HARITA NICKEL

Overview of Harita Nickel

August 2025



Portrait of Harita Nickel Industrial Estate in Kawasi Village, Obi Island



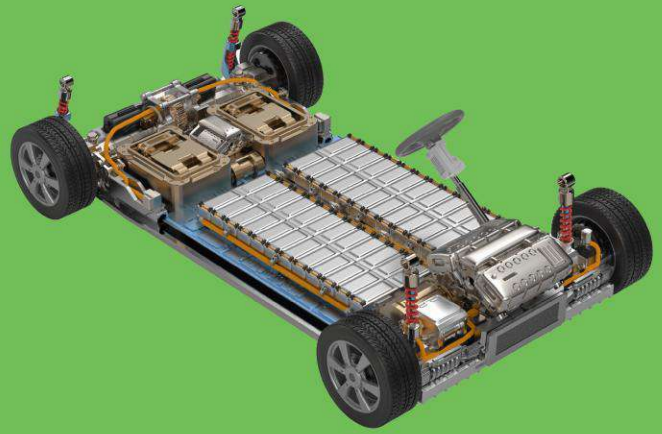
Karo Lake, Obi Island

Industry Overview and Nickel Supply Chain



Loji Lake, Obi Island

Nickel for Everyday Life

















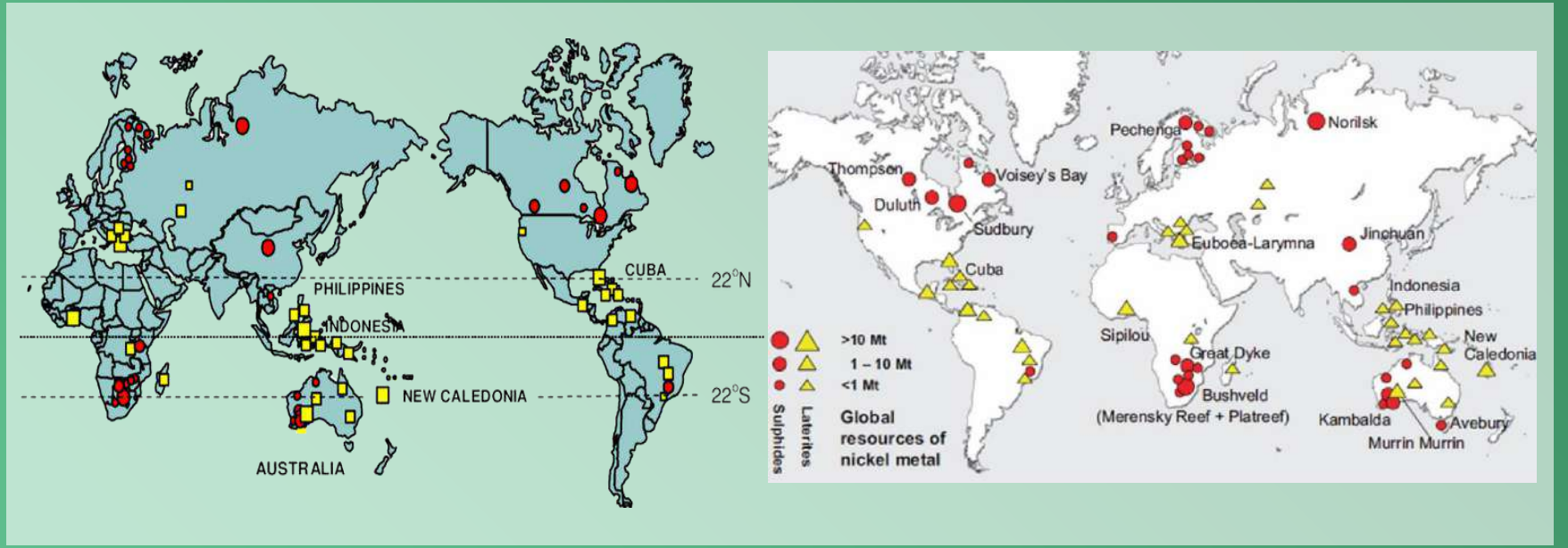






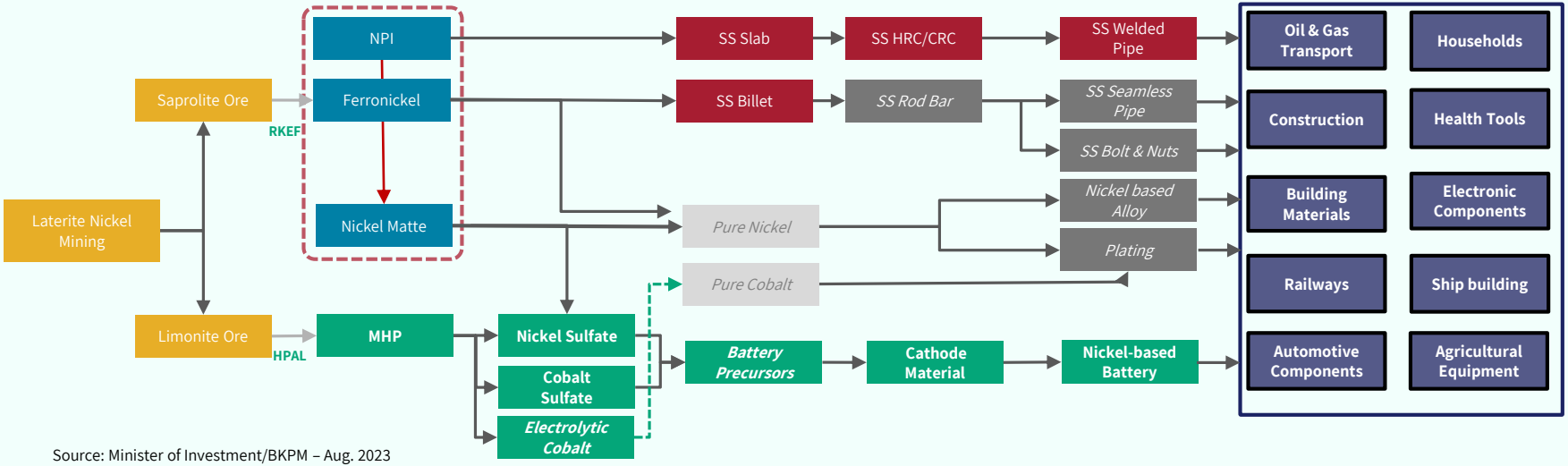


Distribution of Nickel Reserves



World Nickel Reserves: Sulfide Laterite

Nickel Supply Chain



Source: Minister of Investment/BKPM – Aug. 2023



About Us

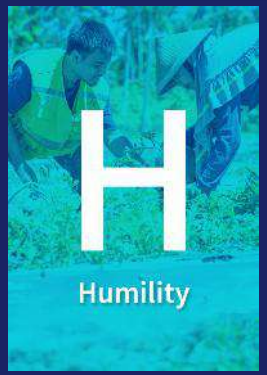


Loji Skyline, Obi Island

Harita Group





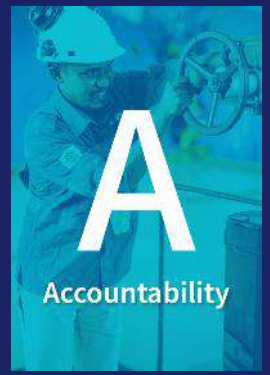












Established more than 100 years ago, with a range of business activities:

- Nickel Mining
- Bauxite Mining
- Ship Delivery
- Property
- Alumina Refining Facility
- Palm Oil Plantation
- Plywood and wood
- Securities



