Indonesia Climate & Growth Dialogue

ICGD POLICY BRIEF

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ANCHORING THE DELIVERY ENABLER FOR GREEN INDUSTRIAL COMPETITIVENESS

How Indonesia can convert its industrial decarbonization moment into growth, investment, and jobs: consolidated findings and a shared agenda from the ICGD Industrial Decarbonization Dialogue and supporting analysis.



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Any errors remain the responsibility of the ICGD Secretariat.

EXECUTIVE SUMMARY

Indonesia's growth has been stuck near 5% for a generation just as carbon border rules begin to reprice its industrial exports; handled well, the same moment is a USD 22-33 billion, million-job green-industry opportunity. This brief asks one question: what stands between Indonesia and that prize, and what would it take to remove it? The answer from three rounds of structured dialogue, with industry, with delivery partners, and with government, is a delivery gap rather than a policy gap, and five recommendations government can act on now, summarized below. The government round confirmed the diagnosis and sharpened the agenda in two directions: the market for green products must be built alongside supply, at home and in export markets, and the transition must not cost domestic industry its competitiveness.

1. **The prize is large and time-bound.** Prospective green industry sectors could add USD 22-33 billion in value to Indonesia's economy by 2030, closing up to 6% of the gap to the 8% growth target and creating 1.1-1.7 million net new jobs, if enabling conditions and investment delivery accelerate.

2. **One constraint binds every subsector.** Across eleven issues raised by more than 20 companies and associations, the availability of clean energy that industry can afford emerged as the single most binding constraint, ahead of price subsidy, and inseparable from the credibility of green attributes such as RECs and green PPAs.

3. **The main barrier is a delivery gap more than a policy gap.** Indonesia's policy and market framework is relatively developed; what remains institutionally thin are the enabling functions firms depend on, clean energy supply, low-carbon technology commercialization, green zone delivery, concessional finance, and skills. Peer countries that moved faster combined a lead ministry, apex coordination, and a flagship instrument.

4. **Five recommendations, pursued in parallel, can unlock delivery:** deliver clean energy industry can afford; build the market for green products, at home and abroad; give the agenda a coordination home; turn capital into projects; and carry workers, MSME suppliers, regions, and data along, delivered as inclusion in a growing sector rather than the cushioning of decline.

5. **Delivery can start now.** A pipeline of Indonesian clean-industry projects already exists on the global map; a national matchmaking platform pairing projects with capital, and candidate anchor pilots in steel, ammonia, and cement, could prove a repeatable delivery model while the enabling reforms advance.

1 THE WINDOW: GROWTH AND DECARBONIZATION NOW POINT THE SAME WAY

Indonesia's growth has hovered around 5% for 25 years, leaving a cumulative GDP gap of USD 600-700 billion against the 8% ambition by 2030. Over the same period the country has fallen behind ASEAN peers on the inputs that drive industrial upgrading: FDI inflows declined 4% between 2014 and 2024 while Vietnam's rose 122%, the Economic Complexity ranking has been flat at around 65th while Vietnam climbed to around 55th, and manufacturing's share of GDP has slipped from 28% to 18% since 2000. Investors increasingly cite affordable renewable electricity and streamlined industrial zones as decisive in site selection, which peers now offer and Indonesia does not yet.

> *The question this brief answers is direct: what stands between Indonesia and a green industrial prize now within reach, and what would it take to remove it?*

Decarbonization turns this competitiveness problem into an opening. Industry is now among Indonesia's largest-emitting sectors, at roughly 310 $MtCO_2e$ across eight subsectors, and about 84% of that is energy-related rather than process emissions, so decarbonizing the power industry uses, grid and captive alike, is the single biggest abatement lever available. Trade rules sharpen the timing: four sectors, cement, steel, ammonia, and aluminium, fall directly under the EU CBAM and account for about 99 $MtCO_2e$, a third of the industrial total, meaning exporters will face real carbon costs and early movers will capture the demand that shifts as a result (Figure 1); the EU has also proposed extending the mechanism to downstream products, so the exposure will widen rather than narrow. Nor is exposure measured only by today's shipments to Europe: cement trades mostly within the region and nickel products flow mainly to East Asian markets, yet both carry the energy and carbon intensity that buyers, lenders, and a widening set of border mechanisms, the EU's first and the UK's from 2027, increasingly price. How CBAM lands depends on readiness: with credible verification and data, it is a carbon cost that competitiveness can answer; without them, it works in effect as a non-tariff barrier, excluding by default.

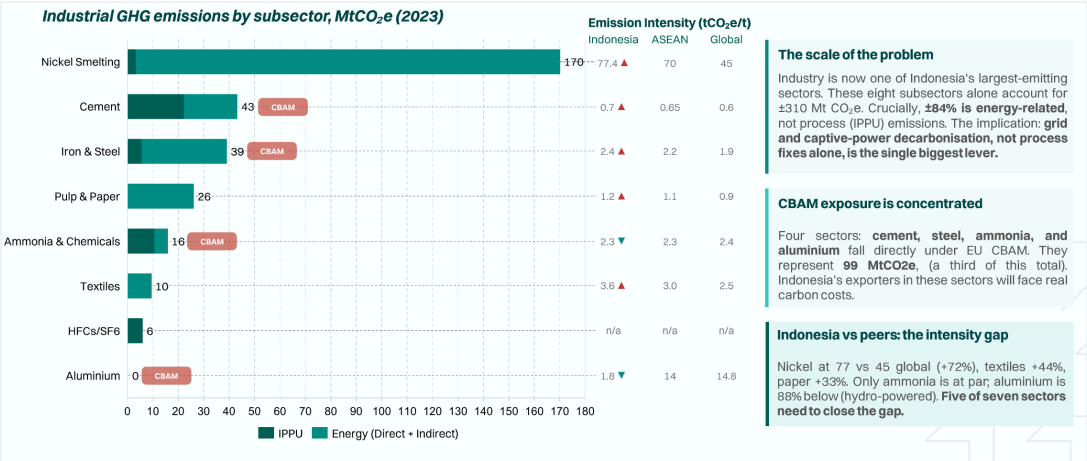

Figure 1 · Industrial emissions are large, concentrated, and mostly energy-related, and CBAM turns carbon intensity into a competitiveness question.

Source: ICGD estimates using IPCC 2006 emission factors and Indonesia production data (2023); WRI Indonesia (2025) for nickel; IEA (2023); USGS Mineral Commodity Summaries; BPS-Statistics Indonesia.

The implication of not acting is equally concrete: the roughly 99 $MtCO_2e$ of CBAM-exposed production would carry the world's highest default carbon costs in steel, and the exposure does not stop at cost, because buyers under border carbon rules and their own net-zero commitments can stop sourcing from high-intensity suppliers altogether, turning higher costs into potential market loss. Demand and investment would keep shifting toward ASEAN peers whose emission intensities in the exposed sectors are materially lower, and the FDI, complexity, and manufacturing gaps of the past decade would compound rather than close.

The upside of acting is correspondingly large. Prospective strategic green industry sectors, spanning clean technology manufacturing, low-carbon building materials, critical metals downstreaming, and alternative fuels and chemicals, could add USD 22-33 billion in direct value by 2030, close up to 6% of the growth gap, and create 1.1-1.7 million net new jobs across the value chain (ICGD analysis, 2026; Figure 2). Nor is the pull only external: domestic demand is moving in the same direction, from headroom in government procurement to corporate decarbonization coalitions and fast-growing demand anchors such as data centers, which is why the agenda in Section 5 treats building the market for green products, at home and abroad, as a recommendation in its own right. The conditions for capturing it are aligning: Perpres 110/2025 has anchored the carbon economic value architecture with its Steering Committee standing up, the Second NDC cycle is underway, and public and partner capital is actively seeking bankable green industrial projects.

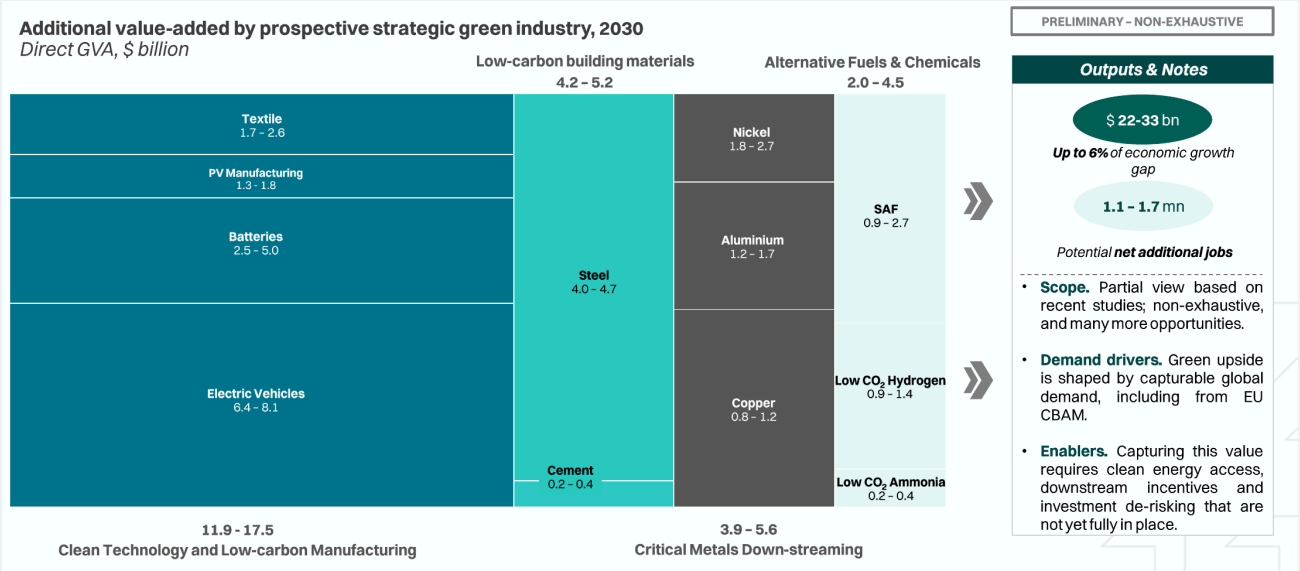

Figure 2 · The green industrial prize: additional value added by prospective strategic green industry, 2030 (preliminary and non-exhaustive).

