Analysis: Indonesia's alumina and aluminum outlook 2026
By Dominikus

Indonesia's alumina and aluminum industry is entering a decisive expansion phase, underpinned by structural demand growth and an accelerating pipeline of downstream projects. According to the outlook from the Ministry of Industry, national aluminum demand is projected to rise steadily through 2045, driven primarily by electric vehicle manufacturing and large-scale solar deployment. Annual demand is expected to grow from around 1.1 million tons in 2023–2024 to more than 4.6 million tons in 2025–2029, before exceeding 6.3 million tons in 2030–2034. Demand is forecast to surpass 8.2 million tons in 2035–2039 and reach over 10 million tons by 2039–2045, underscoring the strategic importance of expanding domestic smelting and downstream capacity to support long term industrial growth and the energy transition.

By 2025, Indonesia has already recorded several key milestones across the alumina segment. PT Borneo Alumindo Prima has begun producing from its 1 million-ton alumina refinery and is progressing construction toward a 1,5 million-ton capacity. PT Bintan Alumina Indonesia has expanded its alumina refinery to 4 million tons per annum, reaching this level earlier than its initial target of the first half of 2026. State-owned PT Borneo Alumina Indonesia is now operating at its full 1 million ton capacity, while several other projects continue to advance through construction or permitting stages, reinforcing Indonesia's upstream refining base.

Momentum is also building in electrolytic aluminum, the downstream extension of alumina processing, although progress remains uneven. PT Hua Chin Alumina Indonesia is upgrading capacity from 250,000 tons to 500,000 tons, while PT Harmony Electrolytic Aluminium Indonesia has announced plans to commence construction of a 250,000-ton smelter by 2026. PT Kalimantan Aluminium Industry Phase 1 is currently under commissioning, and multiple aluminum projects within the Indonesia Weda Bay Industrial Park are preparing for production start-up.

Despite these developments, electrolytic aluminum capacity continues to lag behind alumina expansion, highlighting a structural imbalance that will shape the industry's outlook toward 2026.

Based on Petromindo.com estimates, realised investment across alumina and aluminum projects has reached approximately US$5.5–6.0 billion, while total committed and planned investment could exceed US$30 billion by 2030. These figures signal Indonesia's ambition to establish itself as a fully integrated aluminum-producing country, anchored by industrial clusters in West Kalimantan, North Kalimantan, Central Kalimantan, the Riau Islands, Bangka Belitung, Central Sulawesi, and North Maluku, with emerging developments in Banten and East Java.

This domestic expansion is unfolding against a supportive global backdrop. Global aluminum demand is expected to continue increasing through 2028, with an estimated growth rate of around 2.5 percent. Global secondary aluminum consumption is projected to reach 36 million tons by 2028, accounting for approximately 30 percent of total aluminum consumption worldwide. On the supply side, carbon emission considerations are expected to play an increasingly important role in shaping future capacity additions. Over the longer term, Indonesia is projected to emerge as the world's fifth-largest aluminum supplier, reflecting its growing role in the global aluminum value chain.

Within Indonesia, primary aluminum consumption remains dominated by demand from the transportation sector, including the development of the electric vehicle ecosystem, followed by building and construction and the electrical industry. Together, these demand centers reinforce the

strategic case for continued downstream expansion, while underscoring the importance of resolving bottlenecks in primary aluminum smelting as Indonesia moves toward 2026.

A. Overview bauxite commodity

Bauxite ore ($Al_2O_3 \cdot 3H_2O$) is initially crushed and ground to achieve a finer particle size before undergoing the Bayer process. The process includes digestion of bauxite in caustic soda, separation of the sodium aluminate solution from impurities such as SiO_2 and Fe_2O_3, precipitation to form aluminum hydroxide, and subsequent calcination to produce smelter-grade alumina (SGA). Part of the alumina stream can be further refined into chemical grade alumina (CGA) for non-metallurgical applications. At present, two companies are producing SGA, while sixteen projects are under construction, including one facility that has commenced CGA production.