- Started mining nickel in Obi Island on 2010
- **IPO (NCKL) on 2023**
- **±11,550 Ha total area of 252,400 Ha Obi Island area** (±4.58%)

National Strategic Project

National Vital Object

>23.000
Employees who work at Harita Nickel

85%
Indonesian Citizens

45%
North Maluku Residents

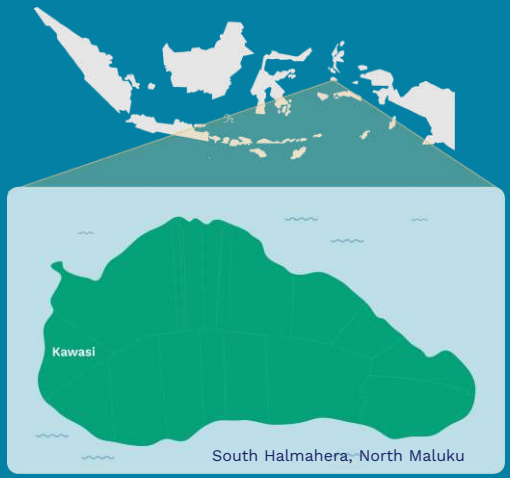
52%
Aged 30 years old and below

*as per SR 2024

Obi Island



Persada Special Terminal 1 - 4



2,542 Km² Total area
(3.8x the size of Jakarta)

5 District

34 Villages

53,851 Populations

1,392 Resident of Kawasi Village

Equipped with modern infrastructure, 24-hour electricity, schools, health services, with support from Harita Nickel.

*as per BPS 2024

Integrated Nickel Processing Facility

Mining

- 3 Operational mining business permit
- 2 In exploration phase mining business permit

RKEF

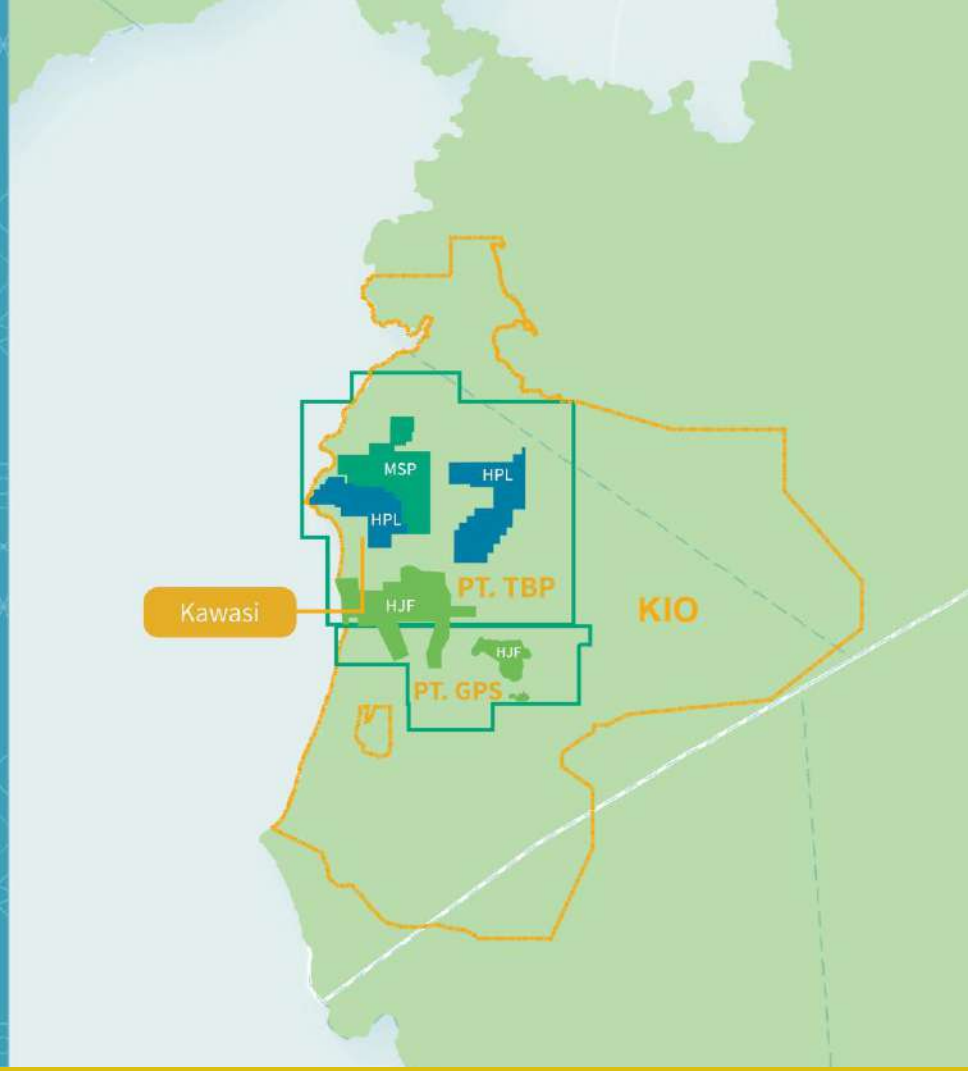
- Pyrometallurgy
- 3 Smelters
- 16 Production Lines

