



# CHINA-INDONESIA ENERGY TRANSITION COOPERATION: PROGRESS, PROSPECTS, AND RECOMMENDATIONS

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## List of Abbreviations

ANTAM	Aneka Tambang
APNI	Asosiasi Penambang Nikel Indonesia/Indonesian Nickel Miners Association
ASEAN	Association of Southeast Asian Nations
BCRF	Bilateral Coal Retirement Facility
BESS	Battery Energy Storage Systems
BEV	Battery Electric Vehicle
BI	Bank Indonesia
BKPM	Kementerian Investasi dan Hilirisasi/Ministry of Investment and Downstream Industry/Indonesia Investment Coordinating Board
BOT	Build, Operate, Transfer
BRI	Belt and Road Initiative
CATL	Contemporary Amperex Technology Co., Limited
CBU	Completely Built Up
CDB	China Development Bank
CDP	Carbon Disclosure Project
CEXIM	The Export-Import Bank of China
CIC	China Investment Corporation
CMTS	Critical Minerals Traceability System
CNTY-OASA	China Tianying - PT Maharaksa Blue Energy
DEN	Dewan Ekonomi Nasional/ National Economic Council
DMO	Domestic Market Obligation
DTETI UGM	Departemen Teknik Elektro dan Teknologi Informasi/ Department of Electrical Engineering and Information Technology, Universitas Gadjah Mada
EBT	Energi Terbarukan/Renewable Energy
EESA	Eastern Energy Storage Alliance
EIA	Environmental Impact Assessments



ESDM	Kementerian Energi dan Sumber Daya Mineral/ Ministry of Energy and Mineral Resources
ESG	Environmental, Social, and Governance
ESS	Energy Storage System
ETM	Energy Transition Mechanism
EV	Electric Vehicle
EVE	Enterprise based Vocational Education
FM	Frequency Modulation
Gaikindo	Gabungan Industri Kendaraan Bermotor Indonesia/ Association of Indonesia Automotive Industries
GCC	Gulf Cooperation Council
GEM	Green Eco Manufacture
GHG	Greenhouse Gas
GNI	Gunbuster Nickel Industry
GW	Gigawatt
HoA	Heads of Agreement
HPAL	High-Pressure Acid Leaching
IBC	Indonesia Battery Cooperation
ICBC	Industrial and Commercial Bank of China
IC-CEPA	Indonesia-Chile Comprehensive Economic Partnership Agreement
ICCMPC	International Conference On Critical Minerals of Producing Country
IKN	Ibu Kota Negara/Capital City of Nusantara
IMIP	Indonesia Morowali Industrial Park
IMUT	Inner Mongolia University of Technology
JETP	Just Energy Transition Partnership
JJ - LAPP	Jebsen & Jessen Lapp Indonesia
JV	Joint Venture
KADIN	Kamar Dagang Indonesia/ Indonesian Chamber of Commerce and Industry



KD	Knock Down
LBM	LBM Energi Baru Indonesia
LCR	Local Content Requirements
LFP	Lithium Ferrofosfat
MHP	Mixed Hydroxide Precipitate
MoU	Memorandum of Understanding
MUT	Massive Multi-utility Tunnel
MW	Megawatt
NDB	New Development Bank
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NRE	New And Renewable Energy
OECD	Organisation for Economic Co-operation and Development
PBoC	The People's Bank of China
PLN	Perusahaan Listrik Negara/State Electricity Company
PLTS	Pembangkit Listrik Tenaga Surya/Solar Power Plant
PLTU	Pembangkit Listrik Tenaga Uap/Coal Power Plant
PPA	Power Purchase Agreements
PTPN	PT Perkebunan Nusantara /PT. Nusantara Plantation
PV	Solar Photovoltaic
RE	Renewable Energy
RUPTL	Rencana Usaha Penyediaan Tenaga Listrik/ Electricity Supply Business Plan
RUU EBET	New and Renewable Energy Bill
R&D	Research and Development
SDIC	State Development & Investment Corp
SEZ	Special Economic Zone
SMR	Small Modular Reactors



SOE	State-Owned Enterprises
SPKLU	Stasiun Pengisian Kendaraan Listrik Umum/Public Electric Vehicle Charging Station
SWF	Sovereign Wealth Fund
TMAI	PT Trina Mas Agra Indonesia
UB	Universitas Brawijaya
UMSIDA	Universitas Muhammadiyah Sidoarjo
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
WtE	Waste To Energy



Source: Kompas.id (2024)

## Introduction

Cooperation between Indonesia and China continued to expand during the past year, particularly in areas related to the energy transition, green industry, and technological development. The relationship, once centered mainly on trade and infrastructure, now includes a broad set of activities such as renewable energy projects, electric vehicle production, battery supply chains, clean technology investment, and research collaboration.

Between October 2024 and October 2025, both governments, state-owned enterprises, Danantara, Indonesia Sovereign Wealth Fund (SWF) and private companies carried out a series of agreements, project launches, and expert exchanges aimed at supporting low-carbon growth. Policy dialogues addressed renewable energy targets and industrial modernization, while investment partnerships advanced projects in solar and wind power, nickel and battery processing, and digital energy management systems. Academic and technical institutions from both countries organized joint workshops, studies, and training programs to strengthen human resource development and applied research in sustainable technology.



New funding structures also began to take shape, including cooperation between Indonesia's sovereign investment agency and Chinese institutional investors in battery manufacturing, renewable power, and industrial park development. These initiatives reflected growing coordination between public and private actors in aligning investment priorities with national energy transition goals, 100% Renewable Energy (RE) in 2035 and Net Zero by 2050.