Downstream of alumina, electrolytic aluminum production via the Hall-Héroult process converts alumina into primary aluminum. Indonesia currently has three operating electrolytic aluminum producers and four projects under construction. Electrolytic aluminum is then cast into slabs and billets and further processed into downstream products such as aluminum plate and sheet, aluminum foil, aluminum wire, aluminum profiles, and aluminum tubes.

Grinding → Bayer Process (Alumina Refining) → Hall-Héroult Process → Hot and Cold Rolling

Stage	Bauxite (Gibbsite)	Smelter Grade Alumina (SGA)	Chemical Grade Alumina (CGA)	Electrolytic Aluminum	Aluminium Slab & Billet	Aluminium Extrusion
Bauxite Content %	30–60% Al2O3·3H2O	98.5% Al2O3	99% Al(OH)3	99.70–99.90%	99%	80–98%
Application	Raw materials (SGA–CGA)	Raw materials for Electrolytic Aluminum	Raw materials, water purification, refractories, IC	Raw materials (Al slab and billet)	Extrusion feedstock	Downstream products (Al plate, Al sheet, Al foil, Al wire, Al profile, Al tube)
Number of IUPs	81	–	–	–	–	–
Production Companies	–	2	1	3	9	28
Construction Companies	–	16	0	7	1	3
Total	–	18	1	7	10	31

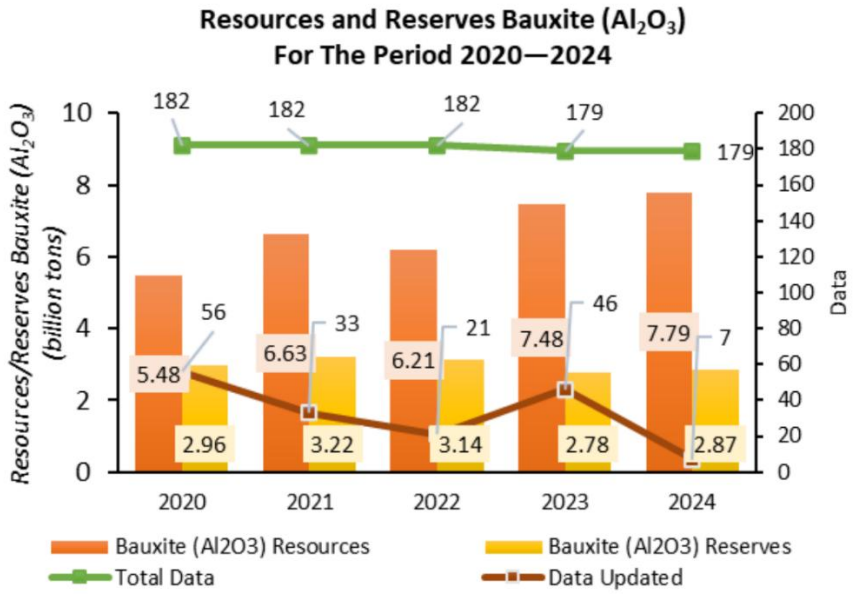
Source: Ministry of Investment and Downstreaming

