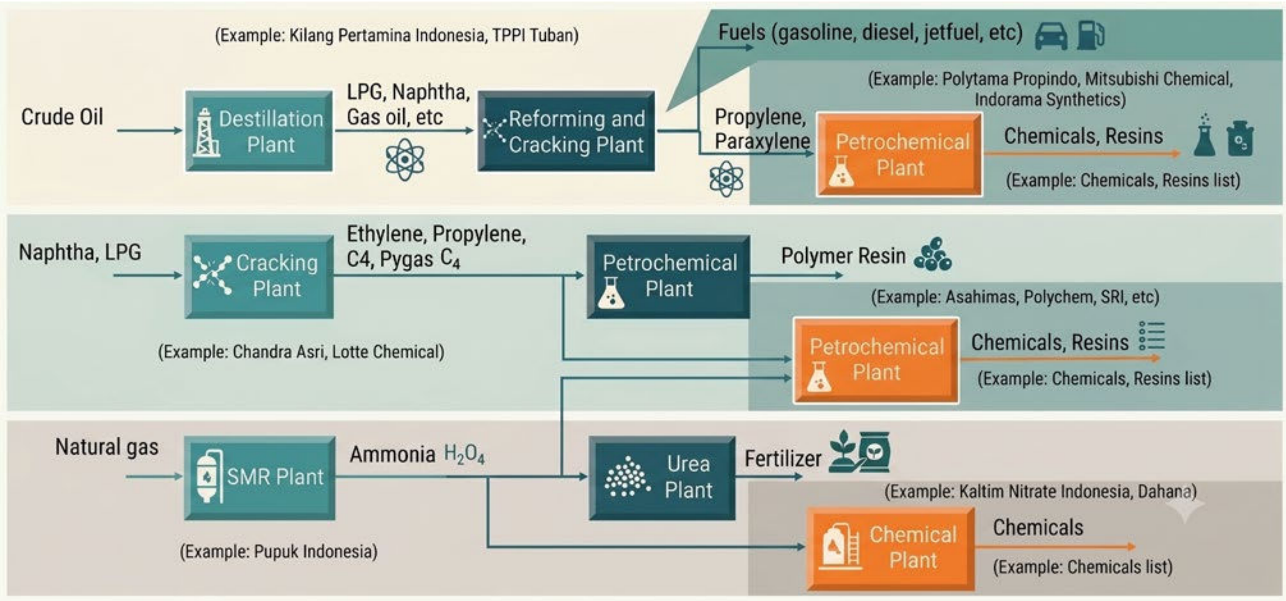


Source: *UN Comtrade Database, 2026*

Overview of petrochemical value chain and stakeholders in Indonesia

Indonesia's petrochemical sector lacks a fully integrated supply chain. This contrasts sharply with mature global hubs like Europe, where countries such as the Netherlands, Belgium, and Germany are physically linked by dedicated ethylene trading pipelines, or India, which utilizes mega-scale refineries that directly channel waste gas into olefin production (International Energy Agency, 2018). Instead, the Indonesian petrochemical industry operates across three distinct, largely disconnected value chains.

Figure 5. Indonesia petrochemical value chain



Source: Author's analysis

State-owned crude oil refineries

The first pathway is managed by the state-owned energy company, PT Pertamina. Its primary feedstock is crude oil. Pertamina operates six main Refinery Units (RU) alongside the TPPI Tuban complex. While the crude distillation process yields naphtha as an intermediate fraction, Pertamina does not sell this naphtha to the domestic chemical market, prioritizing it for national fuel blending.

Each refinery is configured to yield specific product profiles:

- Fuel-Focused: Refineries such as RU II (Dumai) and RU VII (Kasim) are engineered almost exclusively to supply standard transportation fuels (gasoline, diesel, jet fuel).
- Olefin Capabilities: RU III (Plaju) and RU VI (Balongan) utilize cracking units to produce propylene. Furthermore, the ongoing Refinery Development Master Plan (RDMP) at RU V (Balikpapan) includes a new Fluid Catalytic Cracking (FCC) unit to expand future propylene output.
- Aromatics Capabilities: RU IV (Cilacap) and TPPI Tuban house specialized aromatics complexes designed to produce paraxylene and benzene.

These intermediate chemical outputs are sold to downstream manufacturers, such as Polytama Propindo, Mitsubishi Chemical, and Indorama Synthetics, which process them into various resins for plastic manufacturing (PT Pertamina (Persero), 2023).

Private naphtha crackers

The second pathway consists of private, standalone cracking facilities, currently dominated by Chandra Asri and Lotte Chemical. The core operation is thermal cracking, utilizing naphtha as the primary feedstock. To mitigate feedstock vulnerability, Lotte Chemical's newer facility is engineered with operational flexibility, capable of blending Liquefied Petroleum Gas (LPG) up to 50% of its total feed.

These crackers produce foundational building blocks, including ethylene, propylene, mixed C4, and pyrolysis gasoline (pygas). Integration within this chain varies. Both Chandra Asri and Lotte process a portion of their own ethylene output internally to manufacture polyethylene (PE) resins. Unused intermediate gases are off-taken by specialized downstream companies like Asahimas, Polychem, and SRI to produce vinyls, synthetic rubber, and plastic pellets.

State-owned fertilizer production

The third pathway focuses on agrochemicals, managed exclusively by the state-owned holding company, Pupuk Indonesia. This chain is disconnected from crude oil, utilizing domestic natural gas as its sole feedstock.

The core industrial process is Steam Methane Reforming (SMR), which produces ammonia as the primary intermediate chemical. The vast majority of this ammonia is consumed internally to synthesize final urea and NPK fertilizers, which are distributed to domestic farmers and private estates. However, Pupuk Indonesia also operates as a commercial merchant for its surplus ammonia. Domestically, it supplies industrial and explosives manufacturers such as PT Kaltim Nitrate Indonesia and PT Dahana. Internationally, the company exports significant ammonia volumes, with Australia serving as a primary target market.

Key stakeholder map

The sector is regulated mainly by the Ministry of Energy and Mineral Resources and Ministry of Industry. The market is highly concentrated, characterized by a division between state-owned enterprises dominating energy and agriculture products, and private players manufacturing chemicals and plastics resins.

1. Ministry of Energy and Mineral Resources, Republic of Indonesia

The Ministry of Energy and Mineral Resources (ESDM) is the central government authority governing Indonesia's entire energy value chain, from upstream oil and gas extraction to downstream fuel distribution and electricity. As a regulator, ESDM does not produce petrochemicals itself, instead it effectively controls the sector's feedstock economics. Through its Directorate General of Oil and Gas (Ditjen Migas) and its oversight of upstream regulator SKK Migas, the ministry allocates domestic crude and natural gas, sets the Domestic Market Obligation, and administers the subsidized gas price policy (HGBT) that caps gas prices. ESDM also issues refinery and processing licenses, approves Pertamina's crude allocation, and sets the biofuel blending mandates (currently B40, soon to be B50) that shape demand for both fossil and bio-based feedstocks. On the policy side, the ministry authors Indonesia's foundational energy planning documents, including the National Energy General Plan (RUEN) and the electricity supply business plan (RUPTL), making it the primary gatekeeper for any industrial decarbonisation agenda that touches energy supply, gas allocation, or refinery investment.

2. Ministry of Industry, Republic of Indonesia

The Ministry of Industry (Kementerian Perindustrian/Kemenperin) is responsible for industrial policy across Indonesia's manufacturing sectors. Within it, the Directorate General of Chemical, Pharmaceutical, and Textile Industries (Ditjen IKFT) holds the direct mandate over the petrochemical industry, making the Ministry the principal policy counterpart for downstream players. While feedstock allocation sits with MEMR and SKK Migas, Kemenperin shapes the industry's economics from the demand side: it nominates industries eligible for the HGBT subsidized gas price, administers fiscal incentives for new petrochemical investments, and drives the import-substitution agenda that has designated petrochemicals as a priority sector under the national industrial roadmap (RIPIN 2015–2035). The Ministry is also the custodian of the industrial decarbonisation agenda through its Industry Decarbonisation Roadmap.

3. PT Pertamina – Through PT Kilang Pertamina Internasional

Pertamina is Indonesia's fully state-owned oil and gas conglomerate. Its specialized sub-holding, PT Kilang Pertamina Internasional (KPI), controls the country's entire domestic petroleum refining infrastructure. While KPI's primary mandate is national fuel security (processing over 330 million barrels of crude oil annually into gasoline and diesel), it is also a player in the petrochemical supply chain. KPI retains its internal liquid naphtha for gasoline blending, but its specialized refinery units produce base chemical intermediates. Through its Trans-Pacific Petrochemical Indotama (TPPI) complex in Tuban, Pertamina has the capacity to yield up to 780,000 tons of Paraxylene and 500,000 tons of Benzene annually (Kilang Pertamina Internasional, 2025). Furthermore, Pertamina controls downstream assets like PT Polytama Propindo, which produces 300,000 tons of Polypropylene (PP) resin per year (Polytama, 2024).