This annual report reviews these developments in detail and is divided into three sections: Progress, which summarizes key activities and milestones; Prospects, which considers future areas of cooperation; and Recommendations, which outlines potential measures to strengthen ongoing collaboration. Together, these sections provide an overview of how Indonesia-China cooperation evolved over the years in support of energy transition, industrial transformation, and sustainable economic growth.

Source: Perusahaan Listrik Negara (2023)



## Progress

Month/ Year	Initiatives & Developments	Category
Oct 2024	<p><b>PT. LBM Energi Baru Indonesia Launches Lithium Ferro Phosphate (LFP) Cathode Plant in Kendal Special Economic Zone (SEZ)</b> — PT LBM Energi Baru Indonesia, backed by Lopal Tech and Contemporary Amperex Technology Co., Limited (CATL), inaugurated a USD350 million facility producing LFP cathode materials in Kendal SEZ. The plant's first phase targets 30,000 tons of annual output, scaling to 120,000 tons by 2025, marking the world's largest LFP cathode site outside China (Laeis and Salim, 2024).</p>	Electric Vehicle (EV) battery materials, industrial upgrading, green manufacturing
Nov 2024	<p><b>President Prabowo's State Visit to China</b> — High-level meetings with President Xi Jinping and Premier Li Qiang, signing seven Memorandum of Understanding (MoUs) spanning green minerals, water resources, blue economy, and others (Natalia, 2024). Deals witnessed included State Electricity Company (PLN)-Huawei (digital grid, solar, EV-charging &amp; grid modernization) and PLN-State Development &amp; Investment Corp (SDIC) (hydropower/Mamberamo study), and multiple investment/commercial commitments collectively publicized at the Indonesia-China Business Forum (Ibid).</p>	High-level diplomatic & investment cooperation
Nov 2024	<p><b>MoU on Deepening Blue Economy Cooperation</b> — Agreed a multi-sector approach: offshore renewables such as offshore wind, tidal, marine Solar Photovoltaic (PV), sustainable fisheries, shipbuilding and port logistics, marine biotech, and coastal value-chain development, with emphasis on technology transfer and blue-economy pilot zones (Kementrian Koordinator Bidang Perekonomian Republik Indonesia, 2024).</p>	Marine/Blue Economy cooperation
Nov 2024	<p><b>PT Vale – Green Eco Manufacture (GEM) High-Pressure Acid Leaching (HPAL) Project (Sulawesi)</b> — PT Vale and China's GEM signed a strategic cooperation agreement for a USD1.4 billion HPAL nickel processing plant, targeting an annual Mixed Hydroxide Precipitate (MHP) output of 60,000 tons. The project includes the establishment of a Research and Development (R&amp;D) center, an Environmental, Social, and Governance (ESG) compound, local community investment programs, and a net-zero operational commitment (Saputra and Karuru, 2024).</p>	Downstream nickel processing & green industrialization
Nov 2024	<p><b>Bakrie &amp; Brothers – Envision Energy MoU (Beijing)</b> — MoU signed for development of 200 Mega Watt (MW) floating PV and 200 MW wind capacity (Candra, 2024).</p>	Renewables project & private sector cooperation



Month/ Year	Initiatives & Developments	Category
Nov 2024	<p><b>Academic Commentary &amp; Local Debate on Blue Economy</b> — An academic commentary published by Universitas Muhammadiyah Sidoarjo (Umsida) experts analyzed the new Indonesia-China Blue Economy MoU, emphasizing its potential to accelerate technology transfer in marine renewables and generate employment in coastal regions (Hanifag, 2024).</p>	Academic & knowledge exchange
Dec 2024	<p><b>BYD Surge &amp; Import Strategy; BYD Announces Subang Factory</b> — BYD reported large monthly wholesale figures (3,205 units in March), becoming the top EV seller; announced a USD1 billion factory in Subang, West Java (150k units/yr) to localize production and serve the Association of Southeast Asian Nations (ASEAN) exports (Bimo, 2025).</p>	Industrial investment & localization
Jan 2025	<p><b>PT. Nusantara Plantation (PTPN) III Delegation to China (Sei Mangkei SEZ Discussions)</b> — PTPN III's CEO met Basic International Investment exploring investment in Sei Mangkei SEZ: planned glove factory (natural rubber), R&amp;D center for rubber, dairy/agribusiness, and an Renewable Energy (EBT) (biomass) power plant to supply the SEZ and nearby communities; projected large local job creation and a green-industry conversion for the estate (Artada, 2025).</p>	Agricultural & green industrial cooperation
Jan 2025	<p><b>Chinese Battery Electric Vehicle (BEVs) Dominate Jan 2025 market</b> — Gabungan Industri Kendaraan Bermotor Indonesia (Gaikindo) data showed BYD M6 #1 BEV (581 units), Chery J6 #2 (423), BYD Seal &amp; Atto 3 strong; Wuling and other Chinese marques in top 10. Domestic BEV production is small but rising; Chinese firms used aggressive CBU import strategy under temporary incentives (Bimo, 2025).</p>	Market development – EV sales & imports
Feb 2025	<p><b>International Conference of Critical Minerals Producing Countries (ICCPMC, Yogyakarta)</b> - Hosted by Celios, bringing together representatives from seven major mineral-producing nations. The final communiqué called for just, sustainable, and transparent management of critical minerals. Discussions highlighted China's position as the largest buyer and emphasized the need to strengthen supply-chain accountability and environmental governance in the EV and battery industries (Center of Economic and Law Studies, 2025).</p>	Critical minerals governance and policy coordination