HPAL

- Hydrometallurgy
- 2 Refinery
- 6 Production Lines

Other Supporting and Operational Facilities

- Obi Industrial Estate
- Export-Import Specialized Terminal
- Steam-electric Power Station
- Calcium Oxide Factory
- Recycling of Nickel Processing Residue
- Water Treatment Facilities



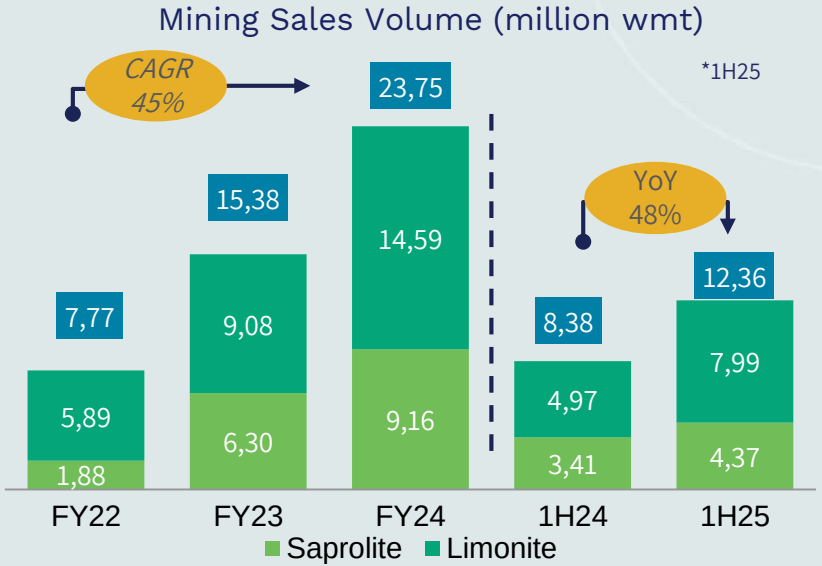
Mining



Sunrise in the reclamation area

Harita Nickel Mining Operations



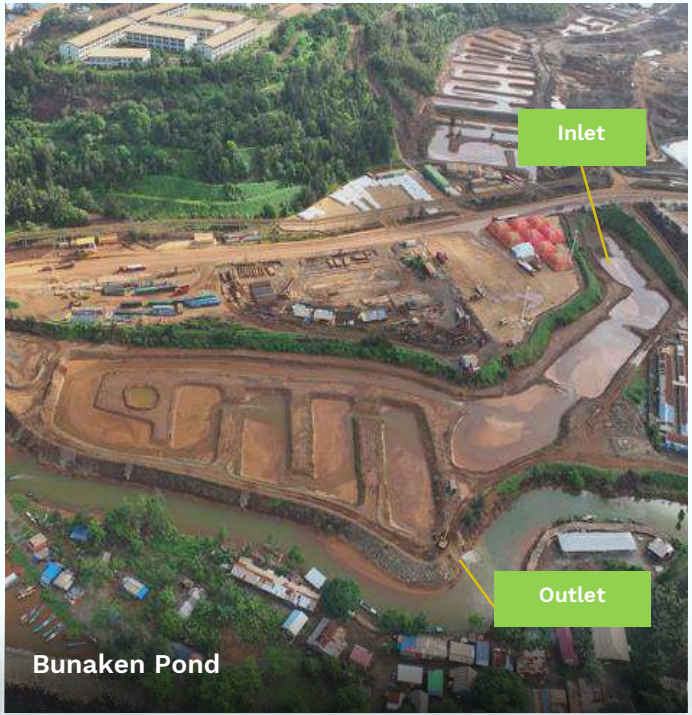


- Active Mining Production: TBP (2011), GPS (2010), GTS (2025)
- In Exploration: JMP & OAM

Run-off Water Management

Inlet and Outlet - TG2 and Bunaken Sediment Ponds





(Aerial view of sediment pond, June 10, 2025)

- Managing run-off water
- Online monitoring by the Ministry of Environment and Forestry
- No river; controlled drainage
- Transparent routine testing
- Tested by an independent, credible lab
- Results for 2023–2024 passed quality control

Notes: There is no river in this area, only drainage as part of water management.

