Penyelenggara:

Social Investment Indonesia

Social Investment Indonesia Foundation

NEGERI TERNAK INDONESIA

ISIF 2023

INDONESIA SOCIAL INVESTMENT FORUM

AKSELERASI PENCAPAIAN SDGs PASCA-COVID-19

Partner:

PERTAMINA

PLN Indonesia Power

DANONE | AQUA | NUTRICIA | SARIHUSADA

KPC COAL FROM INDONESIA PT KALTIM PRIMA COAL

SURVEYOR INDONESIA

BREAKOUT 2

PERCEPATAN KINERJA PEMBANGUNAN EKONOMI

Narasumber:

Adriansyah Chaniago

PT Vale Indonesia Tbk.

The Westin Resort Nusa Dua, Bali

14 Desember 2023

Achieving the SDGs:

Mining & Downstreaming

Presentation in ISIF 2023

Adriansyah Chaniago

December 2023

Disclaimer

This document may contain certain plans, projections, strategies, and objectives of the Company that are not statements of historical fact and would be treated as forward-looking statements under applicable law. Forward-looking statements are subject to risks and uncertainties that may cause actual events, and the Company's future results, to be different than expected or indicated by such statements. No assurance can be given that the results anticipated by the Company, or indicated by such forward-looking statements, will be achieved. This presentation may include statements that present Vale's expectations about future events or results.

All statements, when based upon expectations about the future and not on historical facts, involve various risks and uncertainties. Vale cannot guarantee that such statements will prove correct. These risks and uncertainties include factors related to the following: (a) the countries where we operate; (b) the global economy; (c) the capital markets; (d) the mining and metals prices and their dependence on global industrial production, which is cyclical by nature; and (e) global competition in the markets in which Vale operates.

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PT Vale Indonesia Tbk. at a glance

Febriany Eddy
President Director &
CEO

Adriansyah Chaniago
Vice President Director

Bernardus Irmanto
Director

Vinicius Mendes Ferreira
Director

Abu Ashar
Director

2,966 Employee
> 6,000 Contractor

> 99.7% Indonesia
> 86.6% Luwu Timur

- Sorowako **Integrated** mine and processing facilities with capacity represents 3% of nickel supply
- Our product nickel in matte, has among the **highest** nickel content product in Indonesia, around 77% - 78%
- We built and operate three hydropower facilities with capacity of 365 MW. Our smelting now is **100% powered by hydropower**.

Pemegang Saham	%
Vale Canada Limited	43.79
Publik	20.64
Mind ID	20.00
Sumitomo Metal Mining Co., Ltd (SMM)	15.03
Vale Japan Ltd	0.54

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Learning together

Our Purpose

We exist to improve life and transform the future. **Together.**

WHY do we exist?

Values

- **Life** matters most.
- Act with **integrity.**
- Value **the people who build our company.**
- Make it **happen.**
- Respect our **planet and communities.**

WHAT do we believe **IN?**

Key Behaviours

- **Obsession with safety and risk management.**
- **Open and transparent dialogue.**
- **Empowerment with accountability.**
- **Ownership for the whole.**
- **Active listening and engagement with society.**

HOW do we act?

Our Levers

- **Safety**
- **VPS**
- **People**
- **Innovation**
- **Sustainability**

Our Ambitions

A great company recognized by society for being:

- Benchmark in **safety.**
- Best in class **reliable** operator.
- **Talent** driven organization.
- Leader in **sustainable** mining.
- Reference in **creating and sharing value.**

WHAT do we look for?

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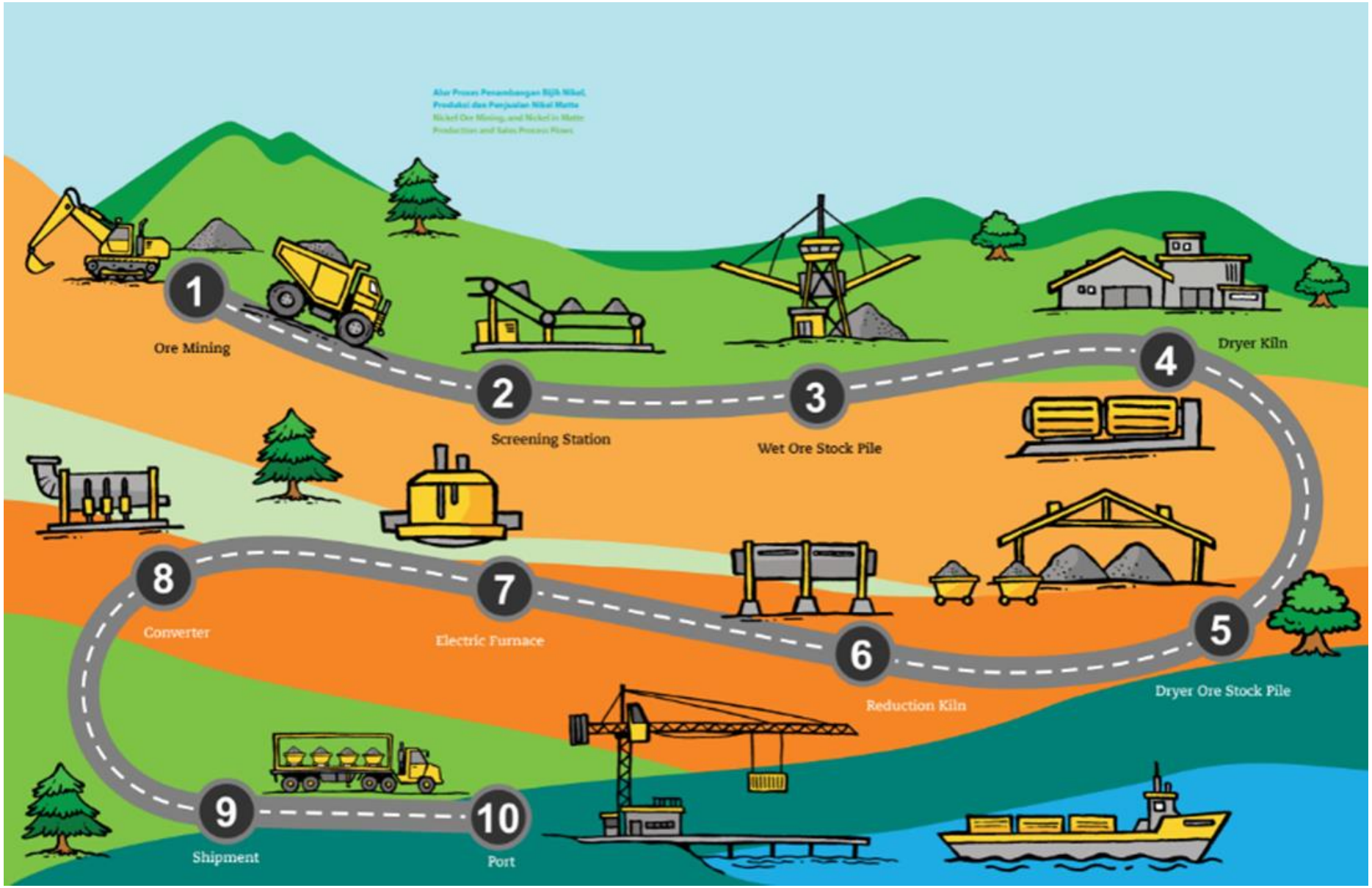
Our business process