Month/ Year	Initiatives & Developments	Category
Feb 2025	<p><b>China Harbour/Nusantara Multi–Utility Tunnel (MUT)</b></p> <p><b>Selection</b> — Indonesia granted China Harbour Indonesia a major role in the planned 138.6 km smart MUT for the new capital city (power, fiber optics, pipelines). Project value ~USD4.4 billion; national security, data sovereignty and cybersecurity safeguards were emphasized as required countermeasures. Local SOEs (Brantas Abipraya, Hutama Karya) to partner to protect sovereign oversight while leveraging Chinese engineering capacity (Alexander, 2025).</p>	Strategic infrastructure & smart-city cooperation
Feb 2025	<p><b>Parent Company Bankruptcy Threatens Operations of PT Gunbuster Nickel Industry (GNI) Nickel Smelter in Morowali</b> — Following the bankruptcy of Jiangsu Delong Nickel Industry Co., PT GNI reportedly reduced output and delayed supplier payments, risking full closure. The disruption highlights Indonesia's exposure to financial instability within foreign-backed mineral processing ventures and the need for stronger industrial resilience mechanisms (Hannany and Rafsanjani, 2025).</p>	Industrial risk and nickel downstream stability
Feb 2025	<p><b>China Expands Strategic Metal Reserves While Indonesia Tightens Royalties/Quota Proposals</b> — Reports that China was stockpiling nickel, cobalt, lithium and copper coincided with Indonesian proposals to raise nickel royalties (from ~10% toward 14–19%) and consider output quota adjustments, prompting market and investor concern (Affan, 2025).</p>	Strategic raw-materials policy & international market dynamics
Mar 2025	<p><b>China Tianying – PT Maharaksa Blue Energy (CNTY-OASA) Waste to Energy (WtE) plant (Banten) Build, Operate, Transfer (BOT) Contract</b> — Chinese technical solutions used in USD157 million WtE project converting municipal solid waste to electricity under BOT scheme; project highlighted the expanding role of Chinese circular-economy tech in Indonesian municipal services (Alatas and Budiman, 2025).</p>	Waste management & clean tech investment
Apr 2025	<p><b>Wang Yi – Sugiono/Bilateral Foreign Ministers Talks</b> — Chinese FM Wang Yi and Indonesia's FM Sugiono discussed strengthening comprehensive strategic partnership, cooperation across trade, investment, green development, people-to-people exchanges, and regional stability (Santoso, 2025).</p>	Diplomatic & strategic dialogue



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Apr 2025	<p><b>Solartech Indonesia 2025 (Jakarta)</b> — Major Chinese players (Jinko, Jolywood, Dyness, Enterprise based Vocational Education (EVE), etc.) exhibited PV modules, ESS, and battery solutions; discussions on local Joint Venture (JV) manufacturing and Battery Energy Storage System (BESS) deployment; EVE Energy showcased large-format Energy Storage System (ESS) and residential ESS (Santoso, 2025).</p>	Renewable tech & industrial cooperation
Apr 2025	<p><b>China Firms Eye Indonesia for Clean Energy Storage</b> — Sungrow, Suzhou Inovance, Sienergys, and others signaled interest in Indonesia's energy storage market during the Eastern Energy Storage Alliance (EESA) Summit, focusing on BESS deployment to stabilize renewable-heavy grids and expand energy access in remote regions (Fitriyani and Latif, 2025).</p>	Energy storage, grid modernization
Apr 2025	<p><b>PLN Nusantara Power (PLN NP) – Vestas MoU</b> — PLN NP signed MoU with Vestas to explore wind projects and feasibility, supplementing China-led investments with European tech partnerships (Dani and Saputra, 2025).</p>	Wind energy cooperation & diversification
Apr 2025	<p><b>Solartech &amp; Corporate Exhibitions Continued</b> — EVE Energy and Chinese ESS/battery firms presented large-format ESS and residential systems at Solartech Indonesia and other trade events, facilitating sales, training and JV discussions with Indonesian partners (Public Relations WIRE, 2025).</p>	Technology dissemination & market development
Apr 2025	<p><b>Huayou Cobalt Formally Confirmed as LG Replacement in USD9.8 Billion Titan Project</b> — Official confirmation that Zhejiang Huayou Cobalt will lead and scale the Titan integrated EV battery chain (mining → HPAL → precursor/cathode → cell), consolidating Chinese leadership across Indonesia's EV battery value chain; significant in long-term value capture debates (Bimo, 2025).</p>	Industrial investor consolidation (battery value chain)



Month/ Year	Initiatives & Developments	Category
May 2025	<p><b>Danantara Sovereign Fund Launched &amp; Initial China Investment Corporation (CIC) Talks</b> — Indonesia consolidated sovereign assets into Danantara to finance strategic green industrialization; MoU talk with CIC on China-ASEAN co-investment platform to mobilize equity moving Belt and Road Initiative (BRI) cooperation from debt to partnership/equity. Danantara aimed to channel funds into batteries, solar, green industrial parks and WtE (Pandia, 2025).</p>	Green finance & sovereign co-investment
May 2025	<p><b>PLN and CEXIM Renew Strategic MoU on Energy Transition Financing</b> — PLN and China Exim Bank extended their cooperation to support Indonesia's USD171 billion energy transition plan, including renewable generation and 48,000-circuit km green transmission lines over 10 years (Hardi and Agustian, 2025).</p>	Energy finance, bilateral cooperation
May 2025	<p><b>World Expo 2025 Osaka — Green Sustainable Industrial Zones Commitments</b> — Indonesia announced USD22 billion commitments (Equator Renewable Asia, Keppel, Vanda RE, Gurin Energi) to build green industrial corridors/solar-powered zones (Batam, Bintan, Tanjung Pinang), including pilot integrated renewable power and green industrial parks; Chinese partners were involved in related deals and supply chains (CNBC Indonesia, 2025).</p>	Multilateral green investment & industrial corridors
May 2025	<p><b>Premier Li Qiang's Visit to Jakarta – Four Cross-cutting Agreements</b> — Signed pacts on (1) local currency settlement framework Bank Indonesia and the People's Bank of China (BI-PBoC), (2) development policy collaboration National Economic Council-National Development and Reform Commission (DEN-NDRC), (3) joint industrial/supply chain development, and (4) the "Two Countries Twin Parks" linking Fujian province with Indonesian SEZs, further institutionalizing economic coordination (Rochman et al, 2025).</p>	Macro-policy & institutional cooperation
May 2025	<p><b>Zero Carbon Analytics Report</b> — Identified China as the largest public clean-energy financier in South East Asia Asia (USD2.7 billion), with Indonesia the largest recipient; used in policy briefings to argue for leveraging Chinese capital while improving governance and green standards (Fernandez, 2025).</p>	Research & regional finance analysis