Source: Indonesia Green Growth & Investment Strategy, ICGD (2026); Systemiq analysis (2026).

The prize also builds on foundations Indonesia already has. The four groups behind Figure 2 are extensions rather than greenfield bets: low-carbon building materials upgrade one of the region's largest cement industries, critical metals down-streaming continues a value-chain strategy already in motion, alternative fuels and chemicals start from existing ammonia capacity and its feedstock base, and clean technology manufacturing follows the same assembly-and-scale logic that built the country's existing component industries. They are not equally close to Indonesia's existing strengths, however: the first three extend positions the country already holds, while clean technology manufacturing enters segments where established supply chains, above all China's, compete on scale and cost, which is one reason the estimate is preliminary and why the prioritization discipline of Section 5, concentrating on the three to four sectors where cost position and value-chain standing make greening winnable, applies to the prize itself. What is new is the specification: each pathway becomes investable only when its energy inputs, green attributes, and financing meet the standards that green demand now carries, which is exactly where the constraint identified in Section 2 binds.

One framing choice shapes everything that follows. Unlike the familiar just transition of a declining sector, industrial decarbonization here concerns a sector that is growing. The task is inclusion in the upgrade, bringing workers into new roles, keeping MSME suppliers inside greening value chains, and letting host regions capture place-based gains, rather than cushioning decline. The window, then, is open. Section 2 identifies the constraint, Section 3 explains why it persists, Section 4 maps the capacity already assembling behind it, and Section 5 sets out the agenda.

2 THE BINDING CONSTRAINT: CLEAN ENERGY INDUSTRY CAN AFFORD

Clean energy that an industrial business case can absorb is the one issue that blocks every single subsector (Figure 3). The finding comes from more than 20 companies and associations across steel, ammonia and chemicals, nickel and metals processing, pulp and paper, textiles and garments, and data centers, asked what blocks decarbonization at their own plants: eleven distinct issues emerged, and only this one appeared in every conversation. The evidence is unusually concrete. Green ammonia needs roughly 4.3 US cents/kWh to compete while industry pays about 7-8 cents for the grid mix; scrap-based electric-arc steel is penalized by a Jamali grid emission factor of about 0.87 tCO_2/MWh, the system average for the Java-Madura-Bali grid that serves most of the country's electric-arc capacity, against an ASEAN benchmark of about 0.49, a comparison of grid averages rather than of tariffs or individual clusters; and the renewable certificates available today lack the additionality and time-matching that international buyers and CBAM claims require. Tested subsequently with the institutions that would finance and deliver the response, the diagnosis held, with one sharpening: the answer must cover heat as well as electricity, since roughly 80% of industrial energy use is heat, which is why this brief speaks of clean energy rather than clean power alone.

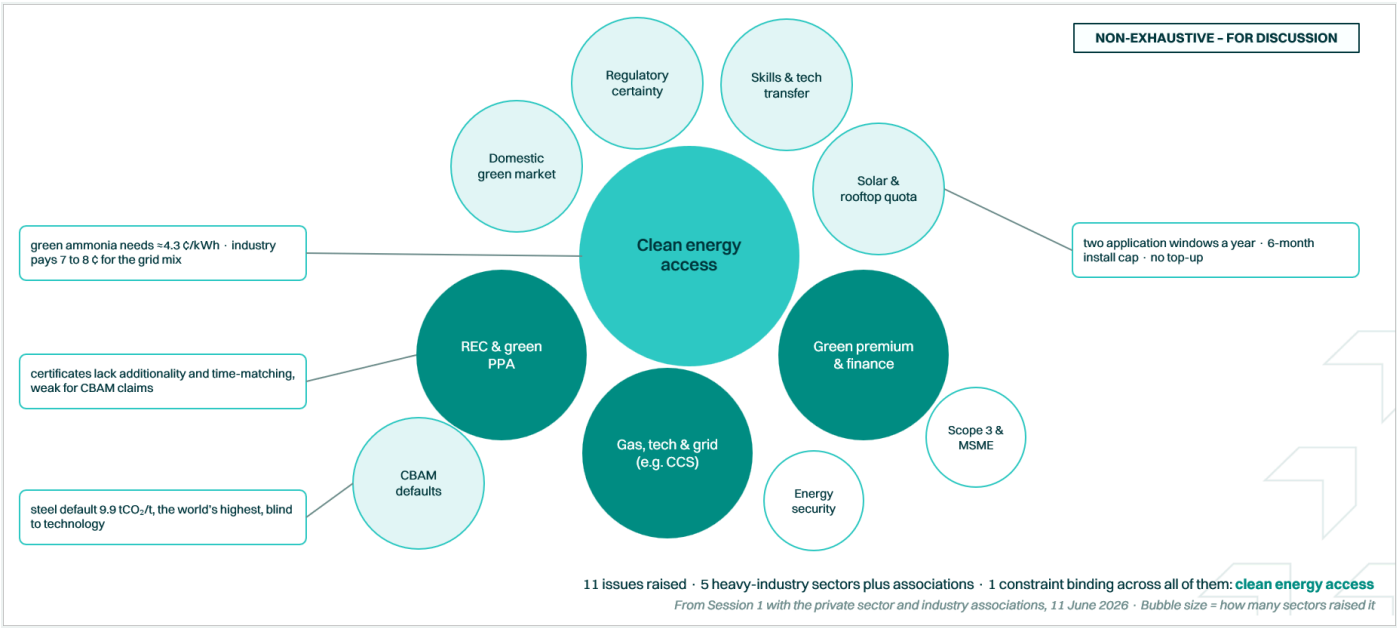

Figure 3 · Eleven issues across five sectors, and one constraint binding them all. Bubble size reflects how many sectors raised the issue.

Note: Quantitative points are from the Session 1 record. Source: ICGD Session 1 Minutes of Meeting, Private Sector & Industrial Associations (2026).

The shape of the map matters as much as its center. The issues surrounding that central constraint are not separate complaints but its completion agenda: credible attributes and green PPAs make clean supply claimable, quota predictability makes it plannable, a domestic market, and a premium where a cost gap remains, make it financeable, and regulatory certainty makes all three priceable. They preview the same three demands, supply, a market, and certainty, that the sector detail below confirms.

The constraint also compounds with time. Industrial demand is not waiting for clean supply: captive capacity in the gigawatts is under construction today, most of it coal, and each plant commissioned locks its emissions profile, and its CBAM exposure, into decades of operating life. Every year the constraint stands, more of the future industrial energy system is settled by default rather than by design, narrowing the abatement space the agenda in Section 5 depends on. Speed is therefore part of the constraint itself: the same megawatt-hour of clean supply is worth more now, while fuel choices remain open, than after the next investment cycle closes them.

The constraint takes a different concrete form in each sector, which is precisely what makes it structural rather than sectoral (Table 1).

Sector	How the constraint binds, in the sector's own numbers
Fertilizer & ammonia	The EU CBAM benchmark of about 1.52 tCO_2/t of ammonia sits well below current Indonesian intensity of about 1.8-2.2. Green ammonia projects are already in motion, yet at a levelized cost of USD 692-804/t against a reference of about USD 353, the economics close only with clean power at industrial scale and price.
Iron & steel	Margins of 3-5% leave no room to absorb a green premium. Indonesia's CBAM default value of about 9.9 tCO_2/t of steel is the world's highest, versus Vietnam at about 2.5, China about 3, and India about 4, and does not differentiate by technology, so grid intensity translates directly into lost export competitiveness.
Nickel & metals processing	Smelting runs largely on coal-based captive power, so the sector's abatement path is inseparable from clean power supply. Legal certainty and a rationalized fiscal burden are the sector's first-order asks, with oversight coverage still partial (54 of 166 smelters under integrated mining-inspector supervision).
Pulp & paper	Integrated mills already reach 80-90% internal energy from biomass; the sector as a whole runs on roughly 60% biomass and 30% coal, and the roughly 70 paper-only mills, whether on virgin pulp or recycled paper, remain energy-intensive for drying and refining. Three mill types call for three pathways; where clean energy is available in-house, decarbonization advances, and where it is not, it stalls.
Textiles & garments	Global brands now require decarbonization, but the alternatives to coal boilers are blocked: the gas pipeline stops at Purwakarta, short of the main production centers, and rooftop solar is constrained by quota mechanics of two application windows a year and a six-month installation obligation, with limited certainty.
Data centers	A fast-growing clean-power demand anchor, with about 310 MW live by Q1 2026 and expanding rapidly. Decarbonization is typically addressed at the end of the development cycle rather than designed in from the start, and available certificates do not yet meet the credibility bar international operators require.

Table 1 · One constraint, six sectoral forms. Source: ICGD Industrial Decarbonization Dialogue record (2026).

The ranking within the eleven issues carries its own signal. Firms placed supply ahead of price support: the ask was less for subsidy than for the ability to contract clean supply at all, and parts of the demand side already carry willingness to pay where credibility is assured, international brands underwriting decarbonization in textiles, data-center operators procuring to global standards, and green-ammonia developers whose economics need scale more than transfers. Read against a tight fiscal moment, that makes the binding constraint an unusually government-friendly one: what it costs most is regulatory clarity, not budget. The government session added the condition under which that clarity works: for energy-intensive processes that run around the clock, the transition cannot raise costs to the point of eroding the competitiveness it is meant to protect, which is why affordability sits inside the constraint rather than beside it.

Read together, industry's asks are not a wish list but a coherent demand for three things. First, supply: contracted clean power, and clean heat, delivered to industrial sites at a price an export business case can carry, with attributes credible enough to count once toward one claim. **Second, a market:** domestic demand that rewards green production, and export markets that recognize it, so that decarbonization is pulled by orders rather than pushed by foreign compliance alone; today green steel captures about IDR 280 million of IDR 6.19 trillion in government steel procurement (about USD 17,000 of roughly USD 380 million). **Third, certainty:** regulatory and fiscal predictability, from quota processes to carbon accounting to trade responses, that lets firms and financiers price risk. Everything sector-specific, from shared CCS infrastructure to import safeguards to vocational pipelines, slots under one of these three headings.