Our mining at Sorowako is integrated with processig plant which produce Nickel Matte (nickel class 1) as the final product

Composition of Nickel matte:

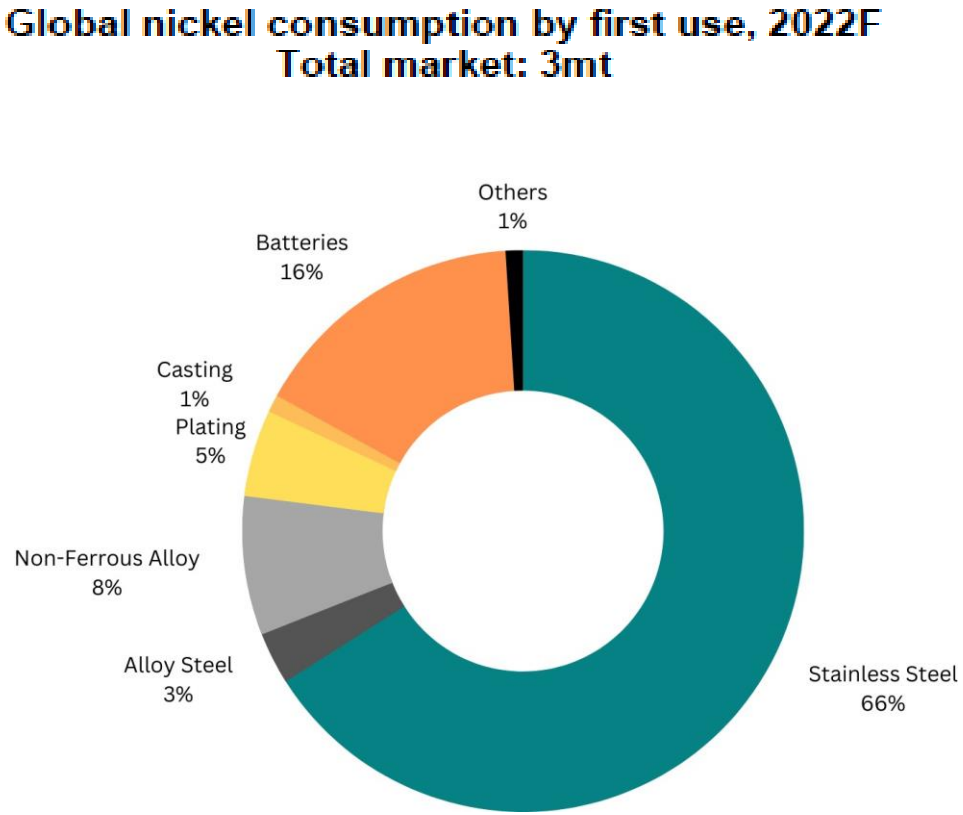
28 Ni	**78% nikel**	16 S	**20 – 21% sulfur**
27 Co	**1 – 2 % kobal**		



Nickel: The critical mineral

Nickel is a versatile metal that have a silvery lustre with the following characteristics:

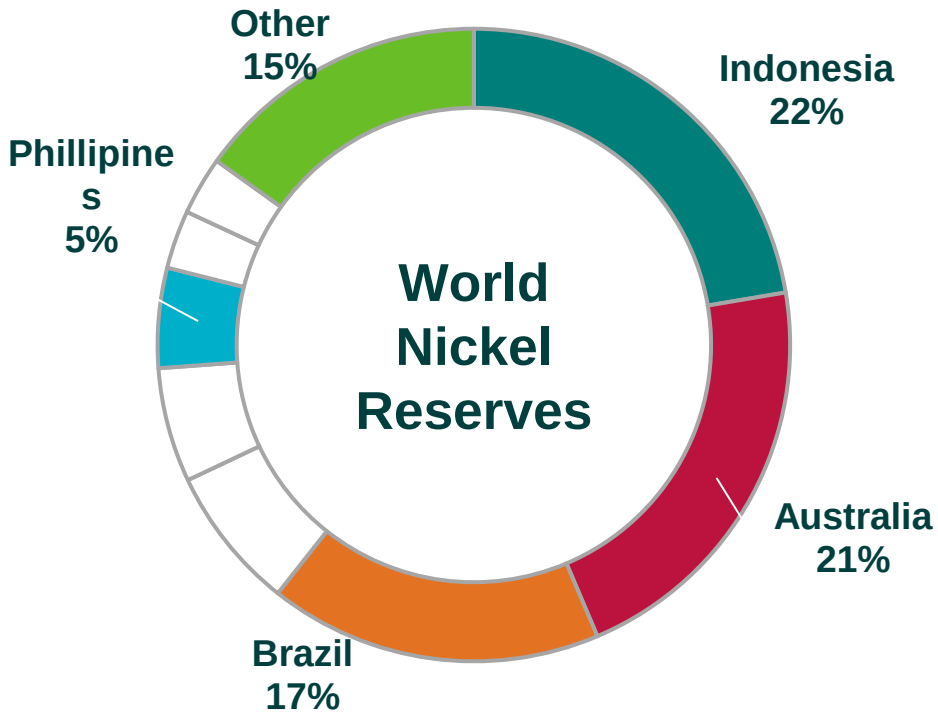
1. Heat Resistant & High Melting Point ~ 1.453°C
2. Harder than Iron
3. Very Ductile & Malleable
4. Easily Bond to Make Alloy with Other Metal
5. Not Easily Oxidized
6. Highly Resistant to Corrosion
7. High Electrical and Thermal Conductivity
8. High Storage Capacity for Electrical Energy