Reclamation

A total of **861.57** ha of rehabilitated and replanted area consisting of:



231.53 Hectares
Post-mining area reclaimed



607.00 Hectares
Watershed rehabilitated



23.04 Hectares
Mangrove forest rehabilitated

*as per SR 2024

Loji Central Nursery



The nursery total seedling capacity:
>**300,000 seedlings** per year

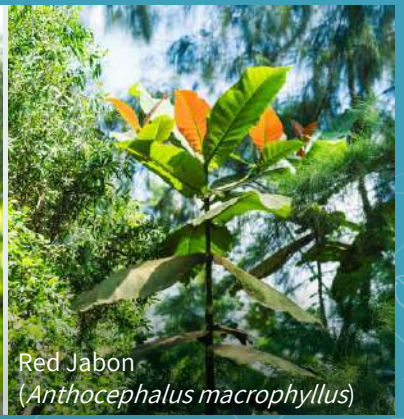
1,030 seedlings nurtured, planted and cared for (2024)



Weeping Paperbark
(*Melaleuca leucadendra*)



Coastal She-oak
(*Casuarina equisetifolia*)



Red Jabon
(*Anthocephalus macrophyllus*)

*as per SR 2024

Nickel Smelter with Rotary Kiln Electric Furnace (RKEF) Technology



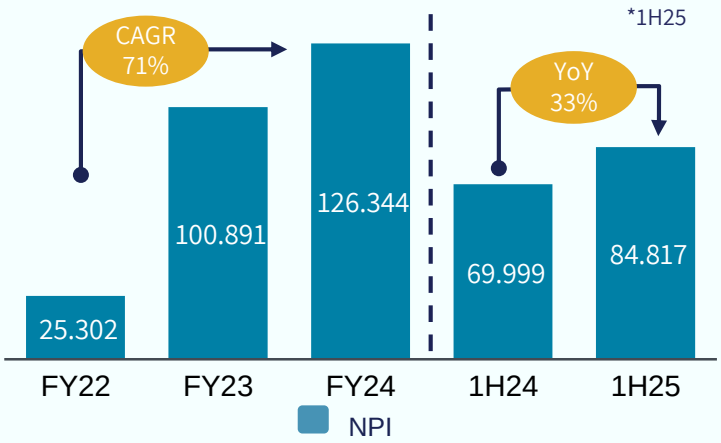
RKEF method nickel smelting

RKEF Operation



Molten Ferronickel from RKEF

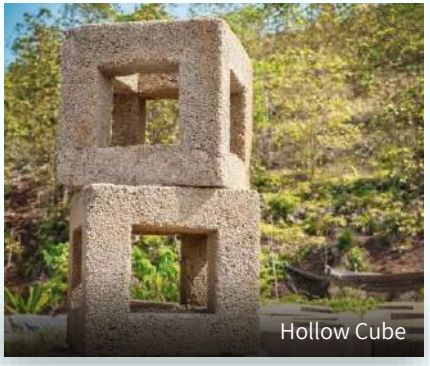
Ferronickel Sales Volume (in metal tons)



- Construction of the first RKEF smelter - 2015
- First smelter (MSP) operational (4 lines, 25,000 tons Ni/year) and first ferronickel production - 2016
- Second smelter (HJF) increases capacity (8 lines, 95.000 ton Ni/year) - 2022
- Third smelter (KPS) in construction phase (4 lines, 60,000 tons Ni/year operational), full capacity (12 lines, 185,000 tons Ni/year) - Q1 2025

Innovative Utilizations of Nickel Slag


Soil Ameliorant


Hollow Cube


Road Construction


Drainage

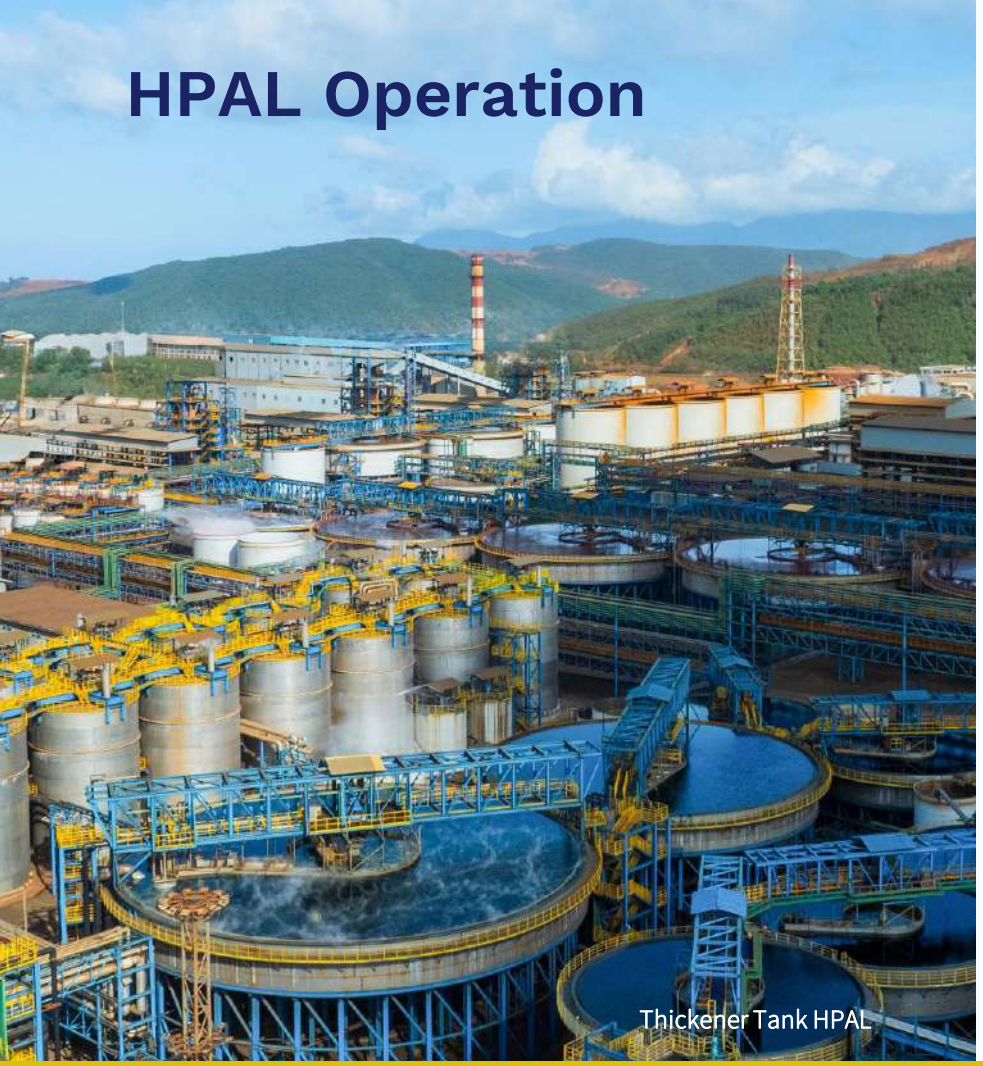
- Re-utilization of nickel slag: a smelter process residue as a material for making bricks, blocks, hollow cubes, and road infrastructure.
- Nickel slag is used in various constructions, such as road making and drainage making.
- Total use of nickel slag concrete amounted to **409,715m^2**
- Also used as a soil ameliorant for reclamation and revegetation of post-mining land
- The average survival percentage of plants, both cover crops and trees, on nickel slag mixed media was 90%.