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May 2025	<p><b>Nuclear Roadmap Updates &amp; Small Modular Reactors (SMR) Shortlist</b> — Indonesia advanced regulatory drafting for uranium and SMR licensing after confirmed uranium deposits in West Kalimantan; shortlist narrowed to Chinese and Russian SMR vendors, with target first SMR deployment discussed for 2030–2032 and national Electricity Supply Business Plan (RUPTL) referencing modest nuclear capacity (Bimo, 2025).</p>	Energy policy & nuclear cooperation
Jun 2025	<p><b>LONGi–Pertamina New And Renewable Energy (NRE) Solar Manufacturing Plan &amp; Tariff Shock Impacts</b> — After U.S. tariffs on Chinese panel components, Chinese manufacturers (Longi etc.) increased interest in Indonesia; LONGi &amp; Pertamina NRE announced plans for a 1.4 Gigawatt (GW) PV factory near Jakarta, leveraging eased local content rules for large foreign investments and the recent policy changes (Pathoni, 2025).</p>	Solar industrialization & trade policy response
Jun 2025	<p><b>Huawei–Xurya– Jebsen &amp; Jessen Lapp (JJ–LAPP) “Solar Academy Indonesia 2025” &amp; Workforce Training</b> — Corporate training programs, technical exchanges and visits to Huawei HQ (Shenzhen) trained Indonesian solar professionals; complemented Wuhuan Engineering’s earlier training programs for Indonesian employees in Hubei for petrochemical/green chemical projects (Ayudiana and Abidin, 2025).</p>	Technology transfer & human capital development
Jun 2025	<p><b>Samator–CIGMA Ink MoU on Clean Gas Cooperation at IG China 2025</b> — PT Samator Indo Gas Tbk and China IG Member Alliance established a joint task force for clean gas and hydrogen collaboration, marking Indonesia’s participation in regional gas decarbonization and industrial gas innovation (Baiquni, 2025).</p>	Clean gas, industrial decarbonization
Jun 2025	<p><b>PT. GNI Distress &amp; Jiangsu Delong Restructuring</b> — PT. GNI (large Morowali smelter backed by Jiangsu Delong) faced production halts and payments disruption after Chinese parent faced restructuring; Danantara and domestic stakeholders discussed possible acquisition/rescue to preserve jobs (10,000) and maintain downstream capacity —spotlight on risks of foreign-owner distress (Rakhmat et al, 2025).</p>	Nickel sector crisis & state intervention considerations



Month/ Year	Initiatives & Developments	Category
Jun 2025	<p><b>Groundbreaking: Aneka Tambang (Antam)–Indonesia Battery Cooperation (IBC)–CATL Affiliate Project (Karawang) &amp; Karawang/Halmahera Battery Investments</b> — USD6 billion+ integrated EV battery supply-chain investments advanced (HPAL, precursor, cathode, cell manufacturing), with CATL, Antam/IBC and Chinese partners coordinating to secure nickel feedstock and cell capacity (Timorria, 2025)</p>	Battery supply chain & large industrial investment
Jun 2025	<p><b>Widening Debate: Nickel Glut, Tsingshan Production Cuts, Calls for Smelter Moratorium</b> — Price collapses and oversupply drove Tsingshan to suspend stainless steel lines at Indonesia Morowali Industrial Park (IMIP), kickstarting calls (academics, Celios, APNI) for moratoriums on new smelters, review of licensing/royalty policy, and better alignment of downstream capacity with global demand (Bimo, 2025).</p>	Sector governance, market stabilization debate
Jul 2025	<p><b>Trilateral 200 MW Solar PV + 80 MWh BESS at Morowali Industrial Park</b> — Indonesia–Singapore–China joint project launched as a demonstration of industrial decarbonization (off-grid renewables for heavy industry); model for replication in industrial parks seeking to displace captive diesel/coal (Li Zongzhe, 2025).</p>	Demonstration project – industrial renewables
Jul 2025	<p><b>Mega Energi Biru Indonesia and Huawei Partner to Accelerate Clean Energy and EV Infrastructure</b> — PT MEBI and Huawei Indonesia signed an MoU to jointly develop Public Electric Vehicle Charging Station (SPKLU) and BESS. The collaboration integrates Huawei's global smart energy technologies with MEBI's local energy expertise to expand high-quality EV charging networks and digitalized power solutions, advancing Indonesia's clean energy transition (Febrian, 2025).</p>	Clean energy technology cooperation and EV ecosystem development