4. PT Pupuk Indonesia

Pupuk Indonesia is a state-owned holding company that controls all government-owned fertilizer manufacturers (including Pupuk Kaltim and Petrokimia Gresik). It utilizes domestic natural gas to synthesize ammonia via SMR . This ammonia is subsequently converted into nitrogen-based agricultural fertilizers. The company operates on a global scale, maintaining a consolidated production capacity of over 22 million tons per year, which consists of roughly 14 million tons of finished fertilizers (Urea and NPK) and over 8 million tons of ammonia and related chemical intermediates (PT Pupuk Indonesia, 2024).

5. Chandra Asri Group (PT Chandra Asri Pacific Tbk)

Chandra Asri is Indonesia's largest privately owned, publicly traded integrated petrochemical company. It operates the country's longest-standing upstream naphtha cracker in the Cilegon industrial cluster. The company processes imported liquid hydrocarbons into core gaseous building blocks, functioning as a highly integrated entity that converts its own monomers into solid plastic resins. Chandra Asri maintains an annual total production capacity exceeding 4.2 million tons, which includes 900,000 tons of Ethylene, 490,000 tons of Propylene, and over 1.1 million tons of combined Polyolefin (PE and PP) resins. (Chandra Asri Group, 2026)

6. Lotte Chemical Indonesia & Lotte Chemical Titan

Operating as the Indonesian arms of the South Korean petrochemical giant Lotte Chemical, this integrated duo represents one of the most significant foreign direct investments in the sector. Historically, PT Lotte Chemical Titan focused exclusively on downstream Polyethylene (PE) production, relying entirely on imported ethylene. To close this supply chain gap, PT Lotte Chemical Indonesia recently constructed the USD 3.95 billion LINE Project in Cilegon. This new facility introduced a large-scale naphtha cracker capable of producing 1 million tons of Ethylene, 520,000 tons of Propylene, and 250,000 tons of Polypropylene annually, physically linking upstream cracking with Lotte Titan's downstream resin factories (Lotte Chemical Indonesia, 2026).

7. PT Asahimas Chemical

Beyond polyethylene and polypropylene plastics, Polyvinyl Chloride (PVC) is the third most widely used plastic, critical for piping and construction. PT Asahimas Chemical (ASC), a multinational joint venture majority-owned by Japan's AGC Inc., is the primary anchor for the domestic vinyls and chlor-alkali ecosystem. ASC acts as a massive downstream off-taker of ethylene, combining it with chlorine (derived from industrial salt) to synthesize its products. ASC has aggressively expanded its operations to reach an annual production capacity of 700,000 tons of Caustic Soda, 900,000 tons of Vinyl Chloride Monomer (VCM), and 750,000 tons of PVC resins. (Asahimas Chemical, 2026)

Impact of US-Iran war to the petrochemical sector

The impact of the 2026 Middle East conflict on Indonesia's petrochemical industry is highly asymmetric. This divergence is driven by the country's fragmented feedstock structure: domestic natural gas supplies remain highly secure, crude oil imports are partially secure but face price inflation, and liquid naphtha supplies are entirely exposed to global maritime disruptions.

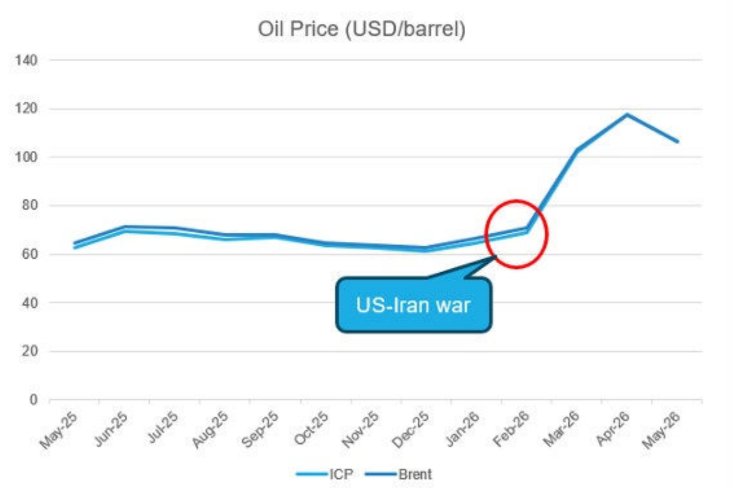
State-owned crude oil refineries

Impact: Moderate but highly variable by facility.

Historically, Pertamina refineries processed sweet, light crudes sourced directly from local fields like Rokan and Mahakam. However, due to declining domestic oil lifting, the state refiner now increasingly relies on imported crude. The impact depends on the specific refinery's source matrix. RU IV (Cilacap) is highly vulnerable due to its structural reliance on Middle Eastern sour crudes. Conversely, RU V (Balikpapan) imports primarily from Africa; while its physical supply chain bypasses the Strait of Hormuz, it still suffers from severe global price inflation (PT Pertamina (Persero), 2023).

Refineries cannot easily swap crude sources. They require highly specific crude blends to function safely. Forcing a refinery to process off-spec alternative crudes degrades operational efficiency, lowers product yields, and requires emergency chemical injections (like ammonia) to manage sulfur levels, risking severe equipment damage.

Figure 6. Fluctuations of domestic crude oil price matched with international prices



Souce: MEMR, 2026; EIA, 2026

To insulate against future geopolitical shocks, Pertamina is executing its Refinery Development Master Plan. These upgrades incorporate a flexible Crude Acceptance Matrix, allowing newer configurations to process a wider, diversified "cocktail" of global crudes (Kilang Pertamina Internasional, 2025).

As Indonesia's domestic crude oil production continues to decline, state-owned refiner PT Pertamina is forced to rely heavily on international imports, fully exposing its operations to global market volatility. The pricing for crude oil, even for strategic domestic industries, is not shielded by the government.

Instead, MEMR sets the Indonesian Crude Price (ICP)[1] every month based on international indices like Platts and RIM, adjusting for geopolitical events, OPEC+ supply constraints, and global demand. Because domestic lifting is insufficient, Pertamina must bridge the gap by importing crude from the Middle East, Africa, and the Americas through spot and long-term contracts pegged directly to Brent and WTI benchmarks. Consequently, any disruption in the global market directly inflates Pertamina's operational costs.

This direct exposure was starkly demonstrated during the global supply shocks of mid-2026. Driven by the conflict in the Middle East, the Ministry of ESDM officially decreed the April 2026 ICP at a staggering US$ 117.31 per barrel. While Pertamina absorbs the immediate commercial shock of purchasing this inflated crude, the most severe financial impact ultimately falls on the national state budget.

To protect low-income populations and public transportation operations, the Indonesian government caps the retail price of specific gasoline and diesel fuels well below their actual market value. When Pertamina's production costs skyrocket but consumer prices are artificially frozen, the state must bridge the widening gap through massive subsidy and compensation payouts. If high oil prices and geopolitical conflicts are prolonged, continuing to absorb these inflated costs will place an unsustainable burden on Indonesia's fiscal reserves.

Private naphtha crackers

Impact: Severe operational and financial distress.

Because Pertamina retains 100% of its domestically refined naphtha to meet national fuel supply mandates, private chemical crackers are forced to import all of their naphtha. When the Strait of Hormuz faces disruptions, these companies suffer immediate maritime freight spikes and critical supply shortages. One of the immediate impacts is Chandra Asri's disrupted operation. Heavily dependent on Middle Eastern naphtha, Chandra Asri faced rapid feedstock depletion. The company was forced to declare force majeure on March 2, 2026, completely halting production and crippling profitability (Chandra Asri Group, 2026).

This supply disruption affects the global oil and gas price, along with the derivative products such as naphtha, polyethylene, etc.. In the early months, the price had been rising to nearly double the pre-war price. The price has been volatile, following the situation of the war. In Indonesia's context, the interview with Lotte Chemical Indonesia reveals that the price of procured ethylene rose from 710 USD/ton in February 2026 to 1,400 USD/ton in April 2026.

Figure 7. Implication of US-Iran war to global naphtha price (USD/ton) and Figure 7. Implication of US-Iran war to global polyethylene price (USD/ton) Source: Trading Economics, 2026

Source: Trading Economics, 2026

Aside from the disruption, there are several measures taken by the private side that actually secure their operation. The Lotte Chemical Indonesia (LCI) temporarily avoided force majeure due to two factors: the technical flexibility to run up to 50% LPG in its furnaces, and a fortunate procurement cycle that secured a three-month naphtha stockpile just before the conflict began. Initially, LCI generated windfall profits because its production costs were locked in pre-war, while global polyethylene (PE) plastic prices surged. However, once the three-month buffer depleted, LCI was overwhelmed by inflated feedstock replacement costs. LCI attempted to pivot sourcing to the United States, Russia, and affiliate company (Cetro, 2026). However, these alternatives proved economically unviable due to the longer distance affecting shipping cost on top of skyrocketing post-war freight rates. Also, LCI has been running their operation on abated level for a few months, not on 100% production capacity and focusing only on their contracted customers (MSN, 2026).

Because private crackers have limited operational flexibility, inflated raw material costs were passed directly down the value chain. By April 2026, domestic plastic resin prices spiked by 30% to 80%. This heavily impacted the national food and beverage sector, particularly MSMEs, which rely entirely on affordable plastic packaging (Unair, 2026).