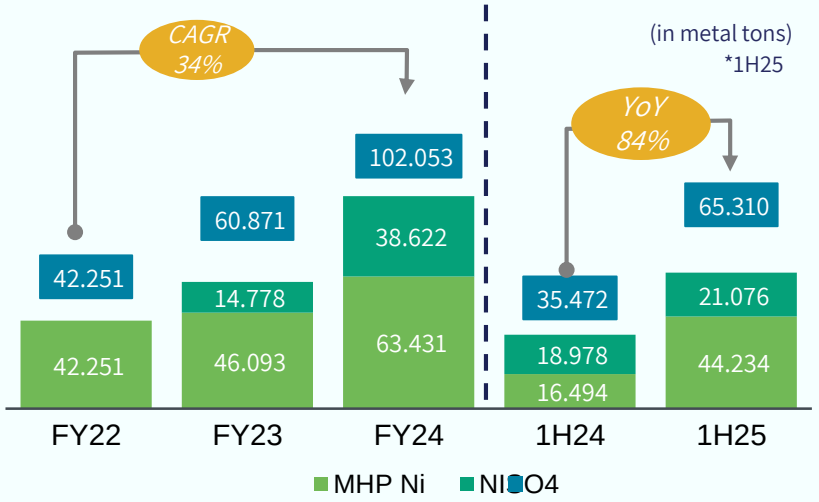
Nickel Refinery with High Pressure Acid Leaching (HPAL) Technology



HPAL's Autoclave

HPAL Operation


Thickener Tank HPAL



- Construction of the first HPAL facility in Indonesia – 2019
- First production of Mixed Hydroxide Precipitate (MHP) from limonite– 2021
- First HPAL (HPL) started production with 3 lines (55,000 tons Ni/year)– 2021
- First export of Nickel Sulfate & Cobalt Sulfate– 2023
- First production of MHP from PT ONC (second HPAL)– 2023
- ONC reaches full capacity of 3 lines (65,000 tons Ni/year)– 2024

Nickel Byproducts from HPAL: *Tailing* Management

Tailings are by-product of the HPAL process consisting of low density and high water content.

We implement the **Dry Stack** system to handle these tailings, following this procedure:

Neutralization Process

Filter Pressing

Water Treatment

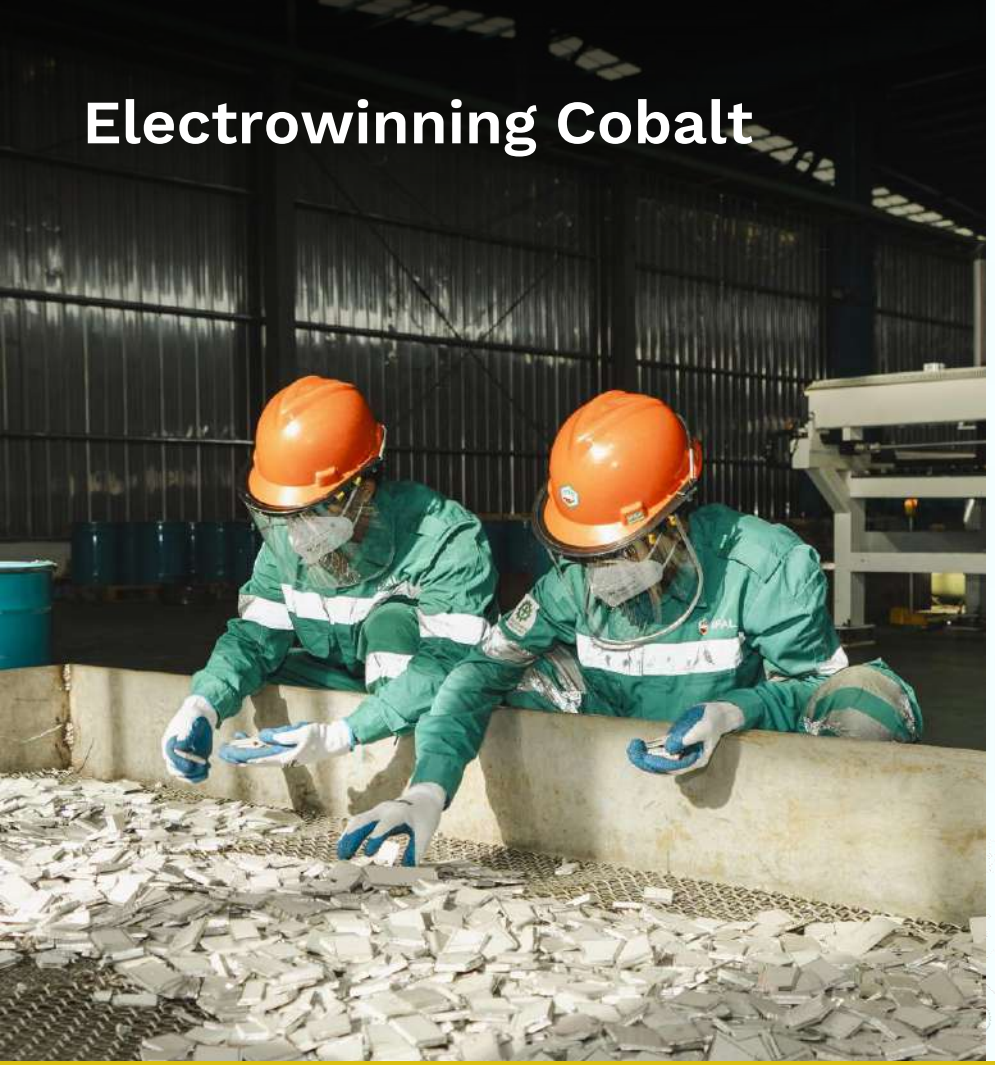
Dry Stack System Capacity:
49 million tons/25 million cubic meters.