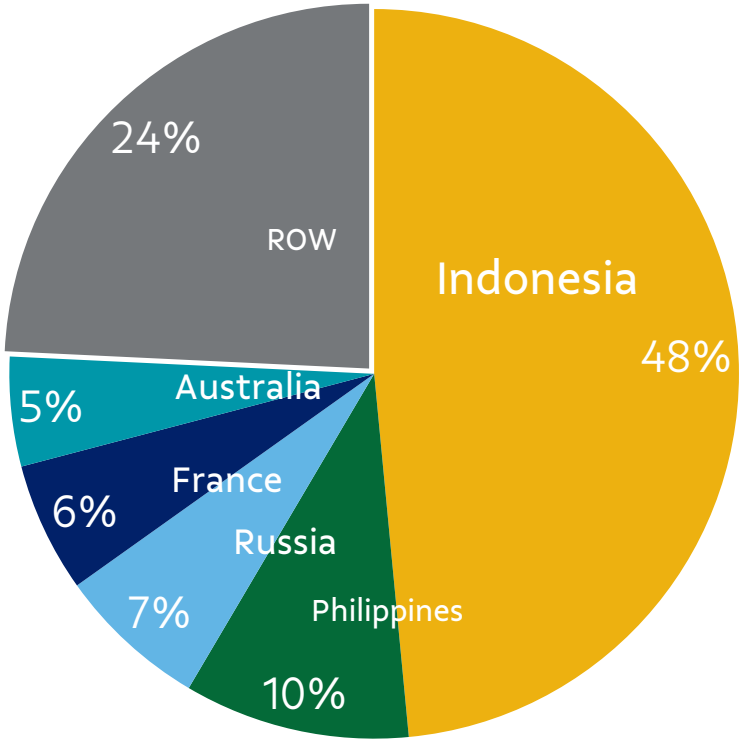
Source: Nickel Battery Ecosystem – Kementrian Koordinator Bidang Kemaritiman dan Investasi

Indonesia has a strategic position in the global supply chain of Nickel, downstreaming is bringing incredible opportunity for economic development

22% of world nickel reserves lies in Indonesia, positioning to become the country that has the largest nickel reserves in the world.



By 2022, Indonesia accounted for nearly 50% of global Ni production, and predicted to continue rising to 67% by 2027.



Downstreaming policy had brought Indonesia to become the no 8th Iron & Steel Exporter in the world in 2021

Source: USGS Mineral Commodity Summary 2021

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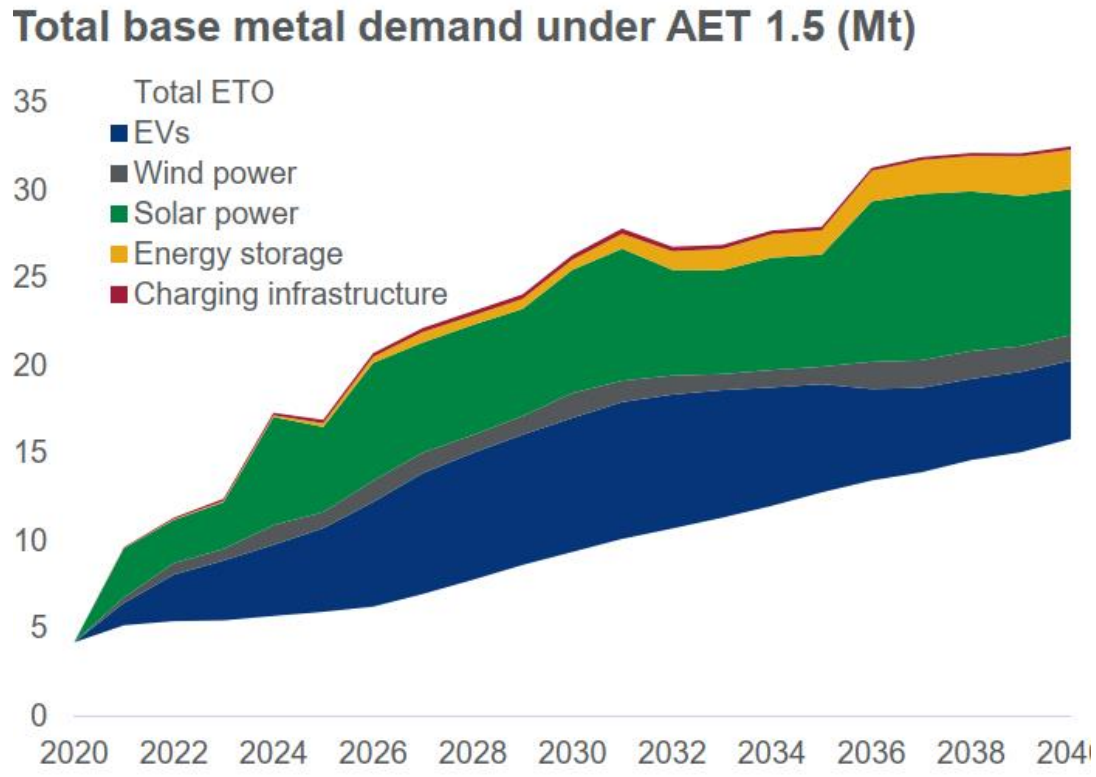
Beside the Stainless-Steel Making Sector, Transition to Clean Energy will also bring incredible opportunity for Indonesia economic development