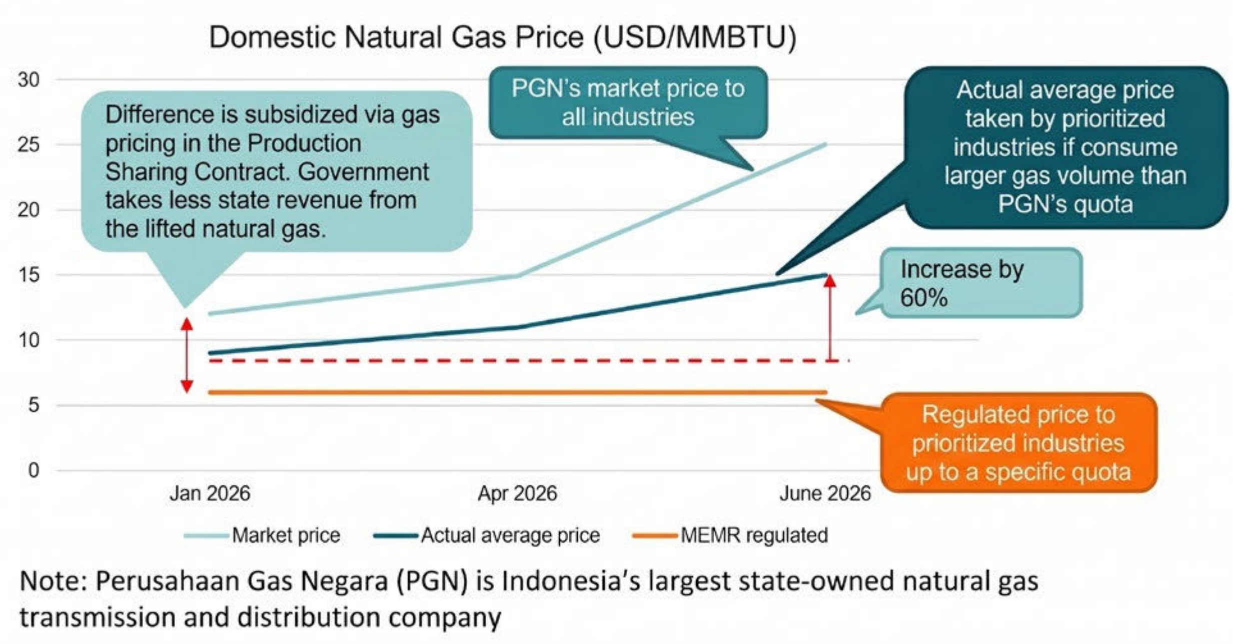
State-owned fertilizer production

Minimal disruption with net-positive commercial margins.

Unlike the other petrochemicals sectors, the state-owned fertilizer industry is almost entirely insulated from Middle Eastern maritime shocks. The key feedstock for Pupuk Indonesia is natural gas, which is sourced 100% domestically via local pipelines. The company is shielded from global energy inflation by the government's Specific Natural Gas Price (HGBT) policy, which legally caps domestic industrial gas procurement at 6 USD/MMBTU.

While domestic retail fertilizer prices are subsidized and capped by the state, Pupuk Indonesia capitalized on the geopolitical crisis internationally. As global fertilizer and ammonia prices spiked due to the conflict, Pupuk Indonesia exported its non-subsidized, excess production volumes to foreign markets like Australia, generating commercial profit margins fuelled by its cheap, price-controlled domestic gas (CNBC Indonesia, 2026).

Figure 8. Regulated vs market price of domestic natural gas to industries



Source: Kontan, 2026

While specific strategic manufacturing sectors, including fertilizer production, are theoretically shielded by HGBT policy, this framework does not guarantee uninterrupted access to the gas supply. The subsidized rate is strictly bound to a volume quota. When prioritized industrial players exceed this allocation to maintain production targets, they are required to purchase the deficit at volatile market prices. Because the physical gas volumes allocated by PGN are frequently lower than actual industrial demand, manufacturing entities rarely operate entirely on the subsidized $6.00/MMBTU rate, routinely realizing a much higher average energy cost.

This structural shortfall has been severely exacerbated by a steady decline in domestic pipeline gas flows, forcing the industry to fill production deficits with expensive Regasified Liquefied Natural Gas (LNG). Unlike legacy pipeline gas, the pricing of regasified LNG closely tracks international spot benchmarks. This exposure proved catastrophic during the height of the Middle East conflict, as the closure of the Strait of

Hormuz drove the Asian LNG spot index, the Japan Korea Marker (JKM), into the $16.00 to $18.00/MMBTU range. Consequently, non-subsidized commercial players, who had already seen their base rates hiked to $12.00/MMBTU by PGN in late 2023, faced an immediate, secondary wave of severe input-cost inflation.

By mid-2026, the convergence of global maritime gridlock and domestic supply deficits drove localized market gas prices to an unprecedented $15.00 to $16.80/MMBTU. The financial strain reached an absolute tipping point when PGN announced that the pricing for its unblended regasified LNG portfolio would surge to between $21.00 and $25.00/MMBTU. This severe price shock directly suffocates the margins of domestic heavy manufacturing entities, as they are unable to absorb or entirely pass down such increases in operational expenditure.

Beyond the immediate commercial distress on private manufacturers, this pricing architecture places an immense burden on the state fiscal balance. To maintain the capped HGBT quota, the government relies on an upstream subsidy mechanism built directly into Production Sharing Contracts (PSCs), wherein the state systematically forfeits its own financial share of non-tax state revenue (PNBP) from lifted natural gas to offset the operator's losses. As international spot benchmarks widen due to geopolitical conflict, the disparity between the capped $6.00 rate and global market realities expands significantly. This forces the state to absorb significantly larger revenue deficits, directly compromising national fiscal reserves during an active global energy crisis.

Crisis as a catalyst for decarbonisation?

Primary interview data and desk research indicate that the immediate supply chain shocks from the conflict did not instil an immediate urgency or distinct motivation for environmental decarbonisation among industry players. The vast majority of immediate corporate reactions remained strictly defensive, focusing entirely on emergency risk mitigation and the immediate stabilization of volatile feedstock supplies.

However, this operational paralysis does not mean the crisis has failed to act as a long-term catalyst for change. While companies' management are currently overwhelmed by the logistical complexities of securing immediate alternative fossil fuel streams, a structural shift in executive mindsets is underway. The blockade has exposed the severe geopolitical risks inherent in an industrial model dependent on imported hydrocarbons. As supply chains gradually stabilize, corporate leadership is expected to re-evaluate long-term strategies, increasingly viewing decarbonisation as an essential mechanism for risk mitigation and feedstock security.

This narrative shift has already materialized at the national policy level, primarily focused on the energy sector. Following the outbreak of the war, President Prabowo Subianto mandated an accelerated deployment of 100 GW of solar PV infrastructure to build macro-level energy independence. Concurrently, the administration ordered the rapid electrification of strategic domestic sectors, specifically accelerating the rollout of induction cookstoves and electric vehicles to insulate the national economy from imported fuel dependencies (Katadata, 2026).

Though solar PV program has been promoted for several years, however the escalated political will from the President emerged after the US-Iran War. "I think the crisis has actually accelerated our transformation plans. Ultimately, we're being forced to accelerate. We already understand the problem. We've always wanted to achieve food and energy self-sufficiency. We've been moving in that direction. But now we're going to accelerate it. We're going to implement very rapid development of solar power, which we plan to achieve 100 gigawatts, which we're targeting to be completed within the next two years." President Prabowo's statement on March 11, 2026, at the Plenary Cabinet Session (Kumparan, 2026)[2] .

Importantly, major petrochemical actors in Indonesia have already established long-term decarbonisation initiatives that directly intersect with this national push for supply security. Each primary market actor is advancing specific operational adjustments to hedge against future supply shocks:

- Pertamina: The company is investing in its "Green Refinery" initiatives. Its core operational focus centres on producing Hydrotreated Vegetable Oil (HVO) and Sustainable Aviation Fuel (SAF) by processing domestic palm oil derivatives and Used Cooking Oil (UCO) (Kilang Pertamina Internasional, 2026).
- Chandra Asri: The company is pursuing circular economy frameworks. Chandra Asri is collaborating with LX International to evaluate an investment in an HVO facility designed to generate renewable Bio-Naphtha. This bio-feedstock will allow the company to synthesize bio-based polymers, including Bio-Polyethylene (PE), Bio-Polypropylene (PP), Bio-Polyvinyl Chloride (PVC), and Bio-Solution Styrene Butadiene Rubber (SSBR). Simultaneously, Chandra Asri is running localized pilot projects focused on plastic waste pyrolysis, chemical recycling, waste-to-energy systems, and Refuse Derived Fuel (RDF) co-firing technologies (Chandra Asri Group, 2026).
- Pupuk Indonesia: The company has integrated its transition toward green and blue ammonia directly into Indonesia's national hydrogen roadmap. Pupuk Indonesia is developing a dedicated green ammonia facility at the Pupuk Iskandar Muda (PIM) complex in Aceh. Furthermore, the company has completed a pilot project in collaboration with PLN and ACWA Power to produce green ammonia for use as a co-firing fuel substitute in coal-fired power plants (PT Pupuk Indonesia, 2023).
- Lotte Chemical: Local operations remain primarily focused on near-term plant energy efficiency and cost reduction. Current efforts include the installation of rooftop solar panels for plant lighting, the integration of an Ethylene Recovery Unit at its PE facility to capture and recycle process gases (ethylene, butene-1, and hydrogen) otherwise lost during flaring, the deployment of Variable Speed Drives on critical pump infrastructure, and the replacement of LPG-powered forklifts with lithium battery-powered electric fleets. Despite its focus on efficiency, the global Lotte Chemical headquarters maintains commitment to achieving NZE via clean energy, green hydrogen procurement, and large-scale plastic recycling (Lotte Chemical Indonesia, 2026).