> *A constraint this consistent, raised across every subsector and confirmed by the institutions meant to help resolve it, invites the harder question: why does it persist?*

3 WHY IT PERSISTS: A DELIVERY GAP MORE THAN A POLICY GAP

Four recurring gaps slow Indonesia's industrial decarbonization: fragmented analytics, uneven data and MRV readiness, a delivery-enabler gap, and a project execution gap (Figure 4). The third is structural, and the evidence suggests it is the binding one. Indonesia's policy and regulatory framework is relatively developed: carbon pricing under Perpres 110/2025, a carbon exchange, environmental ratings, the Green Industry Standard, and a sustainable finance taxonomy together mean the question of why to decarbonize is largely answered. Policy items do remain, sectoral emission guidance, taxonomy finalization, implementing rules, but they are completions of an existing architecture rather than new frameworks. What remains institutionally thin are the enabling functions that determine whether firms actually can: clean energy supply, low-carbon technology commercialization, green industrial zone delivery, concessional finance and fiscal incentives, and skills. Ownership of these functions is fragmented across ministries, and within the Ministry of Industry no unit yet holds them as a delivery mandate (Annex A, Exhibit A1). This is why the other three gaps persist: no institutional home owns the enablers around which analytics, data, and execution would otherwise organize.

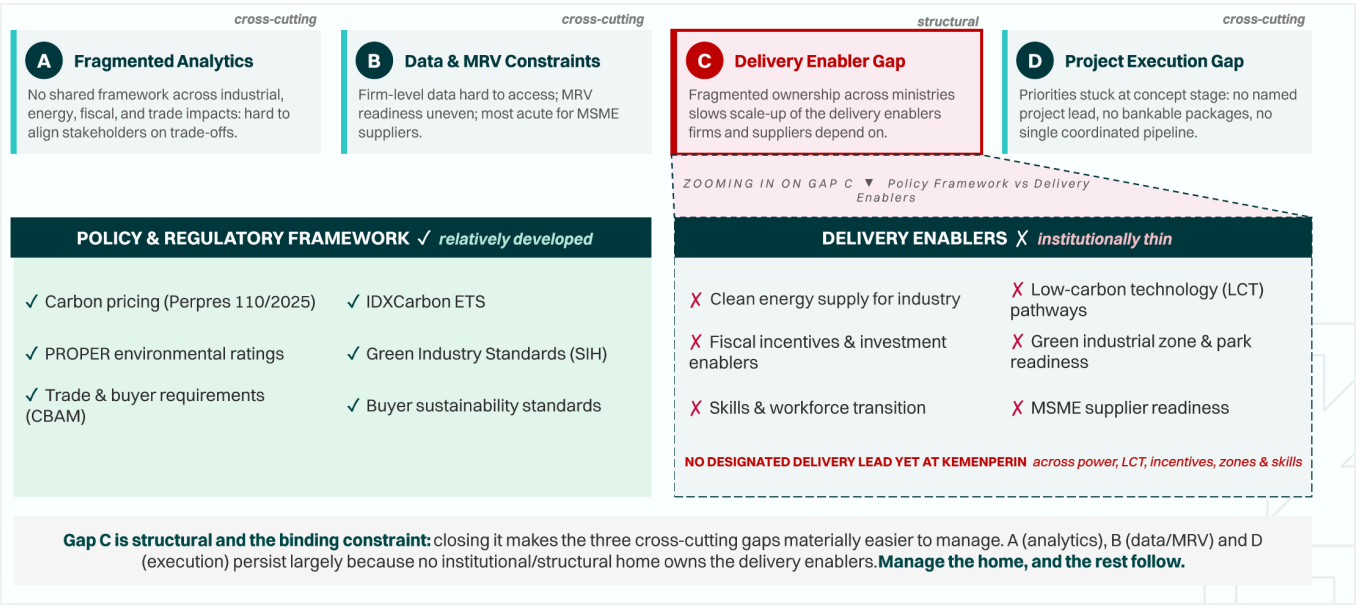

Figure 4 · Four recurring gaps, one structural delivery-enabler gap.

Note: Firm-level barriers are being surfaced directly through the FGD series and consultations. Source: ICGD multi-stakeholder engagement and analysis (2025-2026); FGD Series 1 outputs (February 2026); ICGD Industrial Decarbonization Concept Note (2026); Peta Jalan Dekarbonisasi Industri (Kemenperin + WRI + IESR, August 2025).

Comparative experience points to a recurring pattern of good practice rather than a formula. Japan, Germany, South Korea, India, Vietnam, and China differ widely, but the countries converting industrial decarbonization into competitiveness fastest combine three ingredients: a lead ministry with real line authority, a cabinet- or head-of-government-level coordination layer, and one flagship competitive instrument (Figure 5). The sample is small and selected for having moved fast, so the comparison is indicative rather than controlled. Against that pattern, Indonesia is on the path with elements still to mature, rather than absent from it. A coordination layer exists, though fragmented across bodies; the industrial ministry holds real depth on standards, though not yet a delivery mandate or a unit holding the enabler functions; and while no flagship instrument analog exists yet, the dialogue's reading was that Indonesia will need one: a signature competitive instrument of its own, sized to SOE-anchored transformation, with the form neither prejudged nor imported from any single peer but tested against Indonesia's fiscal and institutional realities, and with existing national development finance institutions among the possible delivery vehicles.

DIMENSION	JAPAN	GERMANY	SOUTH KOREA	INDIA	VIETNAM	CHINA
Apex coordinator	GX Implementation Council (PM-chaired, since 2022)	ERK Expert Council (Klimakabinett dormant)	Climate Crisis Response Commission → MCEE (Oct 2025)	Mission Empowered Groups (Cabinet Secretary)	PM-led COP26 Steering Committee	Leading Small Group on Carbon Peaking & Neutrality
Lead enabler ministry	METI (ANRE + Industrial Sci & Tech Bureau)	BMWE (formerly BMWK, split May 2025)	MOTIE (industry) + MCEE (energy)	MNRE + MoHI + Ministry of Steel	MOIT (with EREA and ERAV)	MIIT (industry) + NDRC; 2022 Industrial Carbon Plan
▸ Signature instrument	**GX Transition Bonds ±$130 bn*; H2 CfD ±$20 bn***	**Klimaschutzverträge (CCfD) ±$3.0 bn*; H2Global**	**K-RE100 + Third-Party PPA via KEPCO**	**PLI: ACC ±$2.2 bn*, PV ±$2.9 bn*, H2 ±$2.1 bn***	**DPPA Decree 80/2024; revised PDP8 (73 GW solar)**	**ETS expansion to steel · cement · aluminum; zero-carbon ind. parks**
Clean power for industry	Fully liberalized retail since 2016	Industriestrompreis 2026 + ±$20 bn* H2 core network	DPPA (2021); VPPA (2024); ±1.7 GW by Jun 2025	Green Open Access Rules 2022	DPPA via EVN (2024, restrictive; low uptake)	Liberalized retail since 2015; provincial green tariffs
▸ Most transferable to Indonesia	**Sovereign transition bonds; sector-specific strategies**	**Competitive CCfD auction; KfW-style facility**	**Third-Party PPA via state utility (PLN analog)**	**Mission/Empowered Group + PLI for green mfg**	**DPPA design cautions; A0 dispatch separation**	**MIIT-style industrial mandate; Zero-Carbon Park architecture**

**USD figures converted from original currency (JPY, EUR, INR, CNY)*

Figure 5 · How peer countries organize industrial decarbonization delivery: lead ministry, apex coordination, flagship instrument.

Note: Country table excerpted from the fuller dialogue material; USD figures are converted from original currency. Instruments keep moving: since the table was compiled, the EU has proposed an Industrial Accelerator Act to create lead markets for low-carbon products, Korea has enacted a special act for its steel industry, India has notified sector emission-intensity targets under its carbon credit trading scheme, and Vietnam has opened a pilot domestic carbon market. Source: Peer-country institutional sources as compiled in the ICGD dialogue materials (Japan's METI, Ministry of Economy, Trade and Industry; Germany's BMWE, Federal Ministry for Economic Affairs and Energy, and KfW; Korea's MOTIE, Ministry of Trade, Industry and Energy, since October 2025 the Ministry of Trade, Industry and Resources, and MCEE, Ministry of Climate, Energy and Environment; India's MNRE, Ministry of New and Renewable Energy, and MoHI, Ministry of Heavy Industries; Vietnam's MOIT, Ministry of Industry and Trade; China's NDRC, National Development and Reform Commission, MIIT, Ministry of Industry and Information Technology, and MEE, Ministry of Ecology and Environment; IEA Country Policy Reviews 2024-2025); ICGD analysis (2026).

Within the region, three contrasts are the most instructive. South Korea is the closest structural analog: third-party power purchase agreements delivered through the state utility KEPCO show how clean power can be delivered to industry at scale where a single utility holds a comparably central position. Vietnam is the caution rather than the template: its direct power purchase scheme, introduced in 2024 but restrictively designed, has seen low uptake, a reminder that a scheme built primarily to protect utility revenue does not move industrial demand. And China's zero-carbon industrial park architecture is the most directly transferable model for green zone ambitions at comparable state scale.

Nor is Indonesia starting from zero on coordination. Three bodies already touch this space: the carbon economic value steering committee (Komrah, under Perpres 110/2025), whose remit centers on carbon-market and NDC policy; the energy transition task force (Satgas TEH, under Kepmenko 141/2025), whose green industry working group is the closest existing vehicle to the industrial decarbonization agenda; and the downstreaming task force (Satgas Hilirisasi, under Keppres 1/2025), which carries presidential-level debottlenecking. Each holds one piece of the pattern; none yet combines leadership of the industrial track, seats for the SOE anchors that must deliver, and an escalation route that binds. The gap is therefore narrower than a call for new institutions: strengthening and focusing what exists could close much of it, and sequenced pathways for doing so, from a fast-start coordination vehicle through codification to eventual institutionalization, are set out for reference in Annex A, with the three bodies compared side by side in Exhibit A3. The National Energy Council adds a fourth piece: cross-sector oversight of the alignment between the national electricity plan (RUKN) and PLN's RUPTL, with the Minister of Industry among its members, which the government session offered as a channel for the industrial track's energy questions.