- Under AET 1.5 pathway, the Accelerated Energy Transition to limit the rise of global temperature increase by only 1.5º C, demand of base metals (including nickel) will rise to fulfill the needs of green energy development
- This AET pathway will bring more investment to come to Indonesia for nickel, and this is an incredible opportunity for Indonesia economic development

Source: Woodmac

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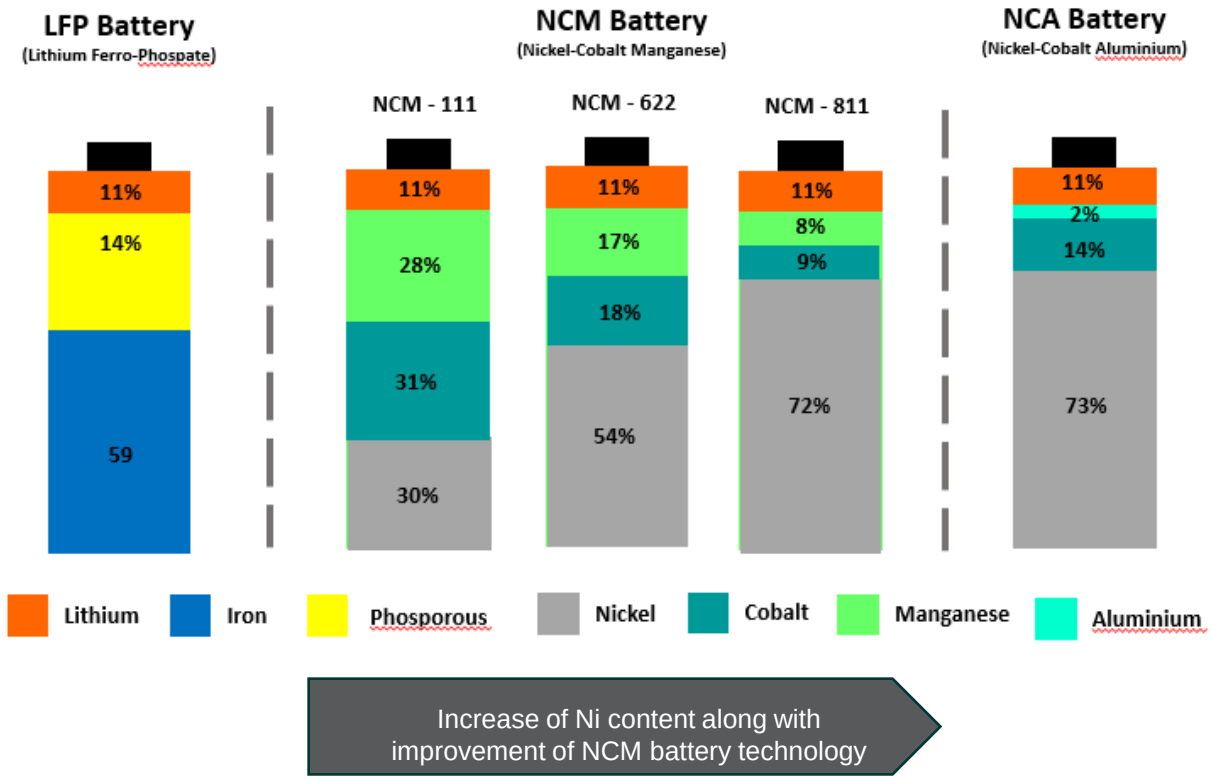
Nickels are primary component for EV Battery making. Increasing EV Sales, means more demand for Nickels

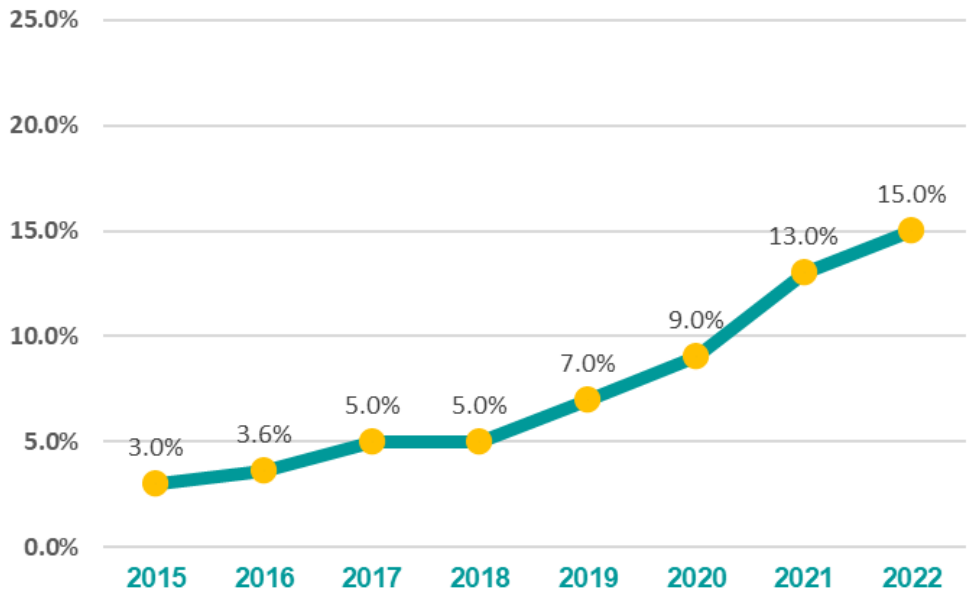
Type of Li-Ion battery and the metal content in its cathode



Increase of Ni content along with improvement of NCM battery technology

Nickel & Cobalt have the characteristics of high storage capacity for electrical energy. To increase the energy density, battery producers increase the Nickel content in Li-Ion battery, replacing the function of Cobalt that have higher price in the market

Share of primary nickel consumption for batteries worldwide



DataSource : Statista

Nickel consumption for battery making increases significantly after Paris Agreement from 3% of world nickel consumption in 2015 to 15% in 2022

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Thus, as part of the solution, **Clean Energy** materials must come from a **Sustainable Process** in its Supply Chain

Mining → **Chemical** → **Cathode/Anode** → **Battery Pack** → **Auto Industry**

The Mining process shall follow the Principles of Good Mining Practice, as preventive actions to minimize negative impact to the surrounding community and environment.