Government policies and intervention

Government's policy in oil and gas and related sector

As stated in Law No. 22/2001 on Oil and Gas, oil and gas are strategic national resources, sovereignly owned by the nation, and recognized as vital commodities for other sectors (BPK RI, 2001). This serves as the basis why the oil and gas sector is heavily regulated in Indonesia. Following this, there are several directives on the national oil and gas management as follows.

1. Prioritizing national's energy security

Indonesia's supply-side agenda reveals a national priority centred firmly on energy security and the reduction of import dependency, pursued across the full hydrocarbon value chain. At the upstream end, the state maintains its long-term strategic target of reaching one million barrels of oil per day, signalling a determination to arrest the decline in domestic production and reduce reliance on imported crude.

This is also strengthened by the domestic market obligation (DMO) policy for oil and gas, regulated in the contracts between government and the contractor. Midstream and downstream, heavy investment in refinery facilities aims to expand domestic fuel and chemical processing capacity, narrowing the gap between what the country consumes and what it can refine at home.

These programs show that the overriding objective is national energy security and self-sufficiency in fuels, with the state willing to commit substantial public and strategic resources to lower import exposure. The notable feature for the petrochemical sector, however, is that this security agenda is framed almost entirely around energy and fuel supply rather than industrial feedstock, reinforcing the pattern in which oil is steered toward transportation and consumer energy needs while the feedstock requirements of industry remain a secondary consideration.

2. Downstream social protection

Alongside its energy-security agenda, the Indonesian state intervenes heavily at the consumer end of the value chain to shield low-income citizens and preserve household purchasing power, relying principally on Public Service Obligation (PSO) and subsidy frameworks to do so. Under these arrangements, retail prices for consumer fuels and household LPG are effectively frozen by the state budget, holding steady for end users even during severe spikes in international import prices and leaving the government to absorb the difference.

Taken together, these measures transfer substantial cost and price risk from consumers onto the public budget, reflecting a deliberate choice to prioritize affordability and social stability.

3. Protection of Priority Industries

Where industrial protection does occur, it is concentrated and deliberate, taking the form of tight supply and price controls designed to insulate a select group of vital manufacturing sectors from global market volatility. The central instrument is the regulated natural gas price established under MEMR Ministerial Decree No. 76/2025, which caps the gas price at USD 6 per MMBTU for seven prioritized industries: fertilizers, petrochemicals, steel, oleochemicals, glass, ceramics, and rubber gloves.

To ensure that this favourable pricing is matched by actual availability, the state goes further than price-setting alone and allocates dedicated supply quotas linked to specific domestic gas fields, giving these industries a degree of supply certainty that the open market does not provide. The effect is to grant gas-based sectors, most notably fertilizers and petrochemicals, a protected position in which both the cost and the continuity of their key feedstock are shielded from international price swings. This selective protection is significant for the assessment because it explains why the gas-based segment of the chemical industry is comparatively resilient to external shocks, and it stands in contrast to the oil and naphtha-based segment, which enjoys no equivalent guarantee and therefore remains far more exposed to global market disruption.

The caveat in reality

These protective frameworks, however, coexist with a practical reality that works against industrial feedstock security. Although petrochemicals are formally listed among the priority industries, the state's actual allocation of oil and gas tends to favour energy and consumer uses over industrial feedstock when the two compete.

The clearest illustration is the treatment of naphtha, where domestic naphtha is directed toward producing gasoline for the transportation sector rather than being reserved as feedstock for the petrochemical industry, leaving olefin and aromatics producers to rely on imports for a significant share of their raw material. A parallel pattern appears on the gas side, where the priority placed on meeting household LPG demand pulls light hydrocarbons toward consumer energy rather than toward industrial feedstock use, reinforcing the same hierarchy.

The consequence for the assessment is that the formal protection extended to priority industries is partly hollowed out in implementation, because securing a favourable feedstock price means little if the actual goods are continually diverted to fuel and consumer markets. This gap between stated priority and actual allocation is a central vulnerability for the petrochemical sector and helps explain why feedstock security remains fragile despite the apparent protection on paper.

Emergency policy intervention for petrochemical sector

During an emergency press conference held on April 28, 2026, Coordinating Minister for Economic Affairs Airlangga Hartarto announced an immediate fiscal intervention whereby the state has dropped import duties on LPG and a range of raw plastic products to 0%. Under this newly enacted policy, import duties for LPG have been slashed from 5% to 0%, while high-demand polymers including Polypropylene (PP), Polyethylene (PE), and High-Density Polyethylene (HDPE), previously taxed between 5% and 15%, have likewise been reduced to a 0% rate (Investor Trust, 2026).

This targeted relief measure is slated to remain in effect for a six-month period as a strategic mechanism to insulate the domestic consumer market, specifically aiming to prevent a projected surge in manufacturing packaging costs from triggering subsequent price inflation across the food and beverage sectors.

Possible decarbonisation pathways and industry's perception towards green transition

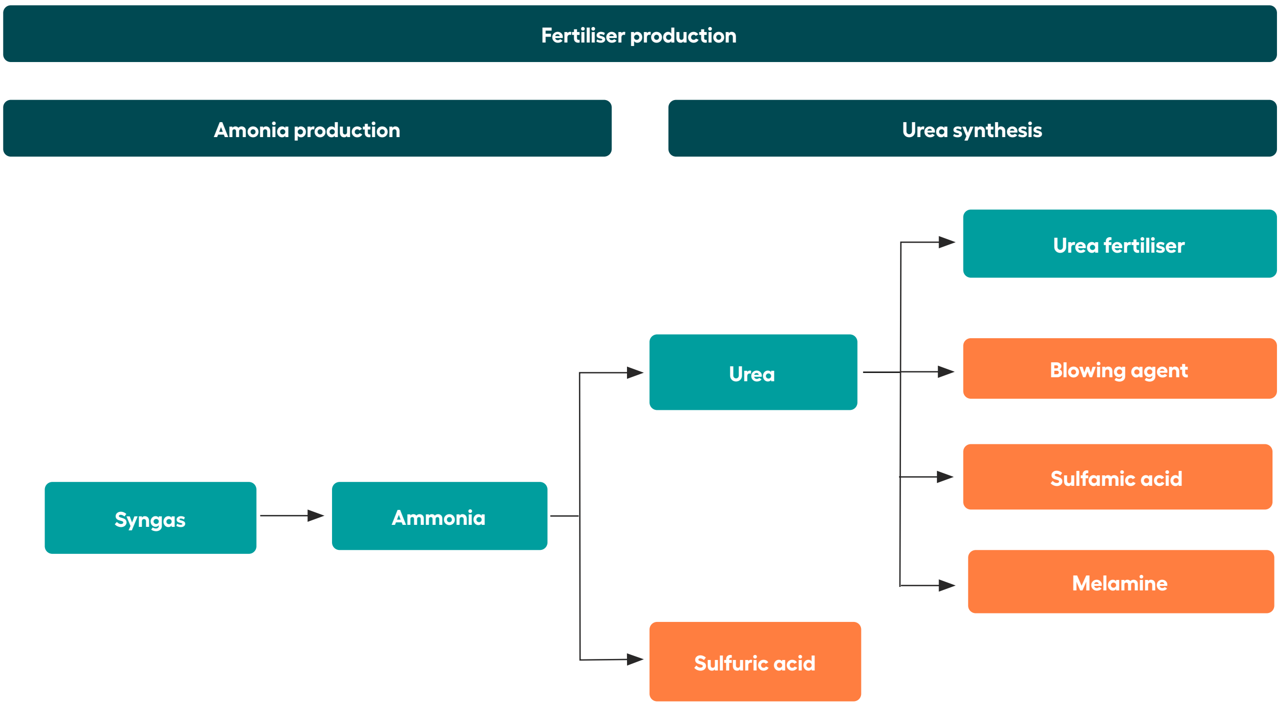
Decarbonisation pathways for Fertilizer and Chemical Industry

The chemical subsectors overviewed in this assessment are fertilizer and olefin-based industries. Fertilizer industry mainly depends on the ammonia to produce urea, whilst olefin industry includes factories producing ethylene, propylene, etc., serve as main ingredients for plastic products (plastic wraps, food container, etc.). For both subsectors, the main emission source is industrial process and product use (IPPU) rather than the energy use, making them more difficult to decarbonise since the emission source is embedded in the feedstock. The possible decarbonisation routes for each subsector are discussed as follows.

