CERA
S&P Global
Energy

Process Economics Program (PEP)

May 2026

Indonesian Nickel Boom amid Energy Transition

PEP Review S2026-16

Chad Qing, Associate Analyst, Process Economics Program (PEP)

Table of contents

Tables

Figures

Glossary

$/t	Dollars per metric ton
AACP	Alkali activation controlling precipitation
AAL	Atmospheric acid leaching
AOD	Argon oxygen decarburization
ASX	Ammoniacal solvent extraction
BGRIMM	Beijing General Research Institute of Mining & Metallurgy
BOF	Basic oxygen furnace
BNC	Basic nickel carbonate
CCD	Countercurrent decantation
EAF	Electric arc furnace
EIA	Environmental impact assessment
ESG	Environmental, Social, and Governance
EV	Electric vehicle
FeNi	Ferronickel
FDI	Foreign direct investment
GEM	Green Eco-Manufacture
GHG	Greenhouse gas
GOR	Gas oxygen refiner
HMA	Reference mineral price
HNC	Hydroxide nickel carbonate
HPAL	High-pressure acid leaching
HPM	Metal Mineral Benchmark Price
IMIP	Indonesia Morowali Industrial Park
Kt	Thousand metric tons
LD	Linz-Donawitz
LF	Ladle furnace
LFP	Lithium iron phosphate
LIB	Lithium-ion battery
LME	London Metal Exchange
MEMR	Ministry of Energy and Mineral Resources
MHP	Mixed hydroxide precipitate
m^2	Square meter(s)
m^3	Cubic meter(s)
mm	Millimeter(s)
MMt	Million metric tons
MMt/y	Million metric tons per year
MOT	Ministry of Trade
MPa	Megapascal
MSP	Mixed sulfide precipitate
MVR	Mechanical vapor recompression
NPI	Nickel pig iron
NMC	Nickel, manganese, and cobalt
OESBF	Oxygen-enriched side-blowing furnace
PGM	Platinum group metals
PLS	Pregnant leach solution
RKAB	Mining Work Plan and Budget
RKEF	Rotary kiln — electric furnace
ROM	Run-of-mine
R&D	Research and development
SAF	Submerged arc furnace
SMM	Shanghai Metal Market
t	Metric ton(s)
t/y	Metric tons per year
USGS	US Geological Survey

Abstract

Nickel laterite ore mining and refining activities in Indonesia are experiencing a surge in production and value chain integration. Despite representing a larger share of the overall nickel resource, laterite ore accounts for smaller nickel production due to its lower nickel content than nickel sulfide ore and more complex extraction process. Nevertheless, driven by the increasing demand for electric vehicle (EV) batteries amid the decarbonization trend, nickel production has expanded into the lateritic ore sector, especially in Southeast Asian countries and territories, including Indonesia, the Philippines, New Caledonia, and Papua New Guinea. The increased industrial activities have also helped boost and expand technical improvement to existing nickel mineral mining and metal extraction processes, while nickel price undergoes great volatility. Existing nickel plants in Australia, New Caledonia, Brazil, and other areas have experienced rationalization due to deteriorating economics [149-150, 156]. Also, environmental, social, and governance (ESG) issues in the nickel industry are gaining increasing attention, with stakeholders calling for it to be considered in pricing nickel products and the Indonesian government tightening regulations for the sustainability of the nickel industry. In this review, we looked into the technical and regulatory factors behind the nickel boom in Indonesia, focusing on the latest developments in laterite nickel ore mining and extraction processes, as well as their ESG implications, with conclusions on the nickel market and the Indonesian nickel boom given for well-informed business decisions.

Contacts

Chad Qing

Associate Analyst, Process Economics Program
guangxin.qing@spglobal.com

Rajiv Narang

Executive Director, Global Head, Process Economics Program
rajiv.narang@spglobal.com

CONTACTS

Europe, Middle East, Africa: +44 (0) 203 367 0681
Americas: +1 800 332 6077
Asia-Pacific: +60 4 296 1125

www.spglobal.com/energy
www.spglobal.com/en/enterprise/about/contact-us.html