Dry Stack Facility

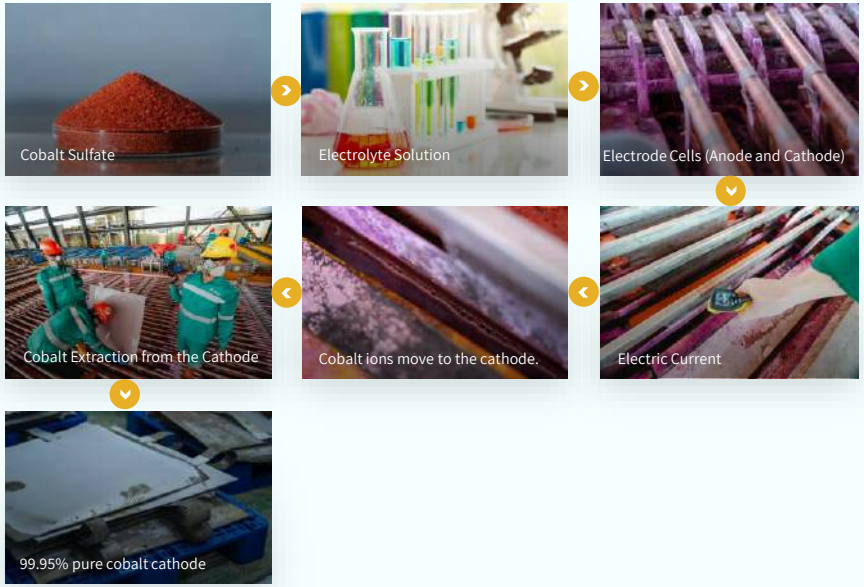

Neutralization tank


Waste water treatment plant

Electrowinning Cobalt



Simplified Cobalt Electrowinning Process



- Electrolysis method used to purify cobalt metal from solution
- This process produces a new product, the Cobalt Cathode
- 1m x 1m size with 20kg weight | With cobalt purity reaching 99.95%

Biodiversity



Obi Island underwater monitoring

Above and Beyond



Mangrove Planting

71,466 mangrove seedlings planted in several locations, namely **Soligi, Bacan** (Awanggoa Belang-Belang), and **Kayoa** (Guriaping)

*December 2024



Biodiversity Preservation

We commit to mitigating net conservation impacts over **20 years** by preserving at least **30% green space**, including marine programs such as mangroves and watersheds preservation and restoration.



Coral Reef Rehabilitation

2,092 artificial reef cubes planted by March 2025. Total placement area: **995.52 square meters.**


Palauargia Obiensis Dragonfly


Carunculated Fruit Dove


Troides Criton Butterfly


Obi Fantail


Old World Fruit Bat

Wildlife Monitoring

- In partnership with **ERM Indonesia**
- **Study radius: 50 km from the project area**
- **Method:** *IFC PS6 + Integrated Biodiversity Assessment Tool (IBAT)*
- **Result:** No critical habitat identified within the Obi Island Industrial Area

Some of the fauna found:

Rufous-bellied Triller, Scarlet-breasted Fruit Dove, Obi Golden Bulbul, Obi Fantail, Cinnamon-bellied Imperial Pigeon, Goliath coucal, Halmahera Flowerpecker, Old World Fruit Bat, Polynesian Rat, *Troides Criton* Butterfly, *Palaiargia Obiensis* Dragonfly

Watershed Rehabilitation

Location:
Protected forest area of Tigalalu Island and Laluin Island, covering Kayoa watershed, Laluin watershed, and Alepa watershed, South Halmahera Regency, North Maluku Province.

Planting period:
March 2020 - March 2021 (using intensive planting method - 625 seedlings per hectare). The handover takes place in 2025.

Plant type:
Nutmeg, Clove, Walnut, Cashew, Lanzones, Nyatoh, and Java Clove

Total area:
Kayoa and Laluin Islands ±1,765 hectares

Total seedlings:
±1.213.438 Seedlings


Nursery


Current condition


Handover of 1,654 hectares watershed area



Water Management



Kawasi spring water quality test



Obi Island underwater monitoring

Marine & Water Quality Monitoring

- Regular monitoring by independent third-party assessors and the Harita team to ensure regulatory compliance.
- Test parameters: organic chemistry, pH, temperature, salinity, suspended solids at point of operation & effluent discharge.
- Referring to the nickel industry's Environmental Protection & Wastewater Management Standards.