Indonesia's own coordination record shows why design details matter. KPPIP, the JETP Secretariat, and the PPP Joint Office were each built to coordinate rather than to deliver, and each was ultimately bound by authority, budget, and ownership rather than ambition; the cancellation of the flagship Cirebon-1 early-retirement transaction in December 2025 distilled the lesson that pledged finance without delivery authority does not move projects. The design implications are consistent: build on existing architecture rather than adding bodies, secure line-ministry leadership with SOE seats and an escalation route that binds, and anchor the machinery on named delivery leads and bankable packages rather than coordination alone.

If the constraint is institutional, the encouraging finding from the delivery side of the dialogue is that almost everything else is already in place.

4 THE CAPACITY IS ASSEMBLING: SUPPORT WAITING FOR COORDINATION

Testing the field's diagnosis against the institutions that would have to finance and deliver the response surfaced a striking pattern: for every recommendation this brief proposes, implementation capacity already exists or is being built. Multilateral platforms are standing up technology pipelines; a corporate coalition of some 44 companies is organizing the demand side; state financial institutions operate blended platforms with development-phase support, long-tenor loans, grants, and guarantees; commercial banks are writing sustainability-linked loans; capital-market institutions can open thematic bond channels; and delivery units, workforce programs, and research institutions cover the remaining ground (Table 2).

The support map's message is not the inventory itself but what it reveals: the constraint is neither capability nor capital. It is orchestration. These initiatives do not yet share a pipeline, a division of labor, or a counterpart with an operational mandate, so effort overlaps in some places and leaves gaps in others. The map is the raw material of the coordination home argued for above, and of the national matchmaking function set out in the agenda that follows: once a shared pipeline and clear roles exist, most of the capacity below could align behind them without new money or mandates.

Institution	Capacity and instruments identified through the dialogue
UNIDO	Country platform across policy alignment, technology pipeline, and financing; technology advisor and financial convener; roughly USD 3 million for Indonesia Phase 1 (2027-2029) within a USD 30 million global commitment.
GIZ · RE Skills Hub	Implementation of the green workforce roadmap (April 2025), a working sector-coordination model from the TVET Roundtable, and skills development and competency standardization ready to embed in a coordination platform.
RumahPATEN	Green buyer-demand analysis and REC market design improvements; replicable utility base-procurement practice from a recent 1.2 GW round; analysis of private investment in last-mile transmission.
Systemiq & INDEF GTI	Ongoing joint analysis of Renewable Energy Zones (REZ), zone-based development of renewable supply at scale for industrial demand centers.
JETP Delivery Unit (JETP 2.0)	Delivery-phase studies covering captive power (6.2 GW identified under construction, 5.5 GW of it coal, plus 3.1 GW co-captive in permitting), efficiency and electrification, just transition, carbon pricing, and small-scale RE finance; project preparation toward bankability.
KADIN Net Zero Hub & IBCSD	Corporate platform of roughly 44 companies with decarbonization targets and about 20 committed to SBTi; corporate assistance, bootcamps, LCT readiness, green financing information, thematic working groups.
MASKEEI & APKENINDO	Efficiency first in the energy pyramid; a national ESCO program concept to overcome balance-sheet and payback constraints; carbon intensity as a project evaluation metric.
PT SMI	SDG Indonesia One blended platform and ETM Country Platform management; development-phase support, long-tenor loans, investment grants and premiums, guarantees; more than 2 GW of renewables supported to date.
PT IIF	Semi-concessional, long-tenor financing for hard-to-abate projects once sectoral guidance and emission limits clarify revenue streams; portfolio already about 20% renewables and industrial retrofits.
Bank Mandiri	Sustainability-Linked Loans for cement, chemicals, and palm with KPI-based step-down margins; a decarbonization pathway for hard-to-abate exposure.

Institution	Capacity and instruments identified through the dialogue
Climate Bonds Initiative	Technical assistance on thematic instruments (green, sustainability-linked, transition bonds), institutional readiness of projects, and taxonomy localization with OJK and BI, opening access to international investors.
Climate Catalyst	A green steel demand network launching August 2026; demand-side analysis putting Asia-Pacific green steel demand at roughly 6 Mt by 2030 against about 2.5 Mt of supply; procurement and trade-policy design input.
Research & civil society	WRI (clean heat, data and MRV integration, the ESCO ecosystem, and a cement demand-side analysis underway with Climateworks Centre), IESR (co-author with Kemenperin and WRI of the Peta Jalan Dekarbonisasi Industri, with analysis spanning power and industrial decarbonization), Transisi Bersih (green PPA reform, demand consolidation, readiness TA), CELIOS, IRID, IGJ, and ARC UI (policy consistency, regulatory alignment, social safeguards, value-chain equity).

Table 2 · The support map: capacity waiting for coordination. Note: The map is scoped to capacity brought into the dialogue by its participants, not a census of all support active in Indonesia. Source: ICGD Industrial Decarbonization Dialogue record (2026).

The delivery side was equally clear about what only government can provide before this capacity flows at scale, and the list is not new: it is Section 2's third demand, certainty, as financiers price it. Sectoral emission limits and guidance under the Perpres 110/2025 architecture give a green revenue stream a basis; carbon pricing implementation gives it a value; taxonomy finalization (the POJK 51 revision, with IFRS S1 and S2 alignment anticipated around 2027) determines what capital may count as green; and credible green attributes determine what buyers and border mechanisms will accept. Each item traces directly to the constraint of Section 2 and the ownership gap of Section 3: these are the enabling decisions no institution currently owns end to end.

The financing gaps beneath them are specific rather than general: mid-size tickets of USD 2-5 million fall below development-bank thresholds, only around 1% of bank lending currently reaches green projects, and capital can sit idle for want of pipeline; one SOE producer holds roughly USD 200 million ready with no projects to deploy it against. For small and medium industry the barrier is disclosure before it is capital: a sustainability report priced at around IDR 100 million puts green lending out of reach for most of the roughly four million small and medium units, and green products designed for large firms do not reach them. Capacity on this scale, waiting on a handful of enabling decisions and a mechanism to align it, is the strongest evidence that the agenda that follows is executable.

The government session added the public side of the map. Several of the instruments the agenda relies on already exist inside government, further along than the dialogue had assumed, and they are the starting points for the recommendations that follow.

PUBLIC INSTRUMENTS ALREADY IN PLACE

- Green Industry Standard (SIH), certification and award, with SIH now counted in government procurement through the local-content and company-benefit weighting rules, and emissions reporting in SIINas aligned with carbon economic value implementation, with outputs that can serve as a sustainability report (Ministry of Industry, PIH/BSKJI)
- Energy-management reporting for industrial users of 4,000 TOE and above under PP 33/2023, with specific energy consumption tracked (ESDM, POME)
- Shared use of the electricity network, provided for in PP 14/2012 jo. PP 23/2014 and Permen ESDM 1/2015, not yet in operation; PLN-issued renewable certificates planned; the rooftop solar quota to be adjusted gradually toward the 100 GW solar program by 2029 (ESDM, PLN)
- A dedicated electricity business-area route inside Special Economic Zones under study, for industries that need green supply (Kemenko Perekonomian)
- Monthly market intelligence from trade representatives, and Special Export Assignment financing (PKE, PMK 183/2021) for export projects hard to fund commercially, about Rp13.5 trillion in 2025 (Kemendag with Kemenkeu)
- A financing–industry connecting unit in development at the Green Industry Center, and the National Energy Council's cross-ministerial forum and oversight of RUKN–RUPTL alignment (Ministry of Industry, DEN)

5 THE AGENDA: FIVE RECOMMENDATIONS TO UNLOCK DELIVERY

The five recommendations consolidate what industry identified, what delivery institutions can support, and what the comparative evidence suggests into one agenda. The mapping is deliberate (Figure 8): Recommendations 1 and 2 answer industry's demands for supply and a market; certainty, the third, is carried as the enabling decisions inside Recommendation 4; and Recommendations 3, 4, and 5 add what the delivery side said it would take to answer industry at scale, a coordination home, machinery that turns capital into projects, and the people and data dimensions that make the upgrade durable. They are directions rather than blueprints: instruments and institutional form are for government to shape. The five were tested with government on 17 September 2026. The room accepted the diagnosis and the structure, and sharpened it in two directions that run through the refinements below: markets, at home and for export, must be built alongside supply, and competitiveness is the guardrail. The numbering therefore maps rather than sequences: the five run in parallel, and which binds first differs by sector, bankable offtake where the premium is the block, as in steel and cement, and contracted clean supply where the energy input is, as in ammonia, textiles, and data centers.

RECOMMENDATION 1 DELIVER CLEAN ENERGY INDUSTRY CAN AFFORD

Every subsector's decarbonization case begins with reliable, contracted clean power, and clean heat, before the question of its price. The encouraging finding is that delivering it may be less a matter of new law than of activating what exists. The legal architecture already exists in layers: Law 30/2009 on Electricity provides the umbrella; the government regulation beneath it, PP 14/2012 jo. PP 23/2014, already contemplates third-party use of the network through its network-leasing (sewa jaringan) provisions, with Permen ESDM 1/2015 as the framework for shared use; and Perpres 112/2022 within the same framework governs how renewable supply is procured and priced. What has held the shared-use route back is specific: the network-use tariff has not been set, so a framework a decade old has never operated.

The division of labor matters: the delivery route is source-neutral while the renewable layer sets how clean supply enters it, so industrial supply can become progressively cleaner over time provided the green attributes attached at each stage stay credible. Clarifying and activating this existing stack, within the utility's service territory and national electricity planning, could widen clean supply faster than building new frameworks, and the dialogue's clear signal was that questions of availability can usefully advance on a separate track from questions of price. Two routes the government session put on the table belong here: dedicated electricity business areas inside special economic zones, under study, so that estates can supply tenants that need green power; and a rooftop solar quota adjusted gradually toward the 100 GW solar program, with predictability the industrial ask. The supply agenda is completed by credible green attributes, additionality and time-matching in certificates and standardized green PPAs, including the certificates PLN plans to issue, by clarity on hydropower procurement and carbon rights, by clean heat pathways, with electrification of processes where it is technically and economically ready, and by efficiency treated as the first resource, where energy-management reporting already shows where the savings are.