While, the downstream process shall implement the Principles of Sustainable Operation through a proper Impact Assessment, Environmental Management & Environmental Monitoring

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PTVI – Sustainable Mining Operation

PTVI carry out Sustainable Mining in Accordance to GMP

1 **PRE-MINING CONSERVATION.**
Biodiversity data collection, collection of native vegetation seeds and topsoil saving planning.

22%

2 **LAND CLEARING.**
Clearing the mine site from all kinds of plantations.

3 **STRIPPING.**
Peeling off the topsoil. The remaining soil layer is taken to the shelter and used to fill post-mining land.

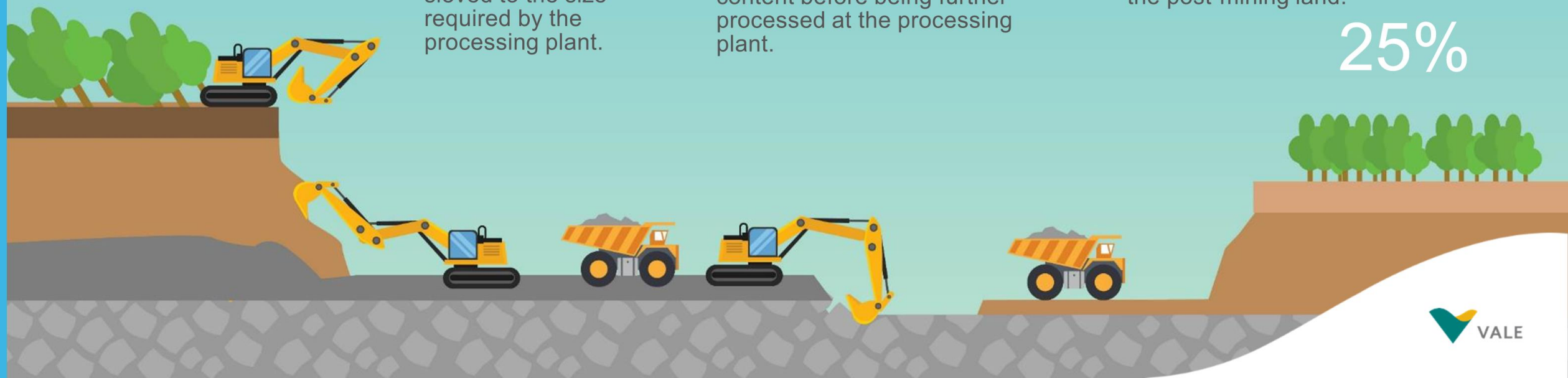
4 **ORE MINING.**
After the soil layer is lifted, nickel ore with medium and high grades will be seen. High grade ore is transported to the screening station.

5 **SCREENING STATION.**
The nickel ore is sieved to the size required by the processing plant.

6 **STOCKPILING.**
The temporary storage of ore also serves to reduce the water content before being further processed at the processing plant.

7 **REHABILITATION.**
After mining is completed, PT Vale rehabilitates and replants the post-mining land.

25%



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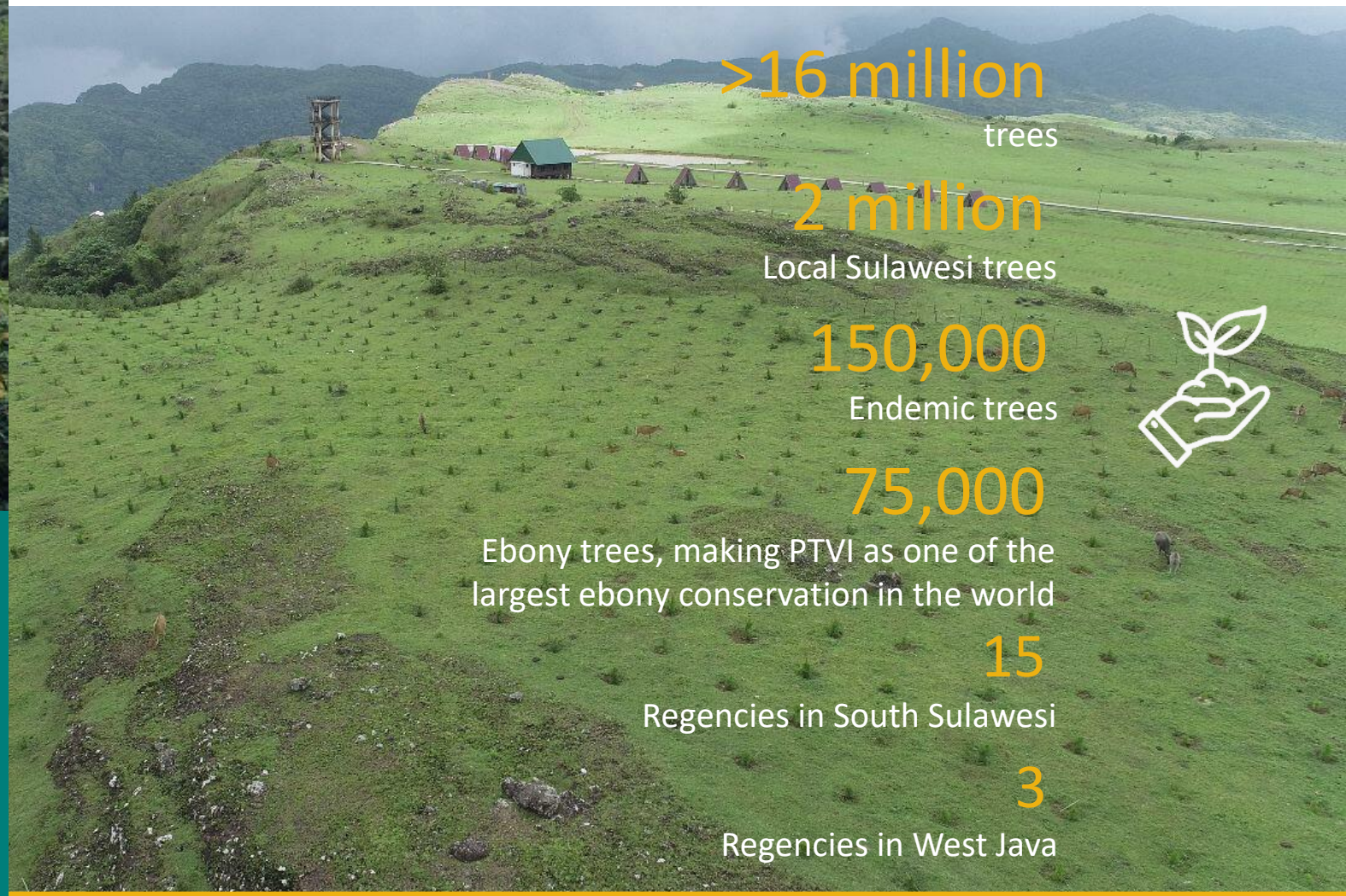
Nursery and Biodiversity Park