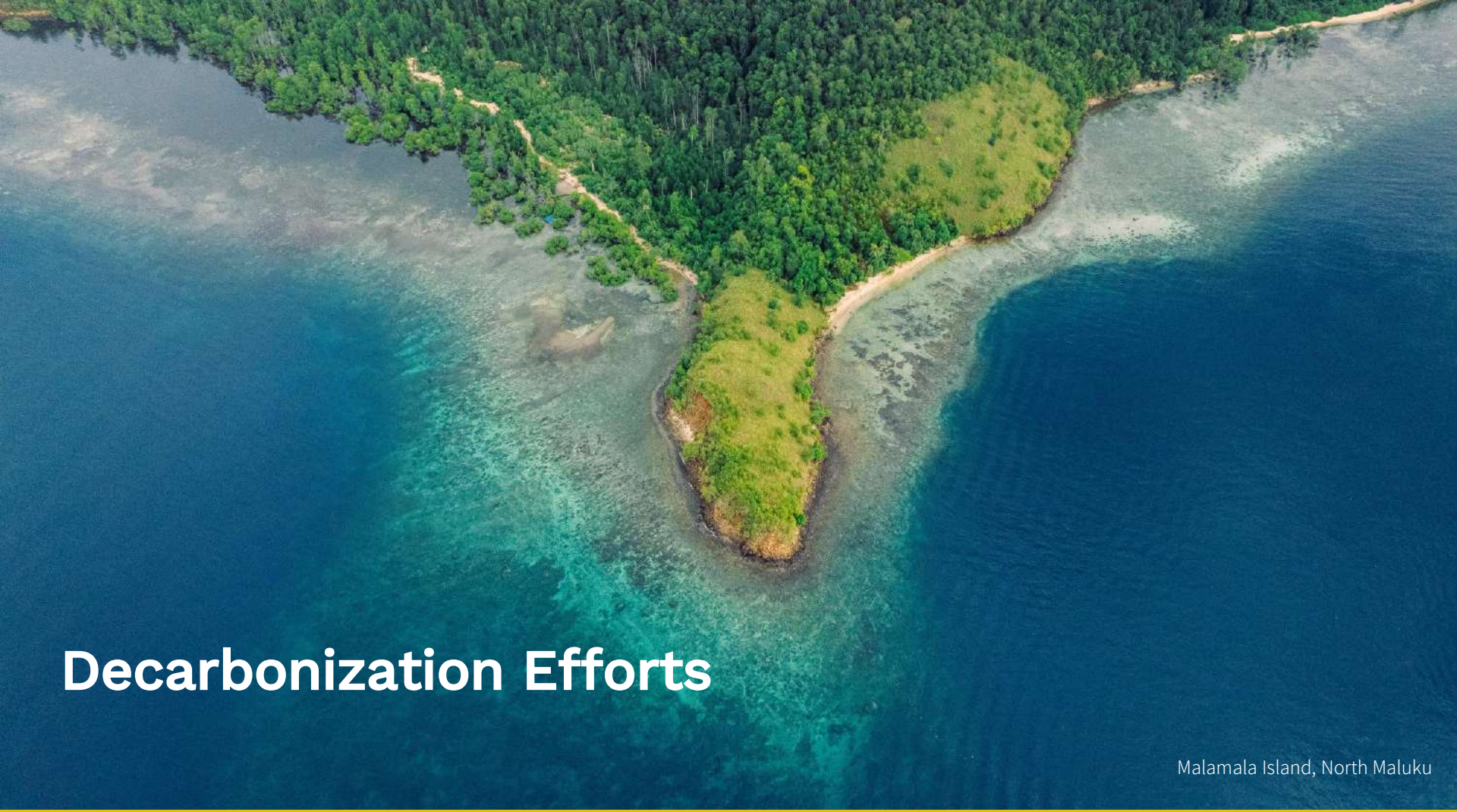




Kawasi Spring Water Management

- Construction of water pipelines for domestic non-consumption purposes
- Independent routine monitoring and quality testing of Kawasi Spring
- Community education on the importance of clean and hygienic water

Decarbonization Efforts



Malamala Island, North Maluku

Decarbonization and Renewable Energy


Utilization of produced gas/ coal at RKEF


Heat utilization from HPAL facilities


Reuse of used cooking oil as a substitute for coal


Coal Domes

2 Covered storage facilities, total capacity of 300 thousand tons


Coal-carrying conveyor belt


Bio-solar(B35) Implementation


40 MWp Solar Power Plant

Total Emission Reduction:
2024: **1.9 million** tons CO_2e
2023: **308 thousand** tons CO_2e

Community Empowerment Programs



Female farmers in Soligi Village

Harita Nickel's Five Empowerment Pillars

Harita Nickel is committed to the society well-being on Obi Island with active engagement that is aligned with the **Sustainable Development Goals (SDGs)**.



Health Services



Economic Development



Education



Infrastructure



Socio-Culture

Empowering Communities for Sustainable Impact

Total transactions with local suppliers

± IDR 150 Billion (2024)







*CSR report 2024

Improving Lives through Community Health Initiatives

Health Services

31 Emergency transportations for urgent cases

149 Number of people receiving free health services

89 Medicine packs and oxygen cylinders

380 Health campaign participants








*CSR report2024





Building a Better Future Through Education

Education

1.081	Total learning hours (*Harita Mengajar*)
527	Total books donated
42	Number of participants - Heavy equipment training program
29	Number of participants - Sewing training program
85	Number of teachers receiving incentives








*CSR report 2024





Encouraging Growth and Strengthening Togetherness

Social and Cultural Sector











*CSR report 2024

Community Activities









*CSR report 2024

Kawasi Village New Settlement

259 housing units with **4 housing building types**

- Public port
- 7 meter and 5 meter wide **concrete roads**
- **Integrated waste management** system

Integrated Economic Facility:
Mini market, market kiosk, food court, laundry, and bank.