PT Agrabudi Gasutama Prima	PT Dwimitra Enggang Khatulistiwa	PT Tayan Alumina Abadi
PT Aneka Tambang Tbk	PT Energi Bara Lestari	PT Telaga Bintan Jaya
PT Aries Iron Mining	PT Fortuna Jaya Makmur	PT Visitama
PT Baniran Alumina Cempaga	PT Hermina Jaya	PT Sandai Kemakmuran Utama
PT Barata Guna Perkasa	PT Indonesia Batubauksit Bajarau	PT Kurnia Jaya Raya
PT Billy Indonesia	PT Kalimantan Berkah Inti Tambang	PT Labai Pertiwi Tambang
PT Bino Artomas Mineral	PT Kalmin	PT Lahan Makmur Sejahtera
PT Bintangar Maju Abadi	PT Kapuas Bara Mineral	PT Laman Mining
PT Bintang Tayan Mineral	PT Ketapang Karya Utama	PT Mahkota Karya Utama
PT Borneo Edo International	PT Kindai Mandiri Sejahtera	PT Mandara Prima Nusantara
PT Borneo Edo Sejahtera		PT Mega Citra Utama
PT Budhi Dharma Inti Tambang		PT Mekko Metal Mining
PT Bukit Betung Sejahtera		PT Meliau Ratu Abadi
PT Bumi Khatulistiwa Bauksit		PT Mendawa Argapura Sentosa
PT Bumiraya Utama Industries Logam	PT Sandai Persada Tambang	PT Paloan Maju Abadi
PT Cakra Internusa	PT Sandai Putra Kalimantan Mineral	PT Panca Raja Perkasa
PT Casanamatra Kencana	PT Sanmas Mekar Abadi	PT Parenggean Makmur Sejahtera
PT Cita Mineral Investindo Tbk	PT Sinar Kalimantan Inti Tambang	PT Persada Buana Gemilang
PT Citra Mentaya Mandiri	PT Sinar Mahakam Utama Mining	PT Persada Pratama Cemerlang
PT Coalindex Indonesia	PT Sumber Bumi Marau	PT Pusaka Jaman Raja
PT Daya Mineral Alam	PT Sumber Globalindo Mining	PT Quality Sukses Sejahtera
PT Dinamika Sejahtera Mandiri	PT Sylva Sari	PT Quatra Algis Mining
PT Duta Borneo Pratama	PT Tamindo Mutiara Perkasa	PT Rejeki Jaya Mandiri
PT Dutam Mineral	PT Tanjung Air Berani	PT Ridatama Cahaya Abadi

Bauxite Mining Companies Recorded by Petromindo.com

Based on a presentation by Muhammad Wafid A.N., Senior Geological Investigator, Ministry of Energy and Mineral Resources, delivered at the 17th MGEI Annual Convention in Surabaya on 25 November 2025, Indonesia's bauxite resource base remains substantial. Indonesia's total bauxite ore resources are estimated at 7.7 billion tons, while metal resources expressed as alumina (Al_2O_3) amount to approximately 1.3 billion tons. Proven bauxite ore reserves are estimated at 2.8 billion tons, with corresponding alumina (Al_2O_3) metal reserves of around 552 million tons.

From a strategic development perspective, key bauxite areas identified include Seruyan (Lanpasa) in Central Kalimantan, Ketapang (Nanga Tayap) in West Kalimantan, Landak (Bagak) in West Kalimantan, and Mempawah (Toho) in West Kalimantan. Additional areas currently under evaluation and development include Cempaga Hulu and Telawang in Kotawaringin Timur, Central Kalimantan Province.