We do our best to minimize our mine foot-print and also progressing to rehabilitate areas (inside and outside concession) more than

3X

than what we have opened



>16 million
trees

2 million
Local Sulawesi trees

150,000
Endemic trees

75,000
Ebony trees, making PTVI as one of the largest ebony conservation in the world

15
Regencies in South Sulawesi

3
Regencies in West Java

Reforestation outside concession

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Mine-Effluent and Sedimentation are Controlled

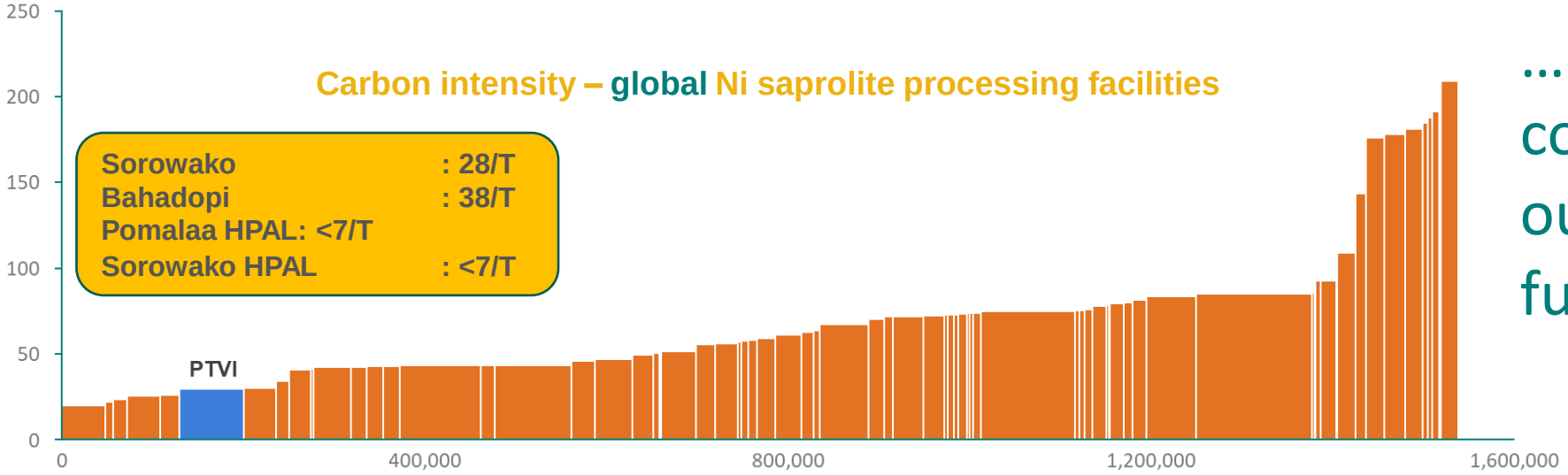
- Effluent and sedimentation control is integrated with mine planning by progressive reclamation of post-mining land to minimize land clearing.
- The operation of liquid waste management is carried out through the Lamella Gravity Settler and Pakalangkai Waste Water Treatment, integrated tiered sediment control facilities with a total capacity of >15 million m^3.
- This facility is to reduce Cr6+, Cr Total and as well as other content in wastewater from mining areas.

	Standar Air Minum	Standar Air Mineral dalam Kemasan	Danau Matano
Total Padatan Terlarut (mg/l)	500	320	**138**

PTVI operates 3 hydro plants with total investment of over $1 billion, making us the lowest carbon intensity RKEF Plant in Indonesia

Photo: PT Vale

Carbon Intensity (CO_2e/ t Ni Eq)
Saprolite producers only



....We are still committed to reduce our GHG emissions further....