Month/ Year	Initiatives & Developments	Category
Aug 2025	<p><b>Department of Electrical Engineering and Information Technology, Universitas Gadjah Mada (DTETI UGM)–Zhejiang University–SUPCON Strategic Visit to PT PLN (Persero)</b> — Delegations from UGM, Zhejiang University, and SUPCON visited PLN headquarters, Jamali Load Dispatch Center, and the Cirata Floating Solar Plant. The program included technical exchanges on control systems, automation, and renewable integration, strengthening academic-industrial cooperation and capacity building in energy transition technology (Swarnasta, 2025).</p>	Academic cooperation and renewable energy research partnership
Aug 2025	<p><b>GEM–Danantara Head of Agreement (HoA) for North Kalimantan Green Industrial Park (USD8 billion)</b> — GEM, Danantara and partners outlined plans for nickel recycling, urban mining, green industrial clustering and circular economy activities; Danantara positioned as anchor investor to coordinate state assets and expedite approvals (Sulaiman, 2025).</p>	Green industrial park & circular economy cooperation
Aug 2025	<p><b>Bahlil, Trina Solar Advance Domestic Solar Ecosystem</b> — Indonesia's investment minister secured Chinese PV giant Trina Solar's commitment to expand its integrated cell and module plant (TMAI) in Kendal SEZ up to 3 GW, supporting national targets for 100 GW solar deployment and reducing import dependence (Isaac and Razak, 2025).</p>	Solar manufacturing, local content expansion
Sep 2025	<p><b>Geely Starts Local Assembly Plans; Indonesian EV Export Pathways (Indonesia–Chile Comprehensive Economic Partnership Agreement (IC-CEPA) with Chile)</b> — Geely announced Knock Down (KD) assembly in West Java to speed deliveries; Chile agreed to accept Indonesian-assembled EVs at 0% under IC-CEPA, opening export avenues for Indonesian-assembled Chinese-brand EVs if origin &amp; homologation rules met (Bimo, 2025).</p>	Localization & export market access
Sep 2025	<p><b>Solar Manufacturing &amp; LONGi Developments</b> — LONGi/partners progressed site selection &amp; planning for PV manufacturing capacity (~1.4 GW), responding to global tariff changes and Indonesia's eased Local Content Requirements (LCRs) for large foreign investment in manufacturing (Savitri and Ratnawati, 2025).</p>	Solar manufacturing & supply-chain localization



Month/ Year	Initiatives & Developments	Category
Sep 2025	<p><b>LBM Lithium Battery Plant at SEZ Industropolis Batang (31 ha)</b> — Chinese firm LBM invests USD95 million in a 31-hectare LFP and iron phosphate plant in Batang SEZ. Project includes an R&amp;D center and training for 1,000 local workers, expanding Indonesia's green battery manufacturing based (Ikhsan, 2025).</p>	Battery manufacturing and technology transfer
Sep 2025	<p><b>UB-IMUT Renewable Energy Collaboration and MoA Signing in Hohhot</b> — Delegation from Universitas Brawijaya's Faculty of Engineering (FTUB) signed a Memorandum of Agreement with the College of Energy and Power Engineering, Inner Mongolia University of Technology (IMUT), during the 2025 International Conference on the Cooperation and Integration of industry, Education, Research and Application in the New Energy Field. The partnership covers joint research, academic exchanges, and renewable energy technology development (Prasetya Online, 2025).</p>	Academic cooperation and renewable energy research partnership
Sep 2025	<p><b>Market &amp; Policy Signals: EV Incentives, Tariff Adjustments, Localization Mandate</b> — Indonesian incentives (luxury tax exemptions, import perks) continued supporting imports through 2025; government reiterated 2026–2027 localization mandates (40% local content 2026 → 60% 2027 → 80% 2030) plus 1:1 production commitments backed by bank guarantees (Gaikindo, 2025).</p>	Industrial policy & localization mandates
Sep 2025	<p><b>Indonesia–China Cooperation on Green Transition highlighted at Taiyuan Energy Low Carbon Development Forum (Shanxi)</b> — Indonesian delegation participated in dialogues on low-carbon development, signed multiple MoUs, and agreed to establish a joint research center on energy transition between Shanxi, East Kalimantan, and South Sumatra (Putri, 2025).</p>	Energy transition cooperation and institutional partnership
Sep 2025	<p><b>SUS Environment Secures Makassar Waste-to-Energy Project</b> — Chinese waste management firm SUS Environment won a USD200 million tender for a 1,300-ton/day Solar Power Plant (PLTS) in Makassar, expected to generate 209 million kWh/year by 2027, backed by Ministry of Energy and Mineral Resources (ESDM) and Makassar city authorities (Santoso, 2025).</p>	Waste-to-energy, circular economy



Month/ Year	Initiatives & Developments	Category
Sep 2025	<p><b>China EVs in Indonesia: Chery Tops September, Local Assembly Rises</b> — In September, Chery overtook BYD and Wuling in Indonesian EV sales, with 2,105 units, versus Wuling's 1,339 and BYD's 1,088, reversing August's ranking. BYD still leads year-to-date with over 20,000 units. The shift reflects Chinese brands moving from CBU imports to local assembly to cut costs and speed delivery. Chery and Jaecoo assemble in Bekasi, while BYD's Subang plant is expected by end-2025. Smaller volumes came from Aion, Denza, GWM, MG, Geely, and Xpeng, signaling growing Chinese EV diversity in Indonesia (Rajendra, 2025).</p>	EV market competition, localization strategy, supply chain transition
Sep 2025	<p><b>Indonesia Tops China's Global Green Investment Destinations</b> — Indonesia tops China's green investments, hosting 71 projects worth USD67.87 billion, mainly in battery materials and solar energy. According to the Net Zero Industrial Policy Lab (Johns Hopkins University), over 80% of China's 461 overseas green projects launched since 2022, highlighting rapid global expansion. Researchers warn of environmental, labor, and dependency risks as China internationalizes green value chains via CATL, BYD, and Trina Solar. While Southeast Asia remains central, investments are spreading to the Middle East and North Africa. Analysts urge host countries to strengthen governance and ensure projects align with national sustainability goals (Rodo, 2025).</p>	Green investment leadership, sustainability and dependency risks
Oct 2025	<p><b>China Energy Conservation and Environmental Protection Group (CECEP)-East Kalimantan Join for PLTS Project</b> — China Energy Conservation and Environmental Protection Group CECEP signed an MoU with the East Kalimantan provincial government to develop a waste-to-energy plant, aligning with Indonesia's net-zero 2060 roadmap and subnational green investment push (Suara Nusantara, 2025).</p>	Waste-to-energy, regional clean transition



## Prospects

The coming period offers Indonesia and China a critical window to consolidate economic, technological, and financial collaboration within an evolving global landscape defined by energy transition, supply chain realignment, and institutional reform.