DIRECTIONS FOR POLICY

- Set the network-use tariff and operationalize the existing pathways for delivering contracted clean power to industrial sites;
- Use special economic zones and industrial estates as dedicated supply nodes for industries that need green power;
- Bring predictability and transparency to the rooftop solar quota process;
- Strengthen the credibility of green attributes so each megawatt-hour supports one claim;
- Extend clean options to industrial heat, including electrification where it is technically and economically ready, and put energy efficiency first;
- And keep the transition affordable for energy-intensive, continuous processes.

SUPPORT IN PLACE

- Green buyer-demand and REC design analysis and replicable utility procurement practice (RumahPATEN),
- Captive-power and electrification studies (JETP Delivery Unit),
- National ESCO proposals (MASKEEI and APKENINDO),
- Clean-heat and efficiency groundwork (WRI),
- And energy-management reporting data (ESDM, POME) and the KEK supply route under study (Kemenko Perekonomian) are already available.

RECOMMENDATION 2 BUILD THE MARKET FOR GREEN PRODUCTS

Green products remain uneconomic without offtake and, where a cost gap remains, a premium, and the dialogue's consistent view was that decarbonization should be pulled by the creation of a market, starting at home, rather than pushed by foreign compliance alone. The market has two sides, and the government session put them on equal footing: domestic demand that rewards green production, and export markets whose requirements decide whether the same product can be sold abroad. The headroom at home is visible in procurement, where green steel captures about IDR 280 million of IDR 6.19 trillion in government steel purchases, and the regional demand signal is real: Asia-Pacific green steel demand is projected at roughly 6 million tonnes by 2030 against about 2.5 million tonnes of supply. Green does not have to mean expensive: efficiency and electrification lower total cost in some processes, and where a premium is needed it is often small at the point of use, of the order of 1-2% on the price of a finished product for green steel in Agora Industry's analysis, even though upstream it can exceed a producer's entire 3-5% margin, which is exactly the gap that offtake and procurement instruments are built to bridge.

At home, green public procurement is the first initiator of demand, with the national procurement authority as its natural champion and the Green Industry Standard already counted in procurement through local-content and company-benefit weighting; it is one lever among several, alongside SOE offtake commitments and product standards that give green production a market value. Abroad, the same product needs a buyer who recognizes it: the trade representatives' monthly market intelligence and a quick mapping of green requirements in the main export markets tell industry what to build toward, and a national definition of what counts as green, aligned with those markets, should come before Indonesia commits to green criteria in trade agreements, so that firms do not switch and find no buyer. A domestic market also strengthens Indonesia's hand externally: a coordinated CBAM response, on default values, verification capacity, and technology differentiation, lands better from a country whose own demand rewards green production, and readiness is part of the same story, since firms that cannot verify their emissions in time default to punitive benchmark values regardless of actual performance. Building domestic verification and audit capacity belongs alongside that response, as do guardrails, once national criteria exist, so that green procurement and standards do not open the domestic market to import surges from producers not yet under a carbon price.

DIRECTIONS FOR POLICY

- Green public procurement as the first initiator of demand, with the national procurement authority (LKPP) as natural champion;
- SOE offtake commitments;
- Green product standards and a clarified market value for the Green Industry Standard beyond local-content scoring;
- National criteria for what counts as green, aligned with the main export markets, before commitments abroad, informed by trade representatives' market intelligence;
- Emission-based elements in trade safeguards, once national criteria exist;
- And a coordinated CBAM response pairing engagement on default values with domestic verification and audit capacity.

SUPPORT IN PLACE

- A green steel demand network and procurement and trade-policy design input (Climate Catalyst),
- Corporate demand-side coalitions (KADIN Net Zero Hub and IBCSD),
- And monthly market intelligence from trade representatives (Kemendag) are on the table.

RECOMMENDATION 3 GIVE THE AGENDA A HOME

Coordination emerged as the primary structural need on both sides of the dialogue: many quality initiatives, no mechanism aligning who does what. Section 3 showed the gap is narrower than a call for new institutions, and the delivery side pressed the point: existing coordination revolves around the carbon market and the energy transition, so no body is yet a direct match for industrial decarbonization itself, and project preparation and financing slow for want of that match. The nearest-term option is to strengthen and focus one of the existing vehicles, the green industry working group of the energy transition task force, repeatedly identified as the closest fit, so that it combines line-ministry leadership of the industrial track, seats for the SOE anchors that must deliver, in the first instance the state producers in the CBAM-exposed sectors, steel, fertilizer and ammonia, and cement, whose candidate pilots would carry the delivery model, and an escalation route that binds.

Over time, the delivery-enabler functions themselves need a durable institutional home within the industrial ministry's architecture, with the form determined through stakeholder dialogue. The government session pointed the same way and made it concrete: the functions should sit under a unit with the authority to drive them, and the Ministry of Industry's standards and green industry units (BSKJI and its Green Industry Center) were named as the natural anchor, building on the roadmap, standards, certification and reporting they already run rather than on new structures. Two conditions came with it: standards and timelines should track industrial capacity as it is, and the agenda is whole-of-government, with energy, trade, finance and the coordinating ministries each holding part of the answer. Annex A sets out illustrative, sequenced pathways discussed in the dialogue, from a fast-start coordination vehicle through codification to institutionalization, and an indicative sequence by recommendation, for reference.

DIRECTIONS FOR POLICY

- Consider strengthening and focusing the existing coordination architecture for the industrial decarbonization track rather than adding new bodies;
- Anchor the enabler functions in the Ministry of Industry's standards and green industry units, with standards and timelines that track industrial capacity;
- Anchor delivery on named leads and bankable packages;
- And open a structured process on the eventual institutional home for the enabler functions.

SUPPORT IN PLACE

The breadth of the support map is itself the case: virtually every institution consulted asked for this mechanism and offered to align its initiatives within it, minimizing overlap and closing gaps (Table 2).

RECOMMENDATION 4 TURN CAPITAL INTO PROJECTS

The failure this recommendation addresses is a market failure: capital and projects must find each other, and today they largely do not. Instruments exist across the whole project cycle, development-phase support, long-tenor and semi-concessional loans, guarantees, sustainability-linked lending, thematic bonds, and catalytic grant capital, and Section 4 showed capital already waiting for pipeline. What no institution yet provides is the function that pairs them, and the government session added a second gap: the funds and taxonomy criteria that exist lean toward power supply, while manufacturers need instruments that reach the factory floor, soft loans or direct support for restructuring old machinery and modernizing technology, with export-linked financing already available for export-oriented upgrades. The enabling decisions of Section 4, sectoral emission guidance, carbon pricing implementation, and taxonomy finalization, with hydropower carbon rights an unresolved point of the same kind, remain necessary to make any match bankable, but resolving them alone would not close the gap: someone must still make the match.

The pipeline is real: the Mission Possible Partnership already tracks 12 Indonesian clean-industry projects on its global map, from green ammonia in Aceh to a green steel expansion (Figure 6). The conversion is the problem: 11 of the 12 sit at "Announced," mirroring a global pattern of fewer than 15 projects reaching final investment decision per year against roughly 700 needed by end-2026 for a 1.5°C-aligned industry.

What no map does is make the match, and the Indonesian entries show why one is needed. Behind the counts in Figure 6, the tracked projects share a pattern: state-linked owners, export-oriented pathways, and bottlenecks that are contractual rather than technological, unsecured offtake pricing, undefined green premiums, pending dedicated supply, exactly the kind of blockages a dedicated pairing function exists to clear.

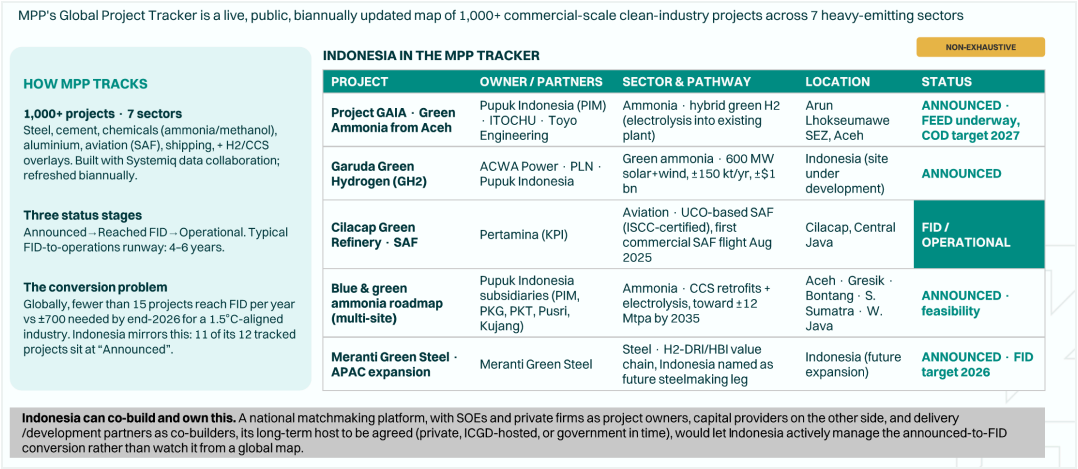

Figure 6 · The pipeline is real: 12 Indonesian clean-industry projects already tracked globally, 11 of them still at "Announced."

Note: Named projects are compiled from MPP aggregate counts and primary sources; per-project entries reside in MPP's interactive map. Source: MPP Global Project Tracker (June 2025 and June 2026 editions); company disclosures; Climateworks Centre C-IMPACT; ICGD analysis (2026).

What could change the conversion rate is a national matchmaking function: one shared view of projects and capital, tagged to national emission and energy targets; projects screened for readiness and for their just transition implications, then paired with the instruments and capital owners that fit their stage and risk; and a named delivery lead with a next milestone for every match, with bottlenecks escalated through the coordination home of Recommendation 3. The long-term institutional host is a design choice to be agreed among public, private, and independent arrangements, and the financing–industry connecting unit now being developed at the Green Industry Center is a natural building block; what matters is that Indonesia manages the announced-to-FID conversion actively rather than watching it from a global map (Figure 7).