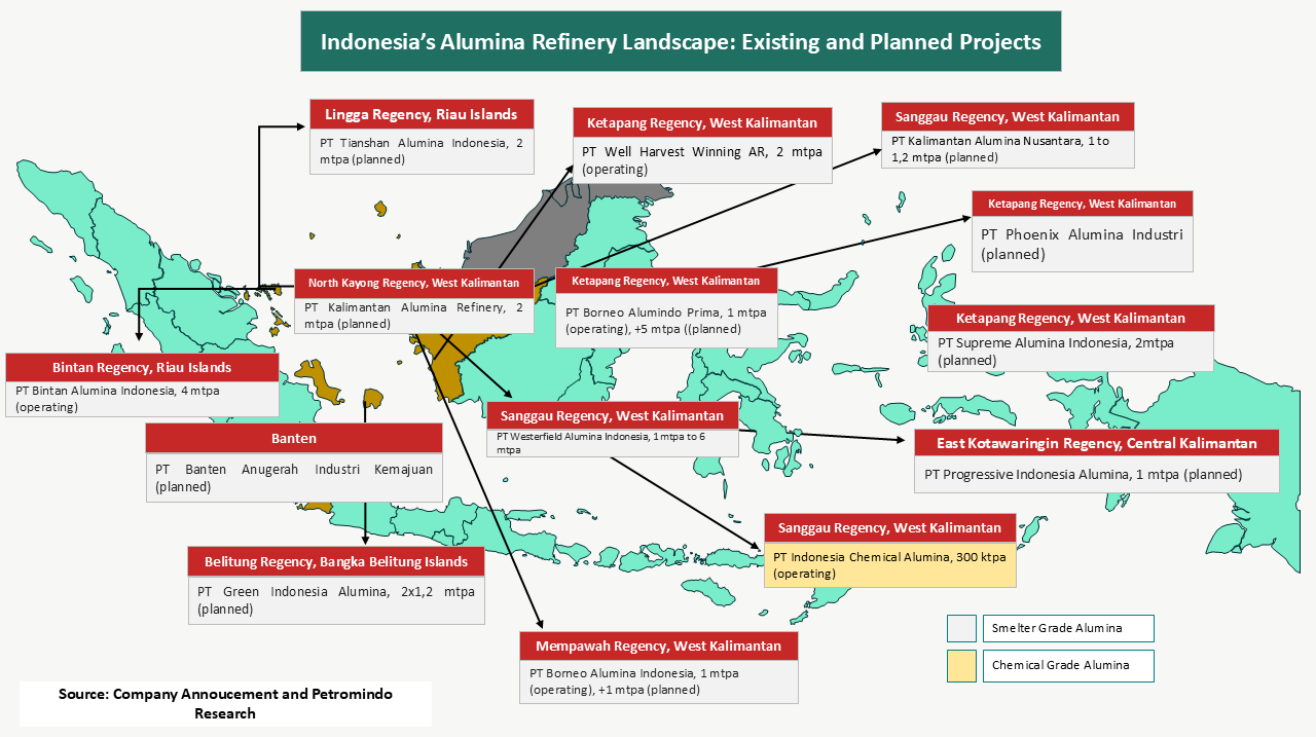


Source: Ministry of Energy and Mineral Resources

B. Indonesia's alumina refinery landscape toward 2026

Indonesia's alumina sector has expanded rapidly, supported by abundant bauxite resources and relatively shorter project development timelines compared with aluminum smelting. As alumina is the critical feedstock for electrolytic aluminum production, the build-out of domestic refining capacity has become a central pillar of Indonesia's downstream strategy.

As of 2025, operating smelter-grade alumina capacity is estimated at around 6 million tons per annum. The largest contributor is PT Bintan Alumina Indonesia, which operates a 4.0 mtpa refinery in the Riau Islands. This is complemented by PT Well Harvest Winning Alumina Refinery with 2.0 mtpa of operating capacity in West Kalimantan. Additional operating capacity has come from PT Borneo Alumindo Prima and PT Borneo Alumina Indonesia, each contributing 1.0 mtpa. Separately, existing chemical-grade alumina capacity stands at around 300 thousand tons per annum, operated by PT Indonesia Chemical Alumina.



Further additions are expected to materialize in the near term. Based on construction activity and company disclosures, PT Borneo Alumindo Prima is projected to add an additional 500 ktpa line, while PT Kalimantan Alumina Nusantara is expected to commission its initial 1.0 mtpa phase, with ramp-up continuing beyond 2026. In addition, PT Westerfield Alumina Indonesia is estimated to commission its first phase of around 1.0 mtpa, based on visible progress in civil and construction works. Taken together, these developments could lift Indonesia's operating alumina capacity into the range of 7 to 8 mtpa by 2026, assuming commissioning and ramp-up proceed broadly as scheduled.