Indonesia's launch of Danantara, progress in the EV-battery ecosystem, and leadership in critical minerals governance all point to a new phase of strategic cooperation — one characterized less by project-level engagement and more by systemic integration across finance, industry, and policy.

## I. Institutional and Financial Architecture

### 1. Danantara–China Strategic Financing Partnership

Indonesia's newly launched Danantara sovereign investment authority, with over USD1 trillion in consolidated SOE assets and an initial USD20 billion capital base (Rakhmat and Purnama, 2025), establishes a platform for long-term, state-led investment in sustainable industries.

- China's sovereign wealth funds and policy banks—such as CIC and the China Development Bank (CDB)—are expected to co-finance Danantara's energy security and renewable transition projects, including grid modernization, EV ecosystems, and industrial decarbonization.
- The partnership could be directed to enhance energy self-reliance, reduce external debt exposure, and accelerate project implementation under a transparent, commercially managed structure.

### 2. Indonesia Joins the New Development Bank (NDB)

Indonesia's official decision to join the NDB opens new access to local-currency loans and green infrastructure funding, while aligning it with China's multilateral financing initiatives (Rakhmat et al, 2025). The NDB—where China is a founding member—has prioritized renewable energy, water systems, and sustainable transport (Ibid), making it a key channel for joint project development. Chinese participation in NDB-backed projects in Indonesia will strengthen financial integration and diversify funding sources beyond Western-led institutions.



## II. Industrial Integration and Market Adaptation

### 1. Full-Chain EV and Battery Expansion

The USD9.8 billion Huayou Cobalt-led Titan Project remains the cornerstone of Indonesia's strategy to build a fully integrated EV and battery supply chain (Bimo, 2025). Spanning nickel mining, HPAL processing—used to extract battery-grade nickel and cobalt from laterite ores—precursor, cathode, and battery-cell manufacturing, the project strengthens Indonesia's downstream industrial policy while reinforcing China's long-term supply security for critical battery materials.

**Prospects include:**

- Scaling battery recycling and renewable-powered smelters to reduce carbon intensity;
- Expanding domestic manufacturing hubs in Morowali (Central Sulawesi), Weda Bay (Halmahera, North Maluku), and Buli Industrial Park (East Halmahera, North Maluku) — Indonesia's key centers for nickel and EV-related industries;
- Negotiating stronger technology transfer and skills development frameworks.

### 2. Industrial Stabilization and Smelter Bankruptcies

The recent bankruptcy of several nickel smelters, notably PT GNI, exposed vulnerabilities in overcapacity and debt financing. Policy adjustments are under consideration to reduce low-efficiency smelting capacity and pivot operations toward renewable energy use—a strategic move to maintain market access to the European Union, which increasingly demands low-carbon metals (Rakhmat et al, 2025). Danantara's potential intervention in distressed assets could stabilize supply, preserve jobs, and enforce sustainability upgrades (Ibid).

### 3. Spillover from China's Solar PV Boom

China's record expansion in solar PV manufacturing capacity (over 500 GW in 2024) is expected to create a spillover investment wave in Southeast Asia (Bimo, 2025). Indonesia stands to benefit from direct Chinese investment in PV module assembly, PV glass, and energy storage component production, driven by cost advantages and diversification motives amid Western trade restrictions. Planned facilities with LONGi, JinkoSolar, and EVE Energy (Pathoni, 2025). It reflects Indonesia's emergence as a secondary manufacturing base for the global solar supply chain.



### III. Governance, Market Diversification, and Critical Minerals Strategy

#### 1. Critical Minerals Market Diversification

Following the ICCPMC in Yogyakarta (Center of Economic and Law Studies, 2025), Indonesia is advised to diversify critical minerals exports beyond China. Negotiations under the Indonesia-EU CEPA and Indonesia-Canada CEPA frameworks are opening alternative markets for nickel, cobalt, and rare earths, aiming to stabilize export revenue and strengthen Indonesia's bargaining position (BBC Indonesia, 2025; Basyari 2025). This diversification does not reduce the importance of China's role as the main buyer but introduces competitive market access and technology partnerships with Western and North American firms.

#### 2. Sustainable Supply Chain Governance

The ICCPMC follow-up discussions offer a platform to advance joint monitoring systems, traceability mechanisms, and sustainability certification frameworks that align critical mineral exports with emerging international standards. A producer-led governance framework could enhance price stability, data transparency, and policy coordination across global mineral markets, strengthening the collective bargaining position of resource-rich economies and promoting more equitable and sustainable value chains.

#### 3. Green Industrial Transformation

The transition away from coal and other fossil-heavy operations has become a shared diplomatic and technical priority for both countries. China's support for Indonesia's coal-to-clean energy transition diplomacy—including through ASEAN, the Group of Twenty (G20), and the BRICS Plus (Brazil, Russia, India, China, South Africa, and partner countries) frameworks—could help mobilize green finance, technology transfer, and capacity-building initiatives. Such cooperation would enable Indonesia to gradually phase down coal while maintaining energy security, protecting local livelihoods, and supporting a just and inclusive transition.