Fertilizer Industry

The fertilizer production chain begins with syngas, a mixture of hydrogen and nitrogen derived primarily from natural gas reforming, which is converted into ammonia through the Haber-Bosch process under high temperature and pressure. Ammonia serves as the central intermediate of the nitrogen industry. In the urea synthesis stage, ammonia reacts with carbon dioxide captured from the reforming unit to produce urea. Most urea output is sold directly as urea fertilizer for agriculture, but urea also functions as a chemical feedstock for several non-fertilizer derivatives, such as blowing agents for foamed plastics, sulfamic acid for cleaning and descaling applications, and melamine for resins and laminates. A separate branch from ammonia leads to sulfur-based chemistry, reflecting its use alongside sulfuric acid in products such as ammonium sulfate fertilizer. Since natural gas reforming and ammonia synthesis are highly energy and hydrogen intensive, this stage of the chain accounts for the bulk of the industry's carbon emissions and is the main target of fertilizer decarbonisation strategies.

Figure 8. Current production route in fertilizer industry Source: adapted from WRI Indonesia, 202



Source: adapted from WRI Indonesia, 2025

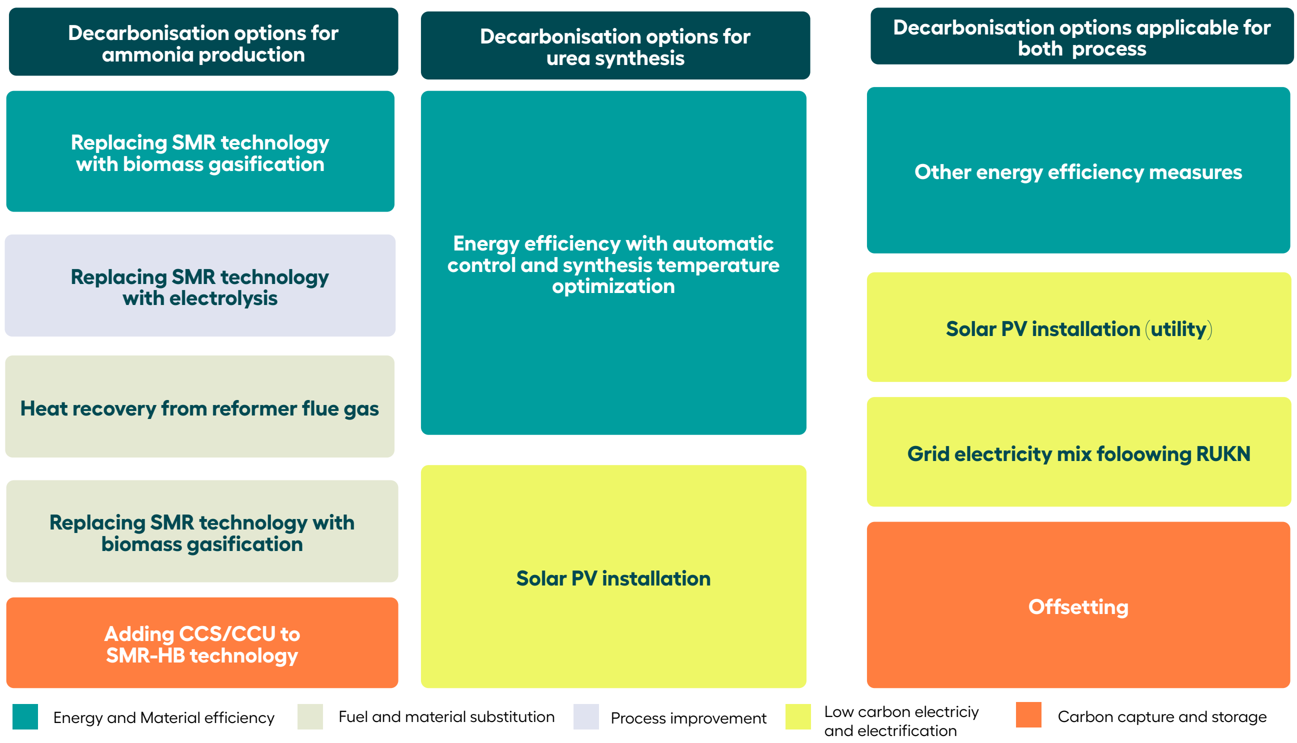
The decarbonisation pathway for ammonia production rests on a layered combination of measures spanning the full mitigation hierarchy.

1. The starting point is energy and material efficiency, such as recovering heat from reformer flue gas and similar process optimizations that deliver near-term gains at relatively low cost.
2. Then the strategy moves into deeper process improvements and fuel substitution, replacing conventional steam methane reforming (SMR) with lower-carbon production routes: biomass gasification, which substitutes a renewable feedstock for natural gas, and electrolysis, which uses green hydrogen to displace fossil-based feedstock entirely because ammonia's emissions are largely embedded in the reforming process itself, these feedstock-switching options are essential but capital-intensive and dependent on technology maturity.
3. The pathway is completed by carbon capture, with CCS/CCU added to SMR-based units to abate the residual process emissions that efficiency and substitution alone cannot eliminate.

Urea synthesis, which sits downstream of ammonia, has a narrower but complementary set of options. Its principal lever is energy efficiency through automatic control systems and optimization of synthesis temperature, reflecting that urea's own process emissions are smaller and more about energy management than feedstock chemistry. This is paired with low-carbon electrification, primarily through captive solar PV installation to green the power consumed in synthesis.

Beyond the two product-specific columns, a third set of options applies across both processes: broader energy-efficiency measures, utility-scale solar PV, a progressively cleaner grid electricity mix aligned with Indonesia's national electricity plan, and offsetting to neutralize whatever emissions remain. Taken together, the matrix illustrates that deep decarbonisation of the ammonia-urea chain depends less on any single intervention than on sequencing these levers.

Figure 9. Options for decarbonisation in fertilizer industry



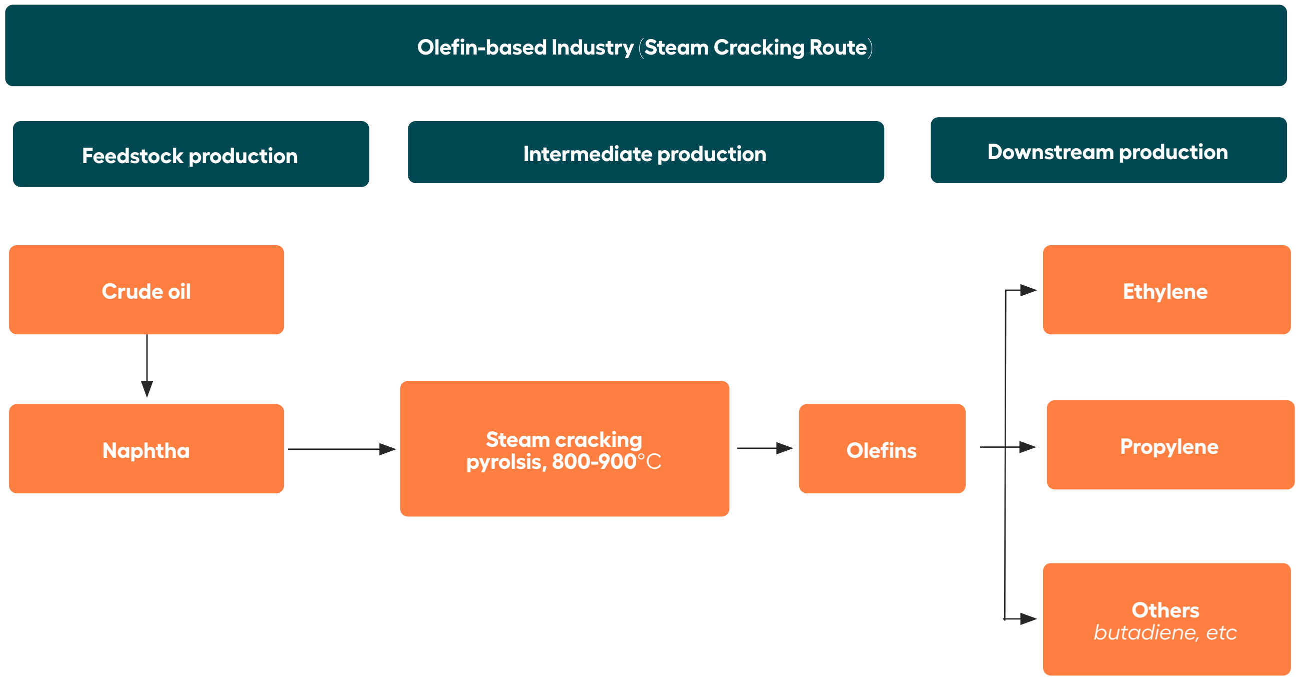
Source: Adapted from WRI Indonesia, 2025

Olefin-Based Industry

The conventional olefin production mainly uses steam cracking routes. It begins with crude oil, which is refined into naphtha. In Indonesia's context, chemical companies such as Chandra Asri or Lotte Chemical Indonesia directly procure naphtha instead of crude oil, bypassing the refination process. Then, in the steam cracker, naphtha is diluted with steam and heated to around 800–900°C, causing its hydrocarbon chains to break apart through pyrolysis; the cracked gas is then rapidly quenched, compressed, and separated into a slate of olefins.

