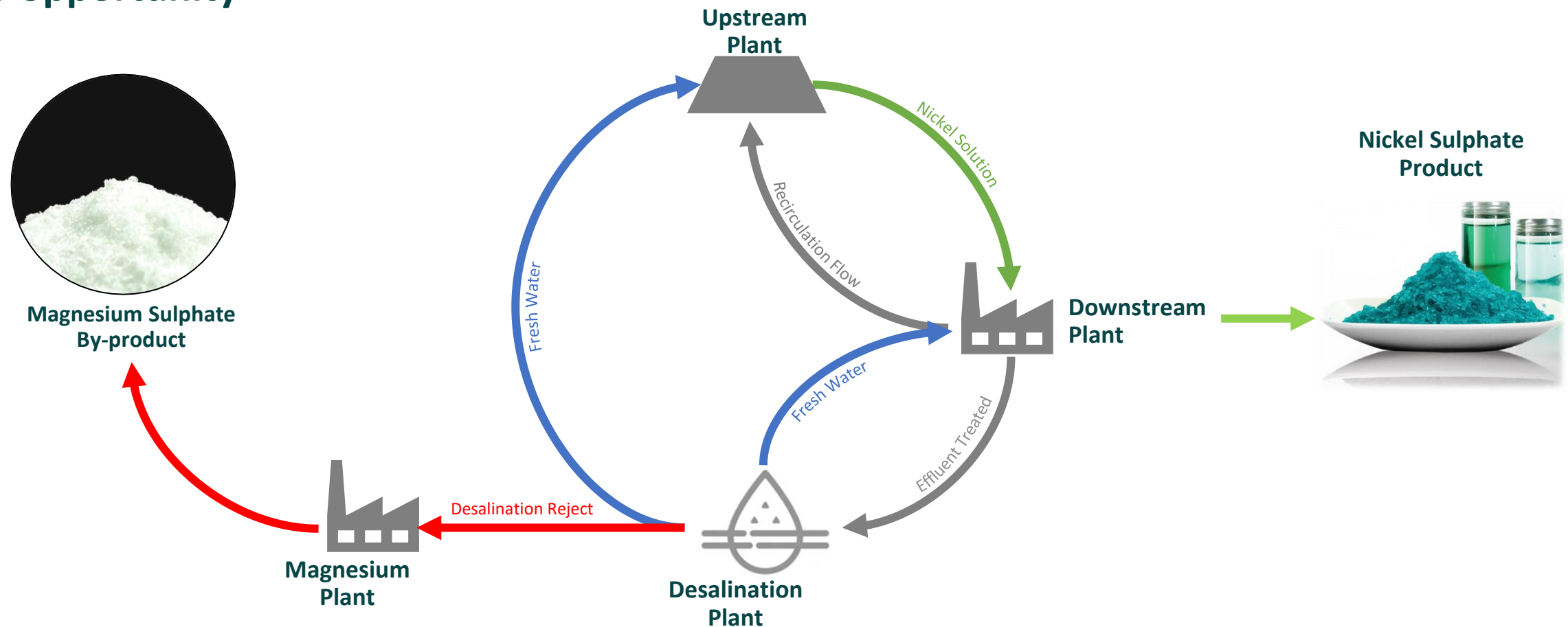




# BMR Initiatives Towards Net Zero Emission