### IV. Innovation, Technology, and Human Capital

Ongoing collaboration in applied research, training, and green industrial innovation continues to expand:



- Establishment of joint R&D programs in nickel refining, battery chemistry innovation, and energy efficiency;
- Development of a China-Indonesia Green Innovation Network connecting universities, SOEs, and private investors;
- Expansion of solar, EV, and grid workforce training programs, including Huawei's Solar Academy Indonesia and Wuhuan Engineering's industrial training initiatives (Ayudiana and Abidin, 2025; Public Relations WIRE, 2025);
- Increasing focus on digital grid management and AI-based industrial optimization to improve energy efficiency and reduce emissions.

These programs will enable Indonesia to internalize technological know-how, strengthen domestic production, and improve industrial competitiveness.

## V. Regional and Global Positioning

### 1. Trilateral and South-South Cooperation

Indonesia and China are expanding beyond bilateral engagement toward trilateral cooperation frameworks, particularly with Middle Eastern partners following the ASEAN-Gulf Cooperation Council (GCC) Summit (ASEAN Portal, 2025). Emerging collaboration across Indonesia-China-MENA (Middle East and North Africa) could drive joint investments in green hydrogen, ammonia, and integrated industrial parks, combining Gulf capital, Chinese technology and project delivery capacity, and Indonesia's renewable energy and mineral resources. Such initiatives not only enhance energy connectivity but also introduce a South-South diversification dimension, positioning Indonesia as a strategic hub linking Asia, the Middle East, and Africa in the global clean energy transition.

Source: Nazar-Renewable Energy Landscape (2023)





Source: Instagram/sugiono\_56

## 2. Global Energy Diplomacy

China's diplomatic backing in Indonesia's coal-to-clean transition enhances Jakarta's credibility in multilateral platforms such as the United Nations Framework Convention on Climate Change (UNFCCC), G20 Energy Transitions Working Group, and BRICS+ dialogues. Together, both countries can advance a Global South narrative emphasizing equitable transition, industrial growth, and access to clean technology.

## 3. ASEAN Integration and Energy Connectivity

Continued cooperation in cross-border power grids, regional EV supply chains, and standardization of green finance instruments can strengthen ASEAN's energy security and integrate Indonesia-China industrial activities into broader regional frameworks.



## Recommendations

The evolving Indonesia-China partnership in energy transition, minerals, and industrial transformation is entering a decisive phase. To ensure long-term alignment with Indonesia's national energy goals and China's global green leadership narrative, both governments and private actors must translate diplomatic commitments into operational coherence, transparent financing, and equitable outcomes. The following recommendations outline key actions for government agencies, state-owned enterprises, investors, and civil society to advance a just and credible clean energy transition.



Source: CELIOS Documentation (2024)



## 1. Align Industrial Policy with the “No New Coal Overseas” Commitment

China’s 2021 pledge to end overseas coal financing should now extend beyond power plants connected to national grids to include captive coal facilities in industrial parks (Lai, 2021). Many of Indonesia’s new manufacturing zones—such as the Hongshi Solar Industrial Park in West Java—still rely on dedicated coal-fired power plants despite producing “green” technologies like solar panels and batteries (Rakhmat and Adhinegara, 2025).

- Indonesia should establish clear regulations prohibiting new captive coal plants in industrial estates, ensuring consistency with China’s overseas investment principles.
- Chinese financiers and EPC (Engineering, Procurement, and Construction) firms must verify compliance with these principles through environmental due diligence and third-party audits.
- Both sides should co-develop a Clean Industrial Park Framework, establishing eligibility criteria for projects seeking preferential financing or fiscal incentives—prioritizing renewable or hybrid power supply, circular economy practices, and carbon management.

This approach would prevent reputational risks, support Indonesia’s net-zero by 2060 target, and reinforce China’s credibility as a global green investor.

## 2. Strengthen Market Intelligence and Project Readiness for Renewable Energy

While China has significant capital and technology for renewable energy (RE), there remains a coordination gap in identifying bankable, high-impact projects in Indonesia.

**Both countries should build a joint RE Investment Intelligence Platform that maps:**

- Project pipelines across solar, wind, hydro, and geothermal sectors;
- Locations with available grid capacity, land, and permits;
- Opportunities for co-financing via NDB, which Indonesia joined in 2025;
- Potential for collaboration with Gulf partners under ASEAN-GCC frameworks.



This platform should be co-managed by ESDM, the Investment and Downstream Industry/Indonesia Investment Coordinating Board (BKPM), and China's National Energy Administration (NEA), in partnership with financial institutions such as the Industrial and Commercial Bank of China (ICBC) and Danantara. The goal is to streamline investment decisions and avoid duplication, while linking project preparation facilities to sustainable finance mechanisms.

### **3. Reform the Power Sector to Enable Renewable Integration**

Indonesia's power sector remains dominated by rigid contracts and coal-based capacity overhang, constraining renewable integration. Reform efforts under the Draft New and Renewable Energy Bill (RUU EBET)—particularly power wheeling provisions—should be accelerated and finalized.

- Power wheeling, allowing private producers to sell renewable electricity directly to end users via PLN's grid, would unlock industrial demand and attract Chinese green investors seeking captive renewable power for factories.
- A review of the coal Domestic Market Obligation (DMO) pricing policy is essential. The current artificially low coal price (USD70 per ton) distorts the market and deters renewable investment. Adjusting this mechanism will level the playing field for solar, wind, and hydro projects.
- Establishing renewable Power Purchase Agreements (PPAs) with clear pricing and risk-sharing structures can enhance bankability for both Indonesian and Chinese developers.