Meanwhile, PT Tianshan Alumina Indonesia continues to focus on bauxite mining, while PT Green Indonesia Alumina, PT Progressive Indonesia Alumina, and PT Phoenix Alumina Industri have yet to provide meaningful updates on project execution.

Overall, alumina expansion is progressing faster and with greater certainty than downstream smelting, positioning Indonesia with a strengthening upstream base as it approaches 2026.

C. Bridging the pap: Indonesia's aluminum industry toward 2026

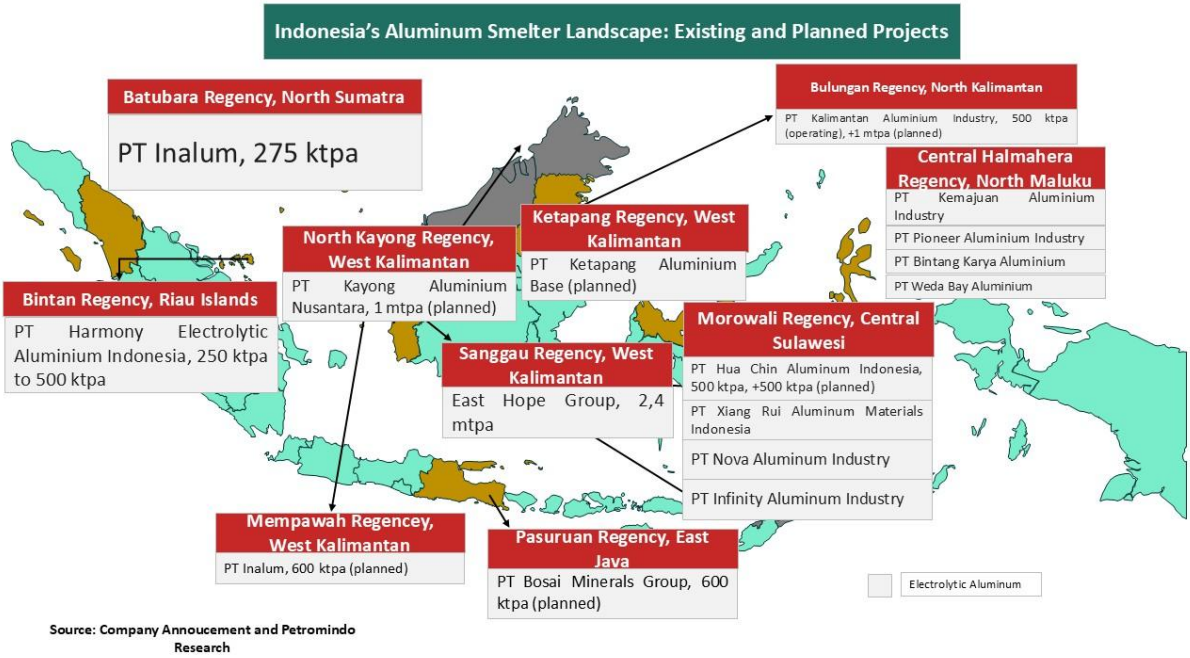
While alumina capacity has expanded decisively, primary aluminum production continues to lag. Domestic electrolytic aluminum demand during the 2025 to 2029 period is estimated at around 4.65 million tons, a level that remains well above current operating capacity.

At present, operating electrolytic aluminum production is led by PT Inalum, which operates a 275 ktpa smelter at Kuala Tanjung in North Sumatra, and PT Hua Chin Aluminium Indonesia, which operates 500 ktpa in Morowali, Central Sulawesi, with plans to expand to 1.0 mtpa. Inalum has also announced plans to develop a new 600 ktpa smelter in Mempawah, West Kalimantan, with operations targeted around 2028.

Additional capacity is expected from PT Kalimantan Aluminium Industry, which is currently in the commissioning stage with an initial capacity of 500 ktpa and a longer-term target of scaling up to 1.5

mtpa. In North Kayong, West Kalimantan, PT Kayong Aluminium Nusantara, controlled by the Harita Group, is under construction and is estimated to begin production at 1.0 mtpa by 2027. Harita has also established PT Anugerah Aluminium Jaya, although details remain limited.