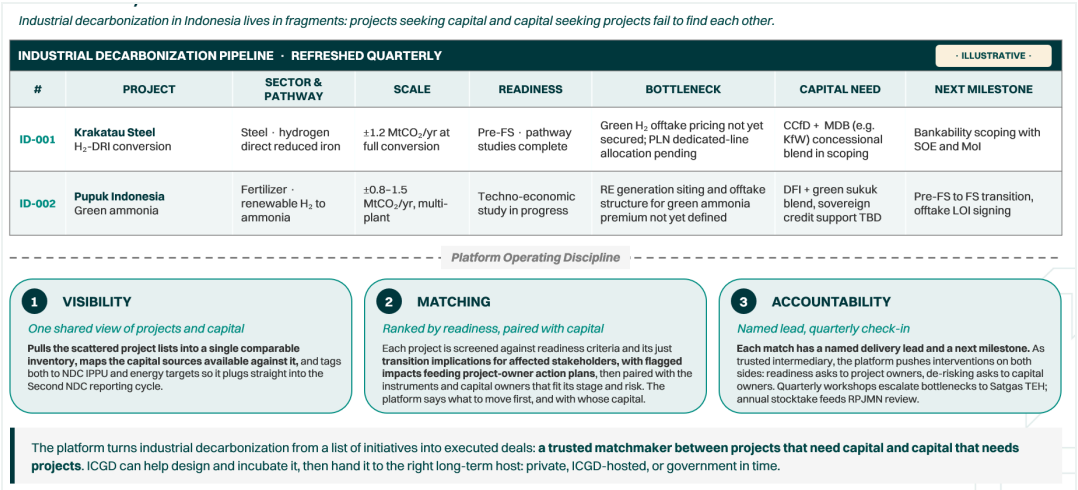

Figure 7 · A national matchmaking function: one shared view of projects and capital, readiness-based matching, named accountability (illustrative).

Source: ICGD analysis (2026), building on Bappenas NDC tracking systems; Peta Jalan Dekarbonisasi Industri (2025); UNIDO GEIPP project tracking architecture; Systemiq analysis (2026).

Candidate anchor pilots identified through the dialogue illustrate what delivery could look like in practice, with indicative scales drawn from pathway studies rather than committed programs: hydrogen-based direct reduced iron in steel at Cilegon (indicatively about 1.2 $MtCO_2$/yr abatement at full conversion), green ammonia at Bontang with multi-site potential (indicatively about 0.8-1.5 $MtCO_2$/yr), and a low-clinker cement pathway across the Tuban and Cilacap network (indicatively about 0.6-1.0 $MtCO_2$/yr).

Each would ship with the same five-component delivery package regardless of sector: a clean energy and low-carbon technology pathway, a concessional blended finance package, MRV and CBAM readiness, a just transition assessment with stakeholder action plans, and a named delivery lead with quarterly milestones. Three principles guide the finance design: match instrument tenor to the technology cycle, front-load catalytic capital so early studies unlock later commercial rounds, and build in clawback and KPI gates so public support stays accountable. Pilots structured this way are not one-off transactions but a repeatable delivery model that government can own and extend.

DIRECTIONS FOR POLICY

- Issue sectoral emission guidance and implement carbon pricing so revenue streams become bankable;
- Finalize the taxonomy, and resolve hydropower carbon rights;
- Point concessional and grant instruments at manufacturing as well as at power supply, including machinery restructuring and technology modernization, with incentives felt at firm level in cost and tenor;
- Co-build a national project-capital matchmaking function linked to the coordination home;
- And take candidate anchor pilots to bankability as proof of a repeatable model.

SUPPORT IN PLACE

- Blended platforms and development-phase support (PT SMI),
- Semi-concessional long-tenor lending (PT IIF),
- Sustainability-linked lending (Bank Mandiri),
- Thematic bond channels (Climate Bonds Initiative),
- Project-preparation capacity and catalytic grant and technical assistance toward bankability (JETP Delivery Unit, UNIDO),
- And export-linked financing (PKE, Kemendag with Kemenkeu) and the Green Industry Center's connecting unit are all mapped and available.

RECOMMENDATION 5 CARRY PEOPLE, SUPPLIERS, AND DATA ALONG

Workers. Human capital was named the lagging pillar, to be treated as an investment prepared early and in parallel: new processes demand new roles, from hydrogen-plant operators to energy managers and MRV technicians, and without reskilling the upgrade stalls or pulls in foreign labor.

Suppliers. Tighter green rules can lock tier-2 and tier-3 MSME suppliers out of value chains unless their upgrades are aggregated and financed, and the government session added that small and medium industry are competitors as well as suppliers, exporting in their own right, so the same rules decide whether they keep their markets. That lens runs across all five recommendations, not only this one.

Data. Data is the backbone of the other four recommendations as much as of this one: credible green attributes, national green criteria and CBAM verification, and a shared project pipeline all run on it. Industrial reporting systems are not yet integrated, and gaps persist between standards data and net-zero trajectories. Disclosure has to be proportionate: a full international sustainability report is beyond the reach of small firms, so a scaled standard, built for instance on SIINas outputs that follow the GHG Protocol, would let them document what many already do and reach green finance.

Regions and rules. Two frictions cost little to remove: cross-ministerial regulatory collisions, such as scrap needed as feedstock yet treated as waste, and quota governance in which the body that sets a quota differs from the one that allocates it. And the transition must not stop at administrative compliance: social safeguards, indigenous community rights, and local economies need legal certainty so that delivery does not stall in conflict.

DIRECTIONS FOR POLICY

- Implement the green workforce roadmap with competency standards and industry link-and-match, connected to existing super tax deduction facilities;
- Integrate MRV and reporting systems, and make disclosure proportionate for small and medium industry;
- Assist tier-1 to tier-3 suppliers to stay competitive as clean energy requirements apply;
- Resolve regulatory collisions and quota governance;
- And make just transition assessment and action plans, covering workers, suppliers, and regions, a standard feature of pilots and the pipeline.

SUPPORT IN PLACE

- Workforce roadmap implementation capacity (GIZ and the RE Skills Hub),
- Data and MRV integration expertise (WRI),
- The green transformation program for small and medium industry (Ministry of Industry, IKMA) and SIINas reporting outputs (PIH),
- And research on consistency, equity, and safeguards (Transisi Bersih, CELIOS, IRID, IGJ, and ARC UI) are available.

A note on focus. Resources and time are finite, and the dialogue carried a clear prioritization discipline: concentrate on three to four sectors where cost competitiveness, position in global value chains, and the technical and economic readiness of clean energy and electrification pathways make decisive greening winnable, rather than spreading effort evenly. The candidate anchor pilots embody that discipline. Figure 8 draws the argument together: the eleven issues industry raised, the three demands and one gap they add up to, and the recommendation that answers each.

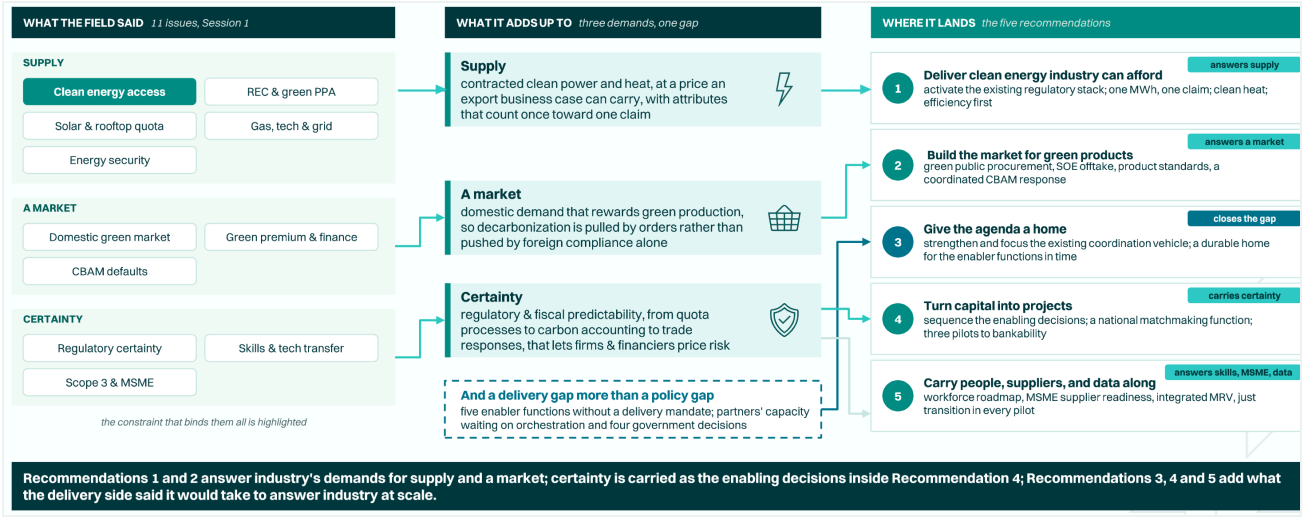

Figure 8 · From the field to the five recommendations: eleven issues, three demands and one gap, and where each lands.

Note: Issue grouping follows the Session 1 record; the mapping sentence is Section 5's. Source: ICGD Session 1 Minutes of Meeting (2026); ICGD analysis (2026).

→ FROM DIALOGUE TO DELIVERY

Acting now is how Indonesia keeps the export markets it has and captures the larger green market forming beyond them: green industrial policy has moved from option to necessity. The pieces rarely align like this: a growth strategy needs new engines; trade rules are beginning to reward early movers; capital, domestic and international, is actively seeking green industrial pipeline; and the institutional adjustment required is narrower than it looks, a matter of anchoring and focusing what exists rather than building anew. Tested with government, the five recommendations ask it less to construct than to activate: set the tariff that lets existing regulation deliver clean energy, let public demand pull green supply while export intelligence shows what to build toward, give the agenda a home inside the existing architecture, connect capital to a visible pipeline and to the factory floor, and bring workers, suppliers, regions, and data along. Some of it can move within the coming year, the network-use tariff, quota certainty, national green criteria, the first pilot packages, proportionate disclosure; the durable home, the matchmaking function at scale, and a flagship instrument follow by 2030. Countries that assembled this combination converted industrial decarbonization into investment and jobs within a planning cycle; Indonesia's own clock runs in electricity planning rounds, carbon-border timelines, and NDC cycles. Captured, the opportunity is worth USD 22-33 billion, up to 6% of the growth gap, more than a million good jobs, and a stronger hand in the CBAM and Article 6 conversations that a credible domestic carbon price will open. Waiting has a price of its own, paid in orders that reroute and investment that settles elsewhere; acting keeps both at home. That is the case for moving now.