### **4. Mobilize Green and Concessional Financing for Long-Term RE and Battery Projects**

**High financing costs remain a central barrier to Indonesia's energy transition.**

To address this:

- China's policy banks and sovereign wealth channels, including the China Development Bank, Exim Bank of China, and the CIC, should provide blended finance facilities that lower capital costs for renewable energy and domestic battery projects.
- The NDB can serve as a multilateral anchor, supporting renewable energy transmission, energy storage, and geothermal projects under transparent sustainability frameworks.



- Danantara should leverage Chinese and Middle Eastern co-investors to de-risk large-scale RE projects, creating long-term financing mechanisms that align with Indonesia's decarbonization targets and industrial competitiveness.

## 5. Enhance Transparency and Accountability in Emissions Monitoring

A credible transition requires publicly accessible emission data across Indonesia's on-grid and off-grid (captive) power plants. Such transparency will allow Chinese companies operating in Indonesia to measure, disclose, and manage their transition pathways in line with global standards.

- Indonesia should establish a National Emissions Data Portal, integrating real-time monitoring systems for major industrial parks and state-owned utilities.
- Chinese investors could support the deployment of digital monitoring and reporting tools, such as IoT-based sensors and AI analytics, to verify plant-level emissions.
- Linking these data systems to international disclosure platforms (e.g., Carbon Disclosure Project (CDP) or Greenhouse Gas (GHG) Protocol) would enhance credibility and allow joint benchmarking with Chinese clean energy projects abroad.

## 6. Support Early Retirement of Coal Plants Financed by Chinese Entities

Given China's previous role in financing several coal plants in Indonesia—such as Coal-Fired Power Plant (PLTU) Suralaya Unit-8, PLTU Paiton-1 Unit 9, PLTU Cilacap, and PLTU Pacitan—there is strategic potential for China to co-finance early retirement schemes under the Just Energy Transition Partnership (JETP) and similar mechanisms.

- Develop a Bilateral Coal Retirement Facility (BCRF) between China and Indonesia to repurpose existing loans toward decommissioning and renewable replacement capacity.
- Combine this with the Asian Development Bank's Energy Transition Mechanism (ETM) to accelerate closure timelines while ensuring community compensation and reskilling.
- Redirect savings and reinvestment toward grid modernization and energy storage projects that can absorb new renewable capacity.



## 7. Ensure Traceability and Safeguards for Critical Mineral Supply Chains

Indonesia's nickel and bauxite sectors, heavily financed by Chinese firms, must move toward full traceability and responsible sourcing to meet evolving global standards, particularly those under the EU Battery Regulation and Battery Passport framework.

- Established a Critical Minerals Traceability System (CMTS) co-developed by Indonesia's Ministry of Industry, Ministry of Energy, and China's Ministry of Commerce, integrating blockchain-based tracking and verification of ESG compliance.
- Require all smelter and HPAL operators to disclose lifecycle carbon footprints and waste management practices.
- Encourage joint certification programs with the Organisation for Economic Cooperation and Development (OECD), United Nations Development Programme (UNDP), and regional think tanks to harmonize social and environmental safeguards.

This will help Indonesian producers retain access to global markets while strengthening China's supply chain security and reputation for responsible investment.

## 8. Embed Social and Environmental Accountability in Geothermal and RE Projects

Lessons from the Ijen geothermal case underscore the risks of exclusionary development (Utomo and Husnudin, 2025). Future Indonesia-China geothermal and renewable energy partnerships must prioritize community rights, transparent environmental assessment, and equitable benefit-sharing.

- Local hiring and livelihood programs should be made binding components of project agreements.
- Comprehensive Environmental Impact Assessments (EIAs) must be disclosed publicly, with participation from local communities, civil society, and academia.
- Joint Indonesia-China Sustainability Review Panels could periodically audit projects, ensuring compliance with environmental and social safeguards.

This is particularly critical as cooperation expands in geothermal, hydropower, and solar manufacturing—sectors that intersect with local land and resource use.



## 9. Advance Regional and Trilateral Climate Cooperation

Building on the ASEAN-GCC Summit and ongoing ASEAN-China dialogue frameworks, Indonesia and China should jointly champion a Southeast Asia-China-MENA Green Cooperation Mechanism to finance projects in:

- Green hydrogen and ammonia;
- Grid interconnection;
- Renewable-powered industrial parks.

Such trilateral partnerships—linking Chinese technology, Indonesian resources, and Gulf capital—would diversify investment sources and enhance regional resilience. In parallel, ASEAN and China should pursue a Joint Climate Compact, harmonizing emission targets, renewable deployment timelines, and shared reporting mechanisms. This would elevate Southeast Asia from a recipient of green finance to a proactive architect of climate governance.

## 10. Translate Diplomacy into Measurable Action

High-level declarations must evolve into trackable outcomes. An Indonesia-China Clean Energy Transition Task Force should be established to:

- Track implementation of investment commitments;
- Publish annual progress reports on energy transition and critical mineral governance;
- Facilitate dialogue between government, business, and civil society.

This institutional mechanism would ensure that the partnership remains accountable, evidence-based, and aligned with both countries' long-term climate and industrial goals.

Source: [gcc-sg.org](http://gcc-sg.org) (2025)





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**CELIOS** is an independent think tank based in Jakarta that promotes equity, resilience, and justice in Indonesia's fiscal, and climate policy. CELIOS advocates for policies that prioritize people and ecosystems over entrenched interests, addressing inequality, environmental degradation, and democratic exclusion. By fostering participatory and accountable governance, CELIOS aims to restore community sovereignty and build a just, inclusive, and sustainable economy.



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