These reactive intermediates are fractionated into the industry's principal building blocks: ethylene as the largest output, propylene as the second, and other co-products such as butadiene. Because the cracking reactions are strongly endothermic and require continuous high-temperature furnace firing, steam cracking ranks among the most energy- and emissions-intensive processes in the chemical industry, placing it at the centre of petrochemical decarbonisation efforts.

Figure 10. Steam cracking route for olefin-based product



Source: adapted from WRI Indonesia, 2025

The olefin sub-sector presents a more complex decarbonisation picture than ammonia and urea, because there are several distinct production routes, each with its own mitigation profile. Plant owner has options of either keeping conventional steam cracking assets or replacing them with an alternative process.

For the conventional steam cracking process, which is the dominant route in Indonesia, the options follow the same hierarchy seen in ammonia.

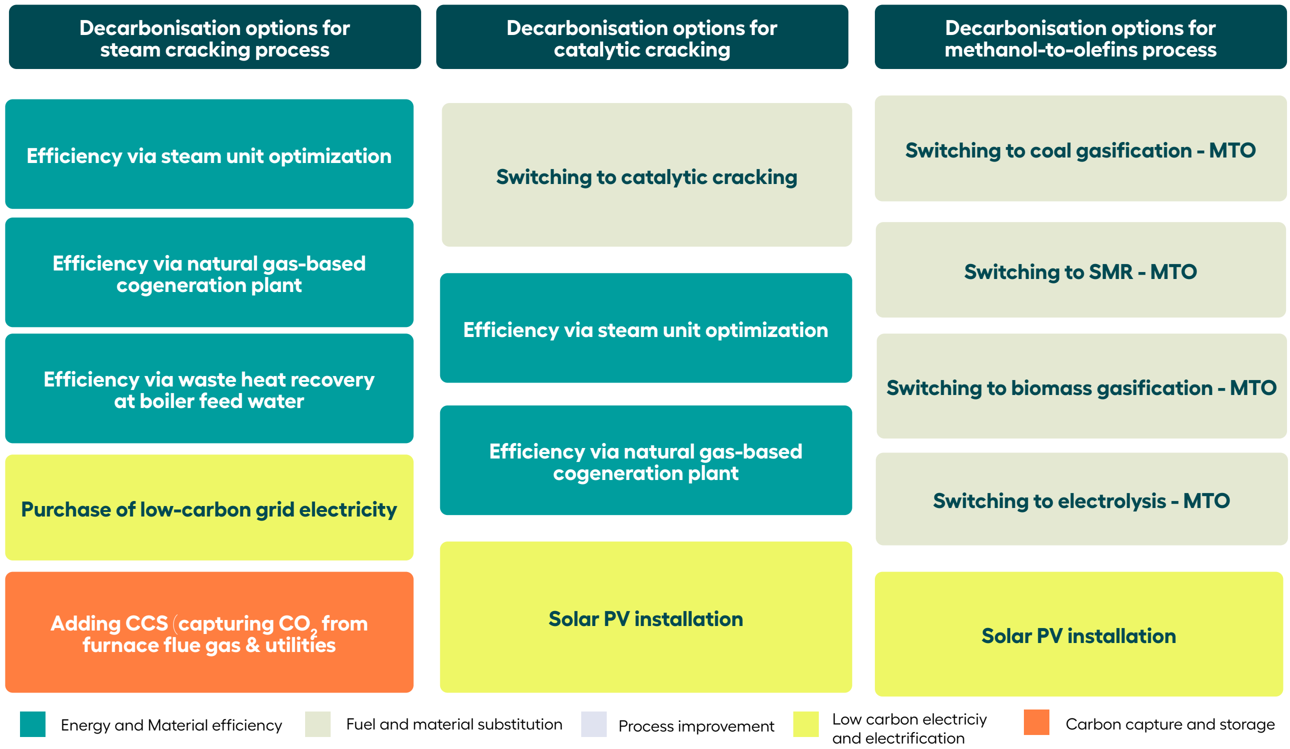
1. Energy and material efficiency comes first, through steam unit optimization, natural gas-based cogeneration, and waste-heat recovery at the boiler feed water.
2. These are then supplemented by low-carbon electrification via the purchase of cleaner grid electricity, and ultimately by carbon capture, adding CCS to capture CO^2 from furnace flue gas and utility units.
3. As with ammonia reforming, this final step matters because a large share of steam cracking's emissions is intrinsic to the high-temperature process and cannot be removed by efficiency measures alone.

The alternative options to steam cracking are 1) catalytic cracking and 2) methanol-to-olefins (MTO).

1. Switching to catalytic cracking offers an alternative cracking route, still paired with the familiar efficiency measures such as steam optimization and gas-based cogeneration, along with captive solar PV for low-carbon power.
2. The methanol-to-olefins (MTO) pathway is the most transformative, replacing the cracking route entirely with olefins produced from methanol, and its emissions depend heavily on how that methanol is made. The options therefore range from coal gasification and conventional SMR at the higher-carbon end, through biomass gasification, to electrolysis-based MTO using green hydrogen at the lowest-carbon end, again complemented by solar PV.

Together, the olefin matrix shows that the sector's decarbonisation is not a single track but a choice between retrofitting existing crackers through efficiency and CCS, and adopting alternative production routes such as catalytic cracking or MTO.

Figure 11. Options for decarbonisation in olefin-based industry



Source: adapted from WRI Indonesia, 2025

Industry receptions to decarbonisation opportunities

Industry responses to the decarbonisation agenda are shaped less by the absolute size of the projected cost increase than by how that increase compares to the margin cushion each sector currently operates with. The modelling done by WRI Indonesia indicates that full implementation of the decarbonisation strategy would raise the fertilizer industry's cost of production by around 30% by 2050, while olefin production cost rises by around 17%, with ethylene at 14% and propylene at 9% (WRI, 2025).

At first glance, fertilizer appears to face the heavier burden, yet the opposite reading is equally plausible. Fertilizer producers operate within an administered market: urea prices are governed by the subsidy scheme and retail price ceilings, and the government is the dominant buyer, which means the cost increment is ultimately absorbed through a policy channel rather than tested directly against global competition. Olefin producers enjoy no such buffer. Petrochemicals are globally traded commodities in which Indonesian producers are price takers against large, cost-advantaged complexes in China and the Middle East, and regional cracker margins have in recent years been thin, cyclical, and at times below cash cost.

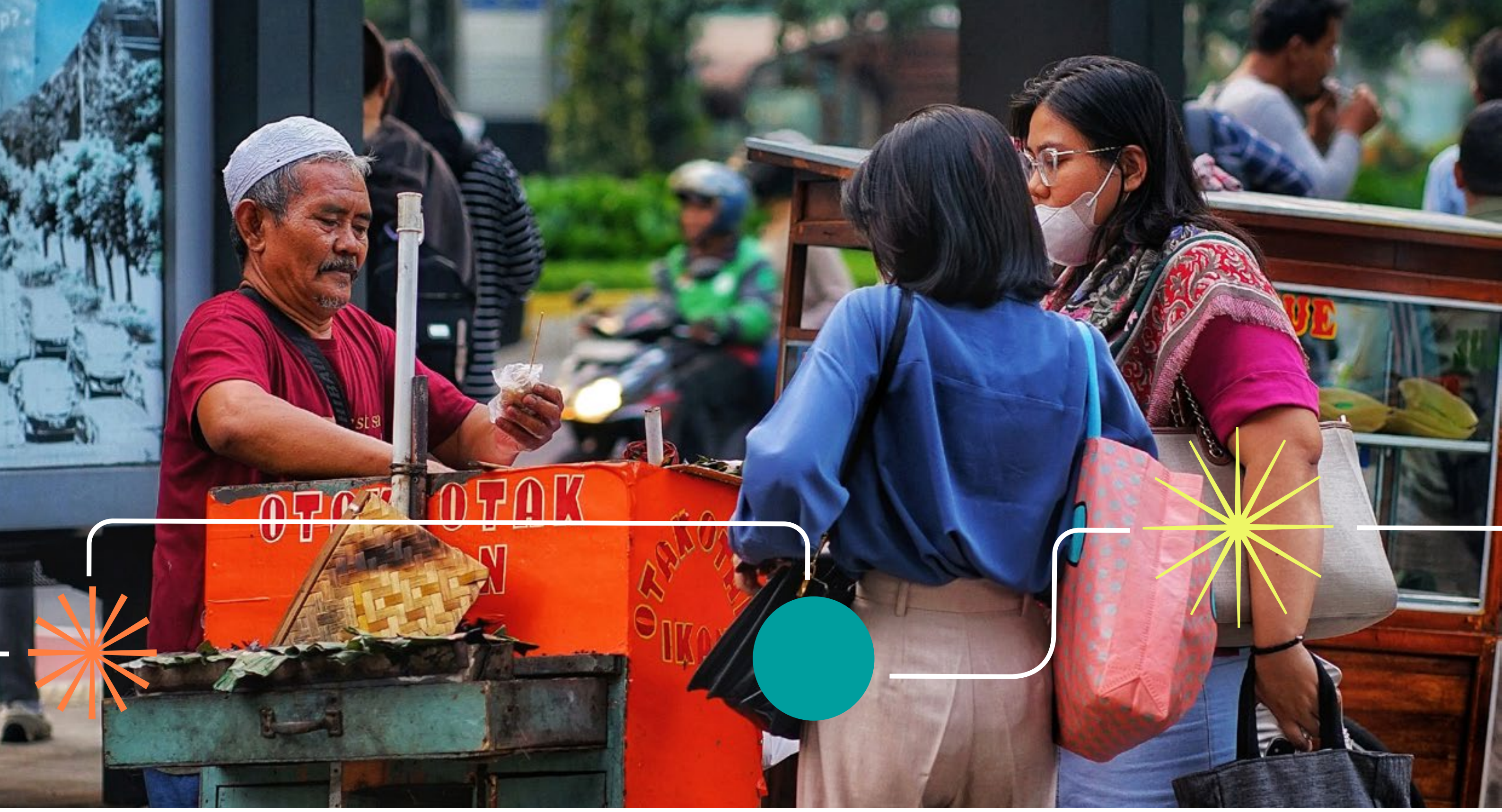
In that context, even a 9 to 17% structural cost increase that cannot be passed through to market prices may exceed the entire operating margin, threatening the competitiveness of domestic production against unabated imports. The sensitivity of the increment, in other words, is inversely proportional to the margin: the same percentage rise that an administered market can be redesigned to accommodate can be existential in an open commodity market. This asymmetry explains why industry reception tends to be cautious; firms perceive decarbonisation first as a cost and competitiveness risk, and only secondarily as an opportunity, unless there are policies to change that situation.