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Figure-level notes and sources appear beneath each figure; the underlying dialogue materials carry full per-exhibit source notes.

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A ANNEX A · INSTITUTIONAL MAPPING AND ILLUSTRATIVE PATHWAYS

The exhibits below were developed for the dialogue as reference material on the institutional questions raised in Section 3. They are evidence and illustrative options for discussion, not proposals: the institutional form, leadership, and sequencing are for government to determine through its own processes and stakeholder dialogue. Exhibit A1 maps the delivery-enabler functions against the Ministry of Industry's existing architecture. Exhibit A2 sketches a sequenced pathway, starting fast with an existing or lightly adapted coordination vehicle, delivering and codifying early wins, then institutionalizing a durable home for the enabler functions. Exhibit A3 compares the three existing coordination bodies against what the industrial track requires and sketches one potential architecture scenario that combines industrial-ministry leadership, coordinating-ministry co-chairing, SOE anchor seats, industry voice, and oversight.

● full ◐ partial · coral: not yet anchored · orange: anchoring in build

Kementerian Perindustrian REPUBLIK INDONESIA

	FUNCTIONS COVERED BY EXISTING BODIES				DELIVERY ENABLER FUNCTIONS · 4 OF 5 NOT YET ANCHORED				
	Sector Reg.	Standards, MRV, SIH	Industrial Zones	Workforce Training	Clean Energy Supply	LCT Commercialization	Green Zone Delivery	Concessional Finance (& Fiscal Incentive)	Carbon Pricing (NEK)
BSKJI / Pusat Industri Hijau *Standards · MRV · Roadmap*		● SIH lead 62 std · 146 firms · SE Menperin 2/2025: MRV via SIINas				◐ Roadmap only			◐ NEK lead · via PIH ETS pilot 2026, full 2028
Ditjen KPAII *Industrial Zones · Int'l Access*			● Permenperin 26/2025 5 EIP pilots				◐ Standards only		
Ditjen ILMATE *Metals · Machinery · Transport · Electronics*	● Steel · EV · AI · Auto	◐ Sector SIH (Permenperin 22, 25)				◐ Steel · EV chapters			◐ metals in first-4 ETS wave
Ditjen IKFT *Chemicals · Cement · Textiles · Pharma*	● Cement · Chem Pulp · Textile	◐ Sector SIH (28, 29, 32, 33)				◐ Cement · chem chapters			◐ cement · fertilizer · pulp in first-4 ETS wave
Ditjen IKMA + Industri Agro *MSMEs · Agro-Industries*	● F&B · Pulp · Palm; MSME	◐ Subsector SIH (19, 30)							
BPSDMI *Industrial Workforce Development*				● 11 Politeknik 9 SMK · 7 Diklat					
Setjen *Ministry-wide planning · TKDN · Renstra*								◐ Cross-cutting only	
INSTITUTIONAL HOME	✓ Line Ditjens	✓ BSKJI · PIH	✓ KPAII	✓ BPSDMI	Not yet anchored	Not yet anchored	Not yet anchored	Not yet anchored	BSKJI · PIH · in build

The institutional design question is where the delivery enablers should be anchored within Kemenperin's architecture, and how its interfaces to the climate (KLH/BPLH, Komrah), trade (Kemendag) and fiscal (Kemenkeu) levers are wired.

Exhibit A1 · Policy and standards are covered; four of five delivery-enabler functions do not yet have an institutional home, with carbon pricing anchoring in build.

Note: Orange marks a function whose mandate is held and whose instruments are in build; the matrix maps the industrial domain within Kemenperin. Source: Perpres 167/2024; Permenperin 1/2025, 26/2025 and sector SIH series (2025); SE Menperin 2/2025; ICGD analysis (2025-2026).

1 STAND UP A COORDINATION VEHICLE *Q2–Q4 2026 · 0–6 mo*

- Stand up a **fast coordination vehicle** (an existing or lightly adapted structure)
- **Anchored at Kemenperin**; co-led with coordinating-economic and energy ministries
- **4 potential initial workstreams**: *clean-power access, eco-IP accreditation, workforce, CBAM-readiness*
- **Pilot contract** with selected SOE anchors

2 DELIVER & CODIFY *2027 H1 · 6–12 mo*

- Sign industrial **green-power agreement** template with state utility
- Award first **CCfD-style contract**
- **Stand up green finance facility** via national development finance vehicle
- **Begin codification:** legal vehicle and placement set through stakeholder consultation

3 INSTITUTIONALIZE *2027 H2–2028 · 12–24 mo*

- **Function institutionalized**: durable home with clear mandate and resources
- **5 potential sub-functions:** *policy/planning, clean energy, LCT, industrial zones, green investment*
- Standards function stays separate **(clean split with competitiveness)**
- **Transitional vehicle sunsets** with full staff continuity

4 CONSOLIDATE *2029+ · 24+ mo*

- **Carbon-pricing revenue cycled** into green industrial investments
- **Review integration with related sectoral** functions (EV, battery, electrolyzer)
- **Codify in next national medium-term development plan**

POTENTIAL ORG CHART · KEMENPERIN STRUCTURE WITH A COORDINATION FUNCTION HIGHLIGHTED (ILLUSTRATIVE)

MINISTRY OF INDUSTRY

Setjen | Itjen | Ditjen ILMATE | Ditjen IKFT | Ditjen IKMA | Ditjen Agro | Ditjen KPAII | BSKJI

A COORDINATION FUNCTION FOR GREEN INDUSTRIAL COMPETITIVENESS & DECARBONIZATION

(form to be determined through stakeholder dialogue)

1. Policy & Planning | 2. Clean Energy for Industry | 3. Low-Carbon Technology | 4. Green Industrial Zones | 5. Green Investment & Finance

Risk to watch: Political pressure against new senior-structure expansion · Turf overlap with existing down-streaming task force · Fiscal tightness under current administration ·

EXTERNAL COORDINATION LINKAGES

MINISTRY / BODY	ROLE
MEMR	Industrial PPA, RUPTL, RE targets
Bappenas	RPJMN, LTS-LCCR, NDC alignment
MoF	Green incentives, CCfD funding
KemenLH	Emissions registry, carbon pricing
Coord. Economic Affairs	TEH task force, green-industry WG
BKPM + Hilirisasi TF	Green FDI, sectoral projects
Danantara, PT SMI, etc.	Concessional capital for CCfD
DEN	Industrial energy demand

SOE cluster:
state utility · state energy · state mining · state steel · state cement · state ferti

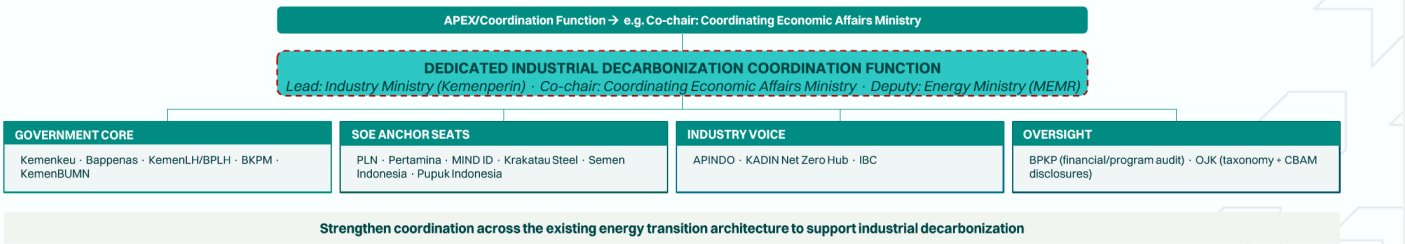
Exhibit A2 · Start fast, codify, then institutionalize: an illustrative sequencing pathway (for discussion; form to be determined through stakeholder dialogue).

Source: Perpres 74/2024; Keppres 1/2025; Kepmenko 141/2025; Kemenperin organizational references; AIGIS 2025; IESR/WRI Peta Jalan Dekarbonisasi Industri (Aug 2025); ICGD analysis (2025-2026).

Dimension	Komrah (NEK) *Perpres 110/2025*	Satgas TEH *Kepmenko 141/2025*	Satgas Hilirisasi *Keppres 1/2025*
Chair	Coordinating Food Affairs Ministry	Coordinating Economic Affairs Ministry	Energy Ministry (MEMR)
Members	2 Menko + 17 Menteri + UKP	12+ Menteri + 4 Pokja	12+ Menteri + AG + Kapolri
Remit	Carbon market + NDC policy; SRUK approval	Cross-ministerial transition coord	Presidential debottlenecking; sanctions; land
Relevance to the industrial track	Indirect (carbon pricing)	Most relevant — WG2 Pokja Industri Hijau	Indirect; presidential-level debottlenecking
Gap for the industrial track	Remit centers on carbon-market and NDC policy; no leadership of the industrial track	Kepmenko basis; escalation route not yet binding	Hilirisasi and energy-security focus; no carbon KPI

RATIONALE A 4th task force could compound fragmentation. The carbon-pricing committee is scoped to carbon-market and NDC policy. The energy-transition task force already covers Green Industry & Downstream Decarbonization in its work plan but lacks: (i) Kemenperin-level leadership of the industrial track, (ii) SOE seats, (iii) presidential-level escalation. Elevating its legal-instrument basis could address all three.

POTENTIAL ARCHITECTURE SCENARIO



Strengthen coordination across the existing energy transition architecture to support industrial decarbonization

Exhibit A3 · Existing coordination bodies against the industrial track's requirements, and one potential architecture scenario (illustrative, for discussion).