Religious Facilities :
Mosque, prayer room, and church

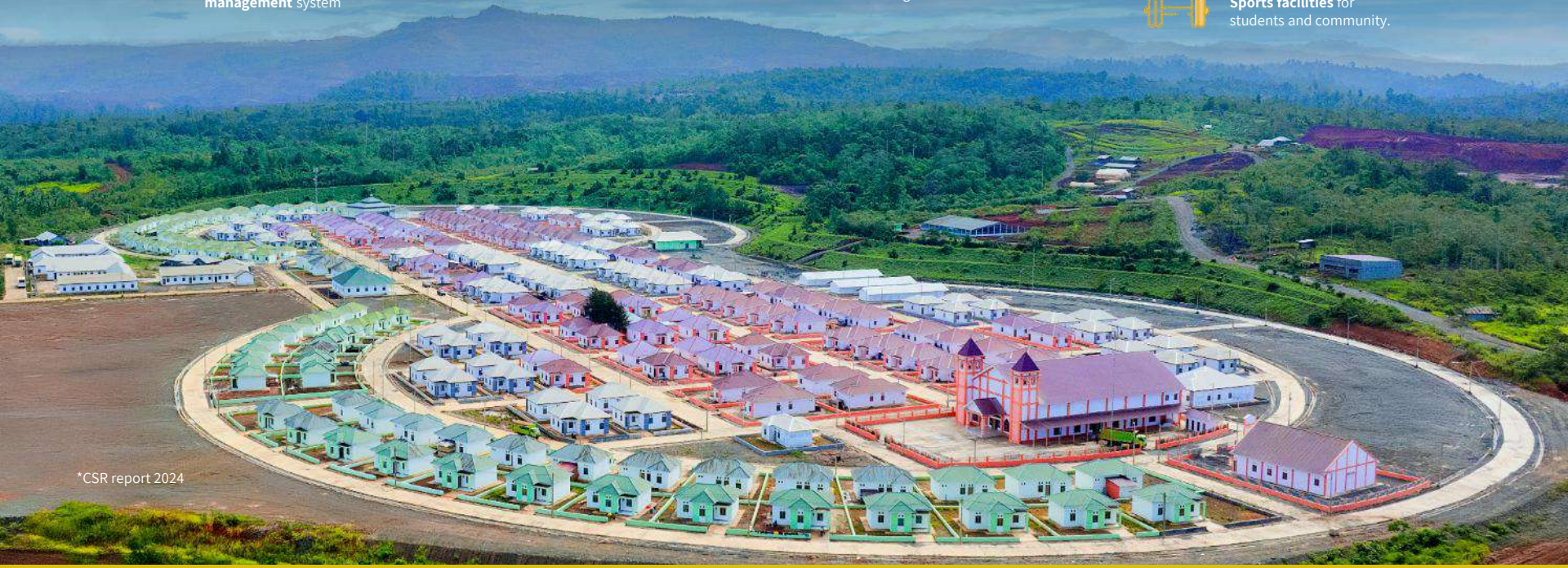
School Facilities:
Early childhood education, Islamic schools, elementary, junior-high, and high schools

Integrated Farming Areas:
(***Salam Kawasi***)
Development and training in high-value agricultural commodities.

Public Service Facilities:
Village office, village-owned enterprises, sub-district office, *Hitaluamo* health center, and children's play area.

24 hour access to electricity and clean water

Sports facilities for students and community.



*CSR report 2024


Kawasi Village
New Settlement
Commercial Area

Committed to Highest Standards

IRMA
Initiative for Responsible Mining Assurance

IRMA Certification Progress

- Self-assessment has been completed
- Phase 1 (desktop audit) has started
- The mine site has been registered as a self-assessment site

IFRS®

IFRS – Readiness to Implement Sustainability Disclosure Standards



It is an integrated reporting standard for sustainability and financial disclosures, meeting the information needs of investors and has been adopted by 14 global stock exchanges.

RESPONSIBLE MINERALS INITIATIVE

RMI RMAP – Process Progress at PT HPL

- The pre-assessment phase has been completed
- Auditor has been appointed
- Registered as an active facility on: https://www.responsibleminerals initiative.org/facilities-lists/eligible-facilities-list

RMAP is a standard for supply chain transparency and ESG assessment that supports companies in identifying responsibly sourced minerals for their supply chains.

FTSE4Good

FTSE4Good Index Series

Since July 2025, Harita Nickel has been part of the FTSE4Good Index Series in two categories:

- Emerging Markets Index
- ASEAN 5 Index

Harita Nickel's inclusion in the FTSE4Good Index Series reflects its sustainable business practices and positive impact on society and the environment.

Has successfully Completed:

SKMP Audit in 2022

Occupational Health and Safety

Environmental Management

Awards

The company has received 89 prestigious awards from 2017 to 2024, including:

- **Fortune Southeast Asia 500**
  Forune
- **Fortune Indonesia 100**
  Fortune Indonesia
- **Fortune Change the World**
  Fortune Indonesia
- **Best Sustainability in Women's Enterprise Partner**
  Mata Lokal Fest
- **Good Mining Practice Awards**
  Ministry of Energy and Mineral Resources
- **CSR & PDB Awards**
  Ministry of Villages, Underdeveloped Regions and Transmigration





Syukur Dofu – Dofu

Farmers assisted by Harita Nickel in Buton Village, Obi District, South Halmahera, Prov. North Maluku, eating watermelon harvested from Obi Sehati program (climate-responsive horticulture and agribusiness center).