Several projects remain inactive or early stage. The electrolytic aluminum project of Hangzhou Jinjiang Group through PT Ketapang Aluminium Base has yet to commence construction, despite progress on alumina. A similar sequencing approach appears to apply to East Hope Group, which is understood to prioritize alumina before aluminum smelting.



In North Maluku, within the Indonesia Weda Bay Industrial Park, projects associated with PT Kemajuan Aluminium Industry and PT Pioneer Aluminium Industry were initially targeted to operate with a combined capacity of around 1.0 mtpa. These projects are widely viewed as joint developments involving Xinfa Group and Tsingshan Group. Additional entities established in Morowali and Weda Bay further underscore the industrial parks' ambition to accelerate aluminum smelting development.

Separately, the electrolytic aluminum project linked to Nanshan Group is now expected to commence production through PT Harmony Electrolytic Aluminium Indonesia, starting at 250 ktpa with a planned increase to 500 ktpa.

Currently operating capacity from Inalum and Hua Chin totals around 775,000 tpa. If announced projects materialise broadly on schedule, operating or near-term capacity could rise to approximately 3.5 mtpa by 2026, narrowing but not eliminating the supply-demand gap. Several potential investments remain at an early stage. State electricity firm PT PLN (Persero) has signed a memorandum of understanding with PT Bosai Minerals Group to supply up to 1,260 megavolt amperes (MVA) of electricity for the company's planned aluminium smelter in Pasuruan, East Java. The Bosai smelter is designed to have a production capacity of up to 600,000 tonnes of aluminium per year.

D. Power, Cost, and Carbon Constraints Toward 2026

Power availability remains the central constraint shaping Indonesia's aluminum outlook. Electrolytic aluminum smelting requires a continuous, large-scale electricity supply, making project timelines highly sensitive to power plant development, grid readiness, and long-term power purchase arrangements. Delays in energy infrastructure directly translate into postponed smelter commissioning, regardless of progress in metallurgical construction.

Electricity costs further reinforce this constraint, as power represents the largest operating expense in aluminum smelting. Small differences in tariffs can materially affect project economics and investment decisions. At the same time, carbon considerations are becoming increasingly relevant, as markets place greater emphasis on emissions intensity and traceability. Together, power availability, cost structure, and carbon exposure will determine whether aluminum smelting capacity can meaningfully catch up with alumina expansion by 2026.

E. Regional Clustering and Project Readiness

Indonesia's aluminum development is increasingly concentrated in regional clusters with varying readiness levels. West Kalimantan and the Riau Islands have emerged as core hubs for alumina production and early-stage aluminum integration. North Kalimantan and North Maluku offer significant long-term potential through industrial park-based development, but remain dependent on supporting power and logistics infrastructure.

Emerging clusters in Banten and East Java focus more on fabrication and end-use manufacturing near domestic demand centers. While these regions face fewer power constraints, they remain structurally dependent on upstream primary aluminum supply. As a result, readiness toward 2026 varies widely across regions, reinforcing a selective and cluster-driven expansion rather than a uniform national rollout.

Conclusion

As Indonesia moves toward 2026, its alumina and aluminum industry is defined by strong upstream momentum alongside persistent midstream constraints. Alumina capacity has expanded decisively, supported by abundant resources and faster project execution, while primary aluminum production continues to lag due to power, cost, and carbon-related challenges.

The outlook toward 2026 reflects an industry in transition rather than completion. Indonesia's ambition to build a fully integrated aluminum value chain is clear, but the pace and depth of integration will depend on execution. Progress in energy infrastructure, project sequencing, and alignment between alumina supply and primary aluminum demand will ultimately determine how quickly and sustainably this transition can be realized.