Creating the playing fields for low-carbon products

Changing the current environment requires shifting the policy mix from technology-push alone toward strong demand-pull enablers that convert low-carbon production into a source of value rather than a unilateral cost. One of the potential levers is to create the green premium market for the products. For fertilizer, the government's procurement power is the most direct lever: embedding low-carbon specifications into the subsidized fertilizer program and compensating the green premium through the subsidy formula would create guaranteed offtake for green ammonia and urea, while emerging green ammonia demand in markets such as Japan and Korea offers an export-side premium.

For olefins, the priority is a carbon pricing framework paired with leakage protection, such as a border adjustment on high-carbon imports, so that domestic low-carbon producers are not undercut; this can be reinforced by certified low-carbon and circular plastics markets, where brand owners are increasingly willing to pay premiums to meet their own emission commitments, and by green public procurement standards for plastic products.

Another opportunity to accelerate decarbonisation is to harness the emission trading system (ETS) market. The emission reduction from the companies' effort could be commercialized to obtain financial benefit rather than companies' reputational benefit. To enable this, a working and effective ETS market shall be established first and that could lead to several key enablers: companies' readiness, robust GHG emission MRV, and appropriate emission cap to ensure ETS market effectiveness.



Opportunity for policy advocacy

The focus in Indonesia's climate transition are currently heavily concentrated in the renewable energy and electric vehicle ecosystems. In contrast, heavy manufacturing and "hard-to-abate" industries like petrochemicals remain a significant "white space" for philanthropy and civil society. Prioritizing decarbonisation of the petrochemical sector offers a unique opportunity to achieve substantial emission reductions while directly supporting Indonesia's national economic and security priorities.

The Strategic "White Space"

Current climate financing in Indonesia largely overlooks the massive emissions locked within industrial processes. The petrochemical and fertilizer sectors are critical engines of the Indonesian economy, yet they face an immense funding gap for decarbonisation. By entering this white space, we can catalyse early-stage transformations in heavy industries that currently lack sufficient international financial support and technological access.

Aligning with National Priorities

Successful policy advocacy in Indonesia requires aligning climate goals with the government's overriding focus on economic growth and industrial downstreaming.

- Supply Chain Vulnerability: As highlighted by recent geopolitical supply shocks, Indonesia is highly vulnerable to fossil fuel imports. Decarbonisation technologies, such as bio-naphtha and chemical recycling, directly substitute imported fossil fuels with local alternative resources. This fulfills the urgent national priority of feedstock security.
- Export Competitiveness: The impending EU CBAM threatens the margins of Indonesian exports. Transitioning to low-carbon production is increasingly viewed by state enterprises not just as an environmental mandate, but as a crucial trade defence mechanism to maintain access to premium global markets.

Considerations for Program Design

When designing programs for the Indonesian petrochemical sector, several structural realities must be considered into the strategy:

- Pre-Commercial Technology: The technologies required for deep industrial decarbonisation in this sector, such as electric crackers, green hydrogen, and carbon capture, are still largely in the pre-commercial or pilot stages globally.
- Nascent Policy Environment: Indonesia's industrial decarbonisation policy is still in its infancy. While voluntary guidelines exist, binding carbon regulations and market-making incentives for the chemical sector have not yet been fully established.
- CAPEX Sensitivity: Heavy industries operate on incredibly thin margins. The massive CAPEX required to integrate green technology drastically increases the levelised cost of production. Without state subsidies or low-cost financing, domestic companies are highly resistant to absorbing these transition costs.

Strategic Framing and Execution

Because of these structural challenges, we should not expect quick, short-term emission reductions. Instead, advocacy programs must be designed with a long-term horizon tailored specifically to Indonesia's political economy.

To gain traction, climate action must be reframed. Rather than pushing purely environmental or carbon-pricing narratives should be framed as an engine for national economic growth, industrial resilience, and feedstock security. By embedding climate initiatives into the state's existing economic agenda, civil society can support robust policy to transform Indonesia's heaviest emitting sectors.

Potential programs for supporting petrochemical sector

There are numerous potential interventions to help Indonesia's petrochemical sector simultaneously reduce its reliance on imported feedstocks and cut greenhouse gas emissions. A conventional approach would be to promote an ETS or direct carbon pricing. In theory, this would incentivise the capital investments needed for decarbonisation, which carries the co-benefit of enhancing supply chain security by pivoting the industry away from imported fossil fuels.

However, implementing this conventional program design is highly unlikely to succeed in the current political economy. Although the Indonesian government has long discussed carbon pricing, execution in the industrial sector remains stalled. While an ETS framework exists and is currently being piloted in the power sector, it acts primarily as an emissions monitoring tool without imposing financial penalties for exceeding carbon caps. There is currently a distinct lack of political will to mandate punitive carbon policies for heavy manufacturing. This hesitation is driven by deep concerns that carbon pricing will inflate production costs and severely damage the competitiveness of domestic industries.

For any program to succeed, it must align with the core interests of two primary stakeholders. First, the industry prioritizes business survival, margin protection, and expansion and second, the government is focused on macroeconomic stability, job creation, industrial downstreaming, import reduction, and export growth.

Six strategic programs are proposed: Low-carbon Plastics Certification and Procurement, a National Industrial LCA & CBAM Readiness Lab, Emissions-Linked Import Safeguards, a Waste-to-chemical Pilot Model, a Green Ammonia Project Preparation Facility, and Bio-naphtha Blending initiatives. In these programs, philanthropy and civil society organisations would act as catalysts and facilitators connecting the private sector, civil society and government, rather than operating as isolated actors.

Table 1. Proposed strategic programs for petrochemical industry

No	Policy Options	Description	Role of Philanthropy/Civil Society
1	Low-carbon Plastics Certification and Procurement	Certification of plastic products' embedded emissions and followed by procurement by government or state-own enterprises.	Draft regulatory formula for Ministry of Industry and/or Government Goods/ Services Procurement Policy Agency (LKPP), prove creation of domestic market without significant burden to industry and consumers.
2	National Industrial LCA & CBAM Readiness Lab	Establishing a centralized database for petrochemicals LCA as industry reference and supporting exports to CBAM regions.	Build the database with universities, grant for carbon accounting to Indonesian factories.
3	Emissions-Linked Import Safeguards	Designing import tariffs that specifically penalize high-carbon petrochemical/plastic	Support experts for industry association and Ministry of Trade
4	Waste-to-chemical Pilot Model	Formalizing supply chains of waste (agriculture/plastics) to feed Pertamina/Chandra Asri	Pilot projects and pre-FS for waste aggregators to prove the economics of delivering consistent, high-volume feedstock
5	Green Ammonia Project Preparation Facility	Helping Pupuk Indonesia design their green ammonia into a bankable project for financing.	Technical and financial advisors to work with Pupuk Indonesia
6	Bio-naphtha Blending	Creating a phased blending target for green naphtha in the chemical sector	Macroeconomic impact studies showing foreign exchange saving by replacing import with a domestic bio-naphtha.

When assessed against stakeholder interests, two programs score highly across all three groups: the National Industrial LCA & CBAM Readiness Lab and the Green Ammonia Project Preparation Facility. Because these programs directly support trade defence and open new export avenues, they are highly likely to secure robust backing from the industry, government and civil society.