Source: Perpres 110/2025; Kepmenko 141/2025; Keppres 1/2025; IDXCarbon Q1 2025; ICGD analysis (2026).

Read together, the exhibits carry one message consistent with the sequencing risks flagged in the dialogue, political pressure against new senior structures, turf overlap with the downstreaming track, and fiscal tightness: start light on what exists, codify what works, and institutionalize only what has already delivered.

Recommendation	First steps, 2026 to 2027	By 2030	Indicative owners
1 · Deliver clean energy industry can afford	Set the network-use tariff; quota predictability toward the 100 GW program; KEK supply route; credible attributes, one MWh one claim; efficiency first using POME data	Contracted clean power and heat available to industrial sites within national electricity planning; clean heat pathways in place	ESDM (Gatrik, EBTKE), PLN, DEN, Kemenko Perekonomian; Kemenperin as connector
2 · Build the market for green products	National green product criteria aligned with main export markets; green procurement categories with LKPP; market-requirement mapping from trade intelligence; verification capacity	SOE offtake commitments; product standards with market value; coordinated CBAM response and safeguards with emission-based elements	LKPP, Kemendag, KemenBUMN, Kemenperin (BSKJI)
3 · Give the agenda a home	Strengthen and focus the existing coordination vehicle with Kemenperin leadership, SOE seats and binding escalation; anchor enabler functions at BSKJI and PIH	Durable institutional home for the enabler functions, form set through dialogue; named delivery leads and bankable packages	Kemenperin (Setjen, BSKJI, PIH), Kemenko Perekonomian (Satgas TEH), Bappenas
4 · Turn capital into projects	Sectoral emission guidance and carbon pricing; taxonomy finalization; matchmaking function incubated, building on PIH's connecting unit; first anchor pilot packages; manufacturing-facing instruments and PKE	Matchmaking function at scale under an agreed host; three pilots at FID; a flagship instrument sized to SOE-anchored transformation	Kemenkeu, OJK, Bappenas, KLH/BPLH, Danantara, PT SMI, SOE anchors
5 · Carry people, suppliers, and data along	Proportionate disclosure for small and medium industry; supplier assistance tier 1 to 3; workforce roadmap link-and-match for the pilots; first regulatory collisions cleared	Integrated MRV and reporting; just transition assessment standard in every pilot and the pipeline	Kemnaker, Kemenperin (BPSDMI, IKMA), KLH/BPLH, BSN/KAN

Exhibit A4 · An indicative sequence by recommendation, as discussed with government (illustrative, for discussion; owners indicative).

Source: ICGD Session 3 record (17 September 2026); ICGD analysis (2026).

B ANNEX B · DIALOGUE PARTICIPANTS

The institutions below took part in the consultation sessions of the ICGD Industrial Decarbonization Dialogue, including the government and institutional session at which the draft of this brief was tested. Within each session they are grouped by the role they play in this agenda and listed alphabetically by full name, with the abbreviation in common use in parentheses. Participants in FGD Series 1, Green Industrialization and Low-Carbon Manufacturing (February 2026), are acknowledged collectively on the closing page.

SESSION 1 · PRIVATE SECTOR AND INDUSTRY ASSOCIATIONS · 11 JUNE 2026 · 29 INSTITUTIONS

INDUSTRY ASSOCIATIONS AND CHAMBERS

- Asosiasi Penambang Nikel Indonesia (APNI)
- Asosiasi Perusahaan Industri Pengolahan & Pemurnian Indonesia (AP3I)
- Asosiasi Perusahaan Semen Seluruh Indonesia (ASPERSSI)
- Asosiasi Pertekstilan Indonesia (API)
- Asosiasi Produsen Listrik Swasta Indonesia (APLSI)
- Asosiasi Produsen Pupuk Indonesia (APPI)
- Asosiasi Pulp dan Kertas Indonesia (APKI)
- Himpunan Kawasan Industri Indonesia (HKI)
- Indonesian Iron and Steel Industry Association (IISIA)
- KADIN Net Zero Hub

IRON, STEEL, AND METALS PROCESSING

- Dexin Steel Indonesia
- Garuda Yamato Steel
- Gunung Raja Paksi
- Indonesia Morowali Industrial Park (IMIP)
- Krakatau POSCO
- Krakatau Steel

CEMENT

- Indocement Tunggal Prakarsa
- Semen Indonesia Group (SIG)

PULP AND PAPER

- APRIL Group
- Asia Pulp & Paper (APP)

CHEMICALS AND FERTILIZERS

- Chandra Asri Pacific
- Petrokimia Gresik
- Pupuk Indonesia
- Pupuk Kalimantan Timur (Pupuk Kaltim)

TEXTILES

- Indorama Synthetics
- Pan Brothers

ENERGY, BATTERIES, AND DIGITAL INFRASTRUCTURE

- Amazon Web Services (AWS)
- Indonesia Battery Corporation (IBC)
- NeutraDC (Telkom Group)

SESSION 2 · DEVELOPMENT AND DELIVERY PARTNERS · 16 JULY 2026 · 44 INSTITUTIONS

ENERGY AND EFFICIENCY ASSOCIATIONS

- Asosiasi Energi Surya Indonesia (AESI)
- Asosiasi Pengembang Pembangkit Listrik Tenaga Air (APPLTA)
- Asosiasi Perusahaan Pendukung Konservasi Energi Indonesia (APKENINDO)
- Masyarakat Energi Terbarukan Indonesia (METI)
- Masyarakat Ketenagalistrikan Indonesia (MKI)
- Masyarakat Konservasi dan Efisiensi Energi Indonesia (MASKEEI)

FINANCE AND INVESTMENT INSTITUTIONS

- Bank Mandiri
- Climate Bonds Initiative
- PT Indonesia Infrastructure Finance (PT IIF)
- PT Sarana Multi Infrastruktur (PT SMI)
- Standard Chartered Indonesia
- World Bank Group / IFC Indonesia

RESEARCH INSTITUTES, UNIVERSITIES, AND ADVISORY PARTNERS

- Asia Research Center, Universitas Indonesia (ARC UI)
- Center for Global Sustainability, University of Maryland
- Center of Economic and Law Studies (CELIOS)
- Center of Reform on Economics (CORE Indonesia)
- Centre for Strategic and International Studies (CSIS)
- Climateworks Centre
- INDEF Green Transformation Initiative (INDEF GTI)
- Industrial Policy Lab Indonesia (IPL)
- Institute for Essential Services Reform (IESR)
- IRID
- Lembaga Penyelidikan Ekonomi dan Masyarakat, Universitas Indonesia (LPEM UI)
- Prasasti Center for Policy Studies
- SMERU Research Institute
- Systemiq
- The PRAKARSA
- World Resources Institute Indonesia (WRI Indonesia)

MULTILATERAL AND BILATERAL PARTNERS

- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Indonesia
- Just Energy Transition Partnership (JETP) Delivery Unit
- United Nations Industrial Development Organization (UNIDO)

CIVIL SOCIETY, PHILANTHROPY, AND KNOWLEDGE PLATFORMS

- Climate Catalyst
- Climate Imperative
- Indonesia Business Council for Sustainable Development (IBCSD)
- Indonesia for Global Justice (IGJ)
- Katadata
- Landesa Indonesia
- Penabulu Foundation
- RumahPATEN
- SUSTAIN
- Tara Climate Foundation
- Transisi Bersih
- Trend Asia
- ViriyaENB

SESSION 3 · GOVERNMENT AND INSTITUTIONAL · 17 SEPTEMBER 2026 · 10 INSTITUTIONS

COORDINATING MINISTRIES AND PLANNING

- Coordinating Ministry for Economic Affairs (Kemenko Perekonomian)
- Coordinating Ministry for Infrastructure and Regional Development (Kemenko IPK)
- Ministry of National Development Planning (Bappenas)

LINE MINISTRIES

- Ministry of Energy and Mineral Resources (ESDM)
- Ministry of Industry (Kemenperin): Directorates General IKFT, ILMATE, Agro Industry, and IKMA; Green Industry Center, BSKJI
- Ministry of Trade (Kemendag)

COUNCILS, AGENCIES, AND TASK FORCES

- National Energy Council (DEN)
- National Public Procurement Agency (LKPP)
- Secretariat General of the National Council for Special Economic Zones (KEK)
- Task Force for the Acceleration of Downstreaming and National Energy Security (Satgas Hilirisasi), Secretariat

Institutions that took part in more than one session are listed once. Participation in the dialogue does not imply endorsement of this brief's findings or recommendations; government inputs at Session 3 were given under the Chatham House Rule and are reflected without attribution. Any errors remain the responsibility of the ICGD Secretariat.

ABOUT THE INDONESIA CLIMATE AND GROWTH DIALOGUE

The Indonesia Climate and Growth Dialogue (ICGD) is an independent, founder- and board-led institution established in 2024, bringing together government, business, academia, civil society, think tanks, and development partners to support the formulation and accelerated implementation of policies and investment that drive Indonesia's green growth. ICGD has supported the preparation of the Second NDC and the issuance of Perpres 110/2025, and takes part in the secretariat of the Carbon Economic Value Steering Committee. Its program rests on three pillars: government and ecosystem coordination; green growth and investment strategy; and capacity building and multi-stakeholder dialogue.

ABOUT THIS BRIEF

This brief draws on ICGD's research on industrial decarbonization under its green growth and investment strategy work and on the ICGD Industrial Decarbonization Dialogue: FGD Series 1, Green Industrialization and Low-Carbon Manufacturing (February 2026); a session with the private sector and industry associations (11 June 2026); a session with development and delivery partners (16 July 2026); and a session with government and institutional counterparts (17 September 2026), at which the draft was tested and refined. Together the dialogue involved more than 70 companies, associations, financing institutions, delivery partners, and research organizations, and the ministries and institutions listed in Annex B. ICGD thanks all participants for their candor and contributions. Any errors remain the responsibility of the ICGD Secretariat.



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Cover and closing-page photograph: Rooftop solar at an industrial facility in East Java. Courtesy of Suryanesia. · secretariat@icgdsecretariat.org