PTVI road map to **reduce carbon emission by 33% in 2030** and to achieve Net Zero in 2050

Up to 2022
- Convert Boiler #1 to electric
- Increase use of biodiesel
- Reline Hydropower Canal
- Use less water to screen ores

2023 - 2027
- Convert Boiler #2 to electric
- Optimize Hydropower facilities
- Start electrification mine equipment
- Redesign ore stockpile to reduce moisture
- Use of biomass for reductant in Kilns

2028-2030
- Shift fuel of Dryers & Kilns to LNG
- Further increase use of Biodiesel
- Utilize waste heat
- 100% electrification of our mine equipment

With urgency to reduce GHG emission immediately, we commit to rely on matured technology and no carbon offset to get to 2030 target

2030 Absolute GHG emission reduction 33%

2050

Technological Route

- Fuel Shifting
- Green Power Up
- Equipment Electrification
- Efficiency Improvement

Mining & Reclamation Route

- Sustainable mining practice
- Reforestation outside concession area
- Progressive reclamation of post mined area
- Biodiversity Program

Source: PT Vale Indonesia Study Analysis

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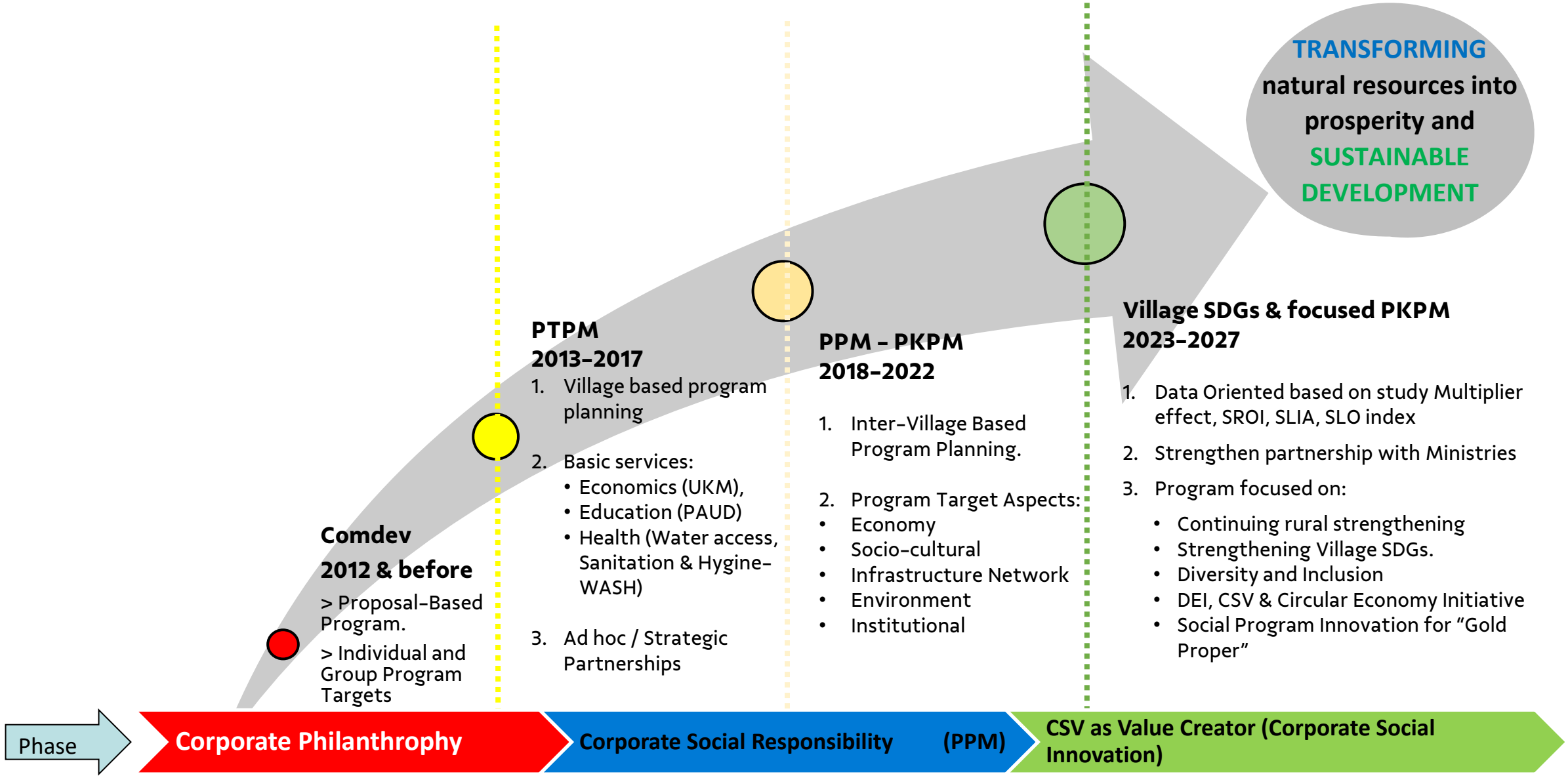
PTVI Social Program: Transformation, Roadmap & Milestones



PT Vale's PPM Contribution in Achieving SDGs

Today, PT Vale has contributed to 13 of the 17 Sustainable Development Goals (SDGs).

1 NO POVERTY

Capacity building in the fields of economy, health, education.

2 ZERO HUNGER

Sustainable agricultural development (Organic SRI), provision of facilities/ infrastructure.

3 GOOD HEALTH AND WELL-BEING

Improving the quality of health services and the capacity of medical personnel, prevention of AIDS, tuberculosis, and dengue fever, prevention of drugs (in collaboration with BNN Luwu Timur).

4 QUALITY EDUCATION

Development of teaching capacity (ToT Program), increasing the number of skilled workers including vocational training, construction & improvement of Early Childhood Education facilities, procurement of school buses and educational facilities, scholarships.

5 GENDER EQUALITY

Increasing the role of women in participation and equality in decision-making in the PPM Program, providing equal rights for women to manage economic resources (UKBM Herbal and MSMEs programs).

6 CLEAN WATER AND SANITATION

Construction and renovation of 1,400 toilets and septic tanks, provision of clean water installations for about 50,000 residents.

8 DECENT WORK AND ECONOMIC GROWTH

Encouraging the development and growth of MSMEs and BUMDESMA.