Table 2. Analysis of stakeholders' appetite in the proposed programs

Intervention / Policy Options	Alignment with Local Industry	Alignment with Climate Targets	Alignment with Gov / National Interest
1. Low-carbon Plastics Certification and Procurement	**High.** Creates a domestic market for green products. Consumers are increasingly concerned about the sustainability of products they consume.	**High.** Drives green market creation.	**Medium.** Neutral impact towards the country's economic goal.
2. National Industrial LCA & CBAM Readiness Lab	**High.** Industry likely welcomes knowledge/information that help protect their export markets.	**High.** Directly ties into the EU's CBAM policy framework, building transparency in the Global South.	**High.** Protects national export revenues, foreign exchange reserves, and prevents deindustrialisation.
3. Emissions-Linked Import Safeguards	**Medium.** Likely supported by industry (blocks cheap dumping from overseas). But the downstream packaging industry may be concerned if it raises costs.	**Medium.** Drives green market creation.	**High.** Protects from foreign dumping
4. Waste-to-Chemical Pilot Models	**Medium.** Improve feedstock security, but industry may concern on supply consistency.	**High.** Not only decarbonisation/fossil phase out but also aligned with principles on circular economy and Just Transition.	**High.** Help addressing municipal landfill crises, creates jobs for waste collectors and recycling, and cuts naphtha import deficit.
5. Green Ammonia Project Prep Facility	**High.** Green ammonia is highly lucrative for export, diversifying Pupuk Indonesia from the domestic market.	**High.** Aligned with EU technological priority	**High.** Improves SOE prestige, boosts exports revenue.
6. Bio-Naphtha Blending Mandate	**Medium.** Improve feedstock security, but industry may concern on supply consistency.	**Low to medium.** Depending on the sourcing of the biogenic material and risk to deforestation	**High.** Replicates success of biodiesel program, saves foreign exchange.

It is crucial to note that this high alignment score does not automatically guarantee operational feasibility. Rigorous subsequent analysis is required before capital deployment. For instance, while supporting Pupuk Indonesia's green ammonia exports perfectly aligns with all stakeholder goals, the final product may ultimately struggle to compete on price in international markets, or internal corporate bottlenecks may hinder execution. Similarly, while a CBAM Readiness Lab is conceptually strong, if Indonesia's low-carbon goods remain globally uncompetitive against foreign rivals, the pressure of CBAM compliance will fail to drive actual green investments domestically.

Given the industry's current hesitation toward decarbonisation and the pre-commercial status of many clean technologies, funding direct physical infrastructure projects may be ineffective in the short term. Instead, prioritizing ecosystem-building programs, specifically the LCA & CBAM Readiness Lab and Low-carbon Plastics Certification frameworks, is highly recommended. While these programs may not yield immediate physical emission reductions, they serve as vital testing sandboxes. They create collaborative environments where stakeholders can jointly evaluate the commercial viability of future decarbonisation efforts, laying the necessary regulatory and commercial groundwork for long-term industrial transition.

Reference

Asahimas Chemical. (2026, January 1). Asahimas Chemical. Asahimas Chemical. https://www.asc.co.id/index.php/id/profil/sekilas-asc

Badan Pusat Statistik. (2026, March 10). Badan Pusat Statistik. Retrieved June 11, 2026, from https://www.bps.go.id/id/statistics-table?subject=531&sortBy=date%2Ctitle&sortOrder=desc%2Casc

BPK RI. (2001, November 23). UU No. 22 Tahun 2001. Peraturan BPK. Retrieved June 11, 2026, from https://peraturan.bpk.go.id/Details/44903/uu-no-22-tahun-2001

Cetro. (2026, April 23). Cetro. Cetro. https://cetro.or.id/artikel/lotte-chemical-titan-malaysia-jalin-penjualan-naphtha-ke-afiliasi-untuk-lindungi-pasokan-di-tengah-konflik-iran

Chandra Asri Group. (2026, January 1). Chandra Asri Group. Chandra Asri Group. https://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK/From_EREP/202604/a4386638a7_59c7abf50a.pdf

Chandra Asri Group. (2026, March 5). Chandra Asri Group. Chandra Asri Group. https://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK/From_EREP/202603/4cf9eceabf_03918612b8.pdf

Chandra Asri Group. (2026, June 11). Chandra Asri Group. Chandra Asri Group. https://chandra-asri.com/id/sustainability/reports-and-publications

CNBC Indonesia. (2026, May 18). Prabowo Pamer Australia, India & Filipina Borong Pupuk RI. CNBC Indonesia. Retrieved June 11, 2026, from https://www.cnbcindonesia.com/news/20260518072829-4-735403/prabowo-pamer-australia-india-filipina-borong-pupuk-ri

International Energy Agency. (2018). The Future of Petrochemicals: Towards more sustainable plastics and fertilisers. International Energy Agency. https://www.iea.org/reports/the-future-of-petrochemicals

Investor Trust. (2026, April 29). Investor Trust. Investor Trust. https://investortrust.id/macro/101663/indonesia-scraps-import-duties-on-lpg-and-plastics-to-combat-hormuz-driven-petrochemical-crisis?page=english-edition

Katadata. (2026, March 19). Katadata. Katadata. https://katadata.co.id/berita/energi/69bbfe8bdd0ca/dampak-perang-iran-prabowo-perintahkan-kebut-elektrifikasi-sektor-strategis

Kilang Pertamina Internasional. (2025, January 1). Kilang Pertamina Internasional. Kilang Pertamina Internasional. https://kpi.pertamina.com/en/hubungan-investor/laporan-tahunan

Kilang Pertamina Internasional. (2026, June 11). Kilang Pertamina Internasional. Kilang Pertamina Internasional. https://kpi.pertamina.com/en/inovasi-bisnis

Lotte Chemical Indonesia. (2026, January 1). Lotte Chemical Indonesia. PT Lotte Chemical Indonesia. Retrieved June 11, 2026, from https://www.lottechem.id/id/company?menu=company&page=about&name=About+Us

Lotte Chemical Indonesia. (2026, April 29). Lotte Chemical Indonesia. Lotte Chemical Indonesia. https://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK/From_EREP/202604/b7dd02d85d_5142dc6b08.pdf

Ministry of Energy and Mineral Resources, Republic of Indonesia. (2012). EOR Sumbang 40% Produksi Minyak Nasional. EOR Sumbang 40% Produksi Minyak Nasional. Retrieved June Thursday, 2026, from https://www.esdm.go.id/id/media-center/arsip-berita/eor-sumbang-40-produksi-minyak-nasional

MSN. (2026, 4 14). MSN. MSN. https://www.msn.com/id-id/berita/other/pasokan-terganggu-lotte-chemical-indonesia-lci-pangkas-kapasitas-produksi/ar-AA20QkMY

Polytama. (2024, 1 1). Polytama. Polytama. https://polytama.co.id/wp-content/uploads/2024/05/Polytama-Propindo-AR-SR-2023-Design-Preview-AR-rev30.pdf

PT Pertamina (Persero). (2023). Pertamina. Annual Report 2023: Energizing Sustainable Growth. Retrieved 2026, from https://www.pertamina.com/en/investor-relations/annual-report

PT Pupuk Indonesia. (2023, September 4). PT Pupuk Indonesia. PT Pupuk Indonesia. https://www.pupuk-indonesia.com/media-info/detail/303/pupuk-indonesia-kenalkan-blue-green-ammonia-di-aipf-2023

PT Pupuk Indonesia. (2024, 1 1). PT Pupuk Indonesia. PT Pupuk Indonesia. https://www.pupuk-indonesia.com/storage/1373/66fe6de518811_ptpi_2023-annual-report-2.pdf

Trading Economics. (2026, June 11). Trading Economics. ID | TRADINGECONOMICS.COM: INDIKATOR EKONOMI. Retrieved June 11, 2026, from https://id.tradingeconomics.com/

Unair. (2026, April 9). Harga Plastik Melambung Tinggi, Pakar UNAIR Tekankan Inovasi UMKM. Universitas Airlangga. Retrieved June 11, 2026, from https://unair.ac.id/harga-plastik-melambung-tinggi-pakar-unair-tekankan-inovasi-umkm/

UN Comtrade Database. (2026, June 11). UN Comtrade Database. Retrieved June 11, 2026, from https://comtradeplus.un.org/

WRI Indonesia. (2025). Peta Jalan Dekarbonisasi 9 Subsektor Industri. WRI Indonesia. https://wri-indonesia.org/id/berita/pemerintah-susun-peta-jalan-industri-nol-emisi-bersih-pada-2050

Endnotes

1 https://migas.esdm.go.id/post/harga-minyak-mentah

2 https://kumparan.com/kumparanbisnis/prabowo-kebut-proyek-plts-100-gw-industri-siap-ekspansi-kapasitas-produksi-270YS9QYg7t/full

Climate Catalyst

W: www.climatecatalyst.org
E: info@climatecatalyst.org
T: @climacatalyst
L: linkedin.com/company/climate-catalyst-ngo

June 2026