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PT Vale's PPM Contribution in Achieving SDGs

Construction of access roads, clean water installations, food courts, meeting halls (Sorowako Center), public spaces (RTH), sports facilities.

Establish a program to combat climate change and its impacts through Sustainable Green Agriculture which contributes to the reduction of CH_4, CO_2, NO_2 emissions, with a total land area of 28 Ha.

Mangrove planting, building fish apartments building.

Biodiversity conservation, reclamation and reforestation.

Grievance mechanism service line, FKUB Synergy, Diversity & Inclusion (Disability).

Academics (ATS, UNHAS), business (PT Patra, Bumdesma), communities (APSO, HIPHO, AMT, Cooperatives), government (BKAD, TKK, related OPD, BKSDA).

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PT Vale Development Projects with Total Investment >US$8.6 Billion (Together with Partners)

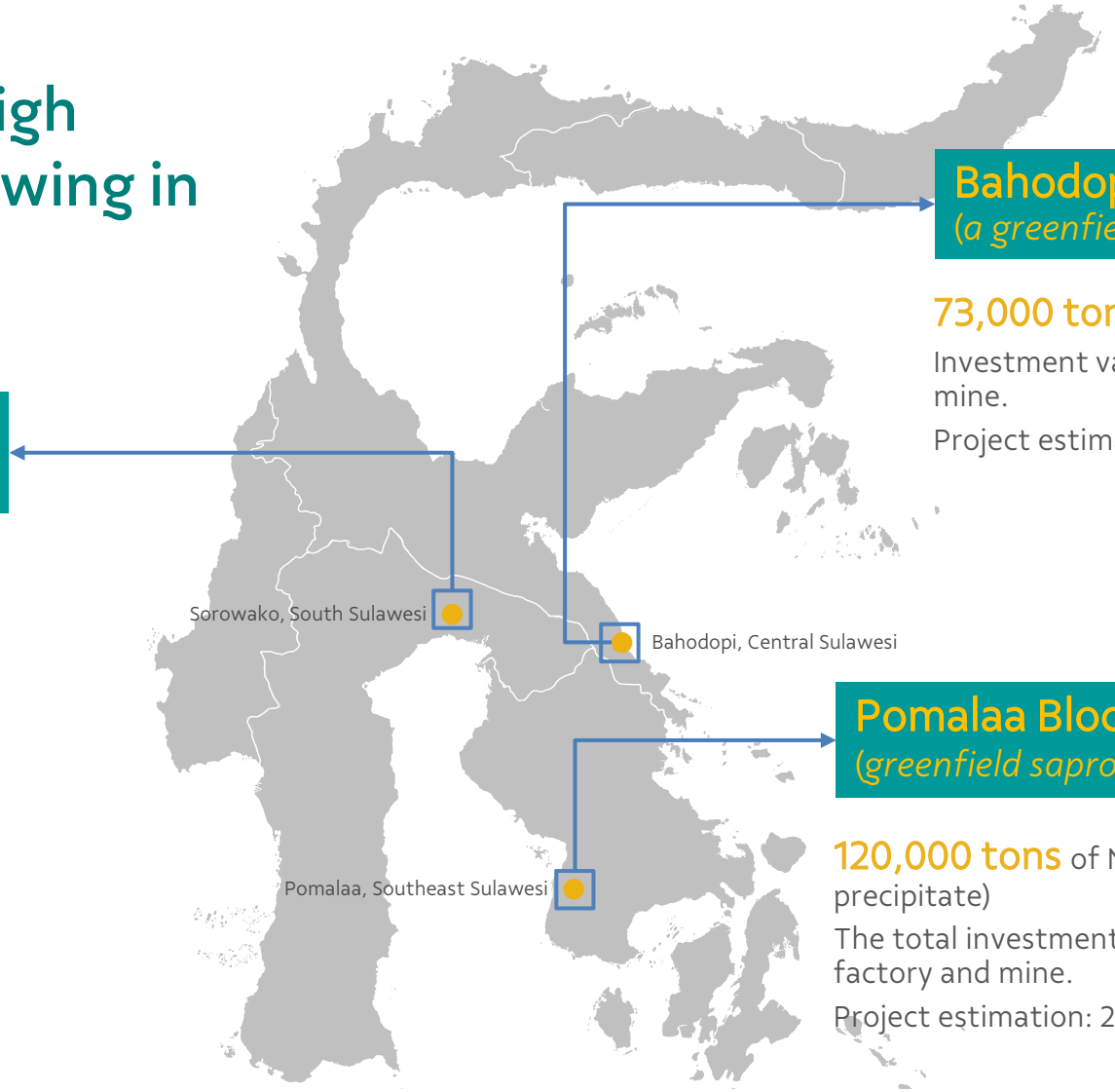
Commit to produce high quality nickel and growing in sustainable way

Sorowako Block Limonite Project

60,000 tons of Nickel in MHP (mixed hydroxide precipitate)

The total investment value is ~US$ 1.8 billion for HPAL and mining.

Estimation of project construction: 2023–2026



Bahodopi Block
(a greenfield saprolite project)

73,000 tons of Nickel in FeNi

Investment value of US$ 2.3 billion for RKEF and mine.

Project estimation: 2022–2025

Pomalaa Block
(greenfield saprolite and limonite project)

120,000 tons of Nickel in MHP (mixed hydroxide precipitate)

The total investment value is ~US$ 4.5 billion for HPAL factory and mine.

Project estimation: 2022–2025

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We strive to maintain the balance of the 3Ps: People, Profit and Planet

Our Performance is measured by the balance of 3Ps

President Minta Perusahaan Tambang Tiru PT Vale

Oleh Humas Dipublikasikan pada 30 Maret 2023 Kategori: Berita Dibaca: 601 Kali

Our mining is very close to Matano lake

Green Proper

PROPER

Good Mining Practice

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“There is **no future** without **mining**, and there can be **no mining** without **caring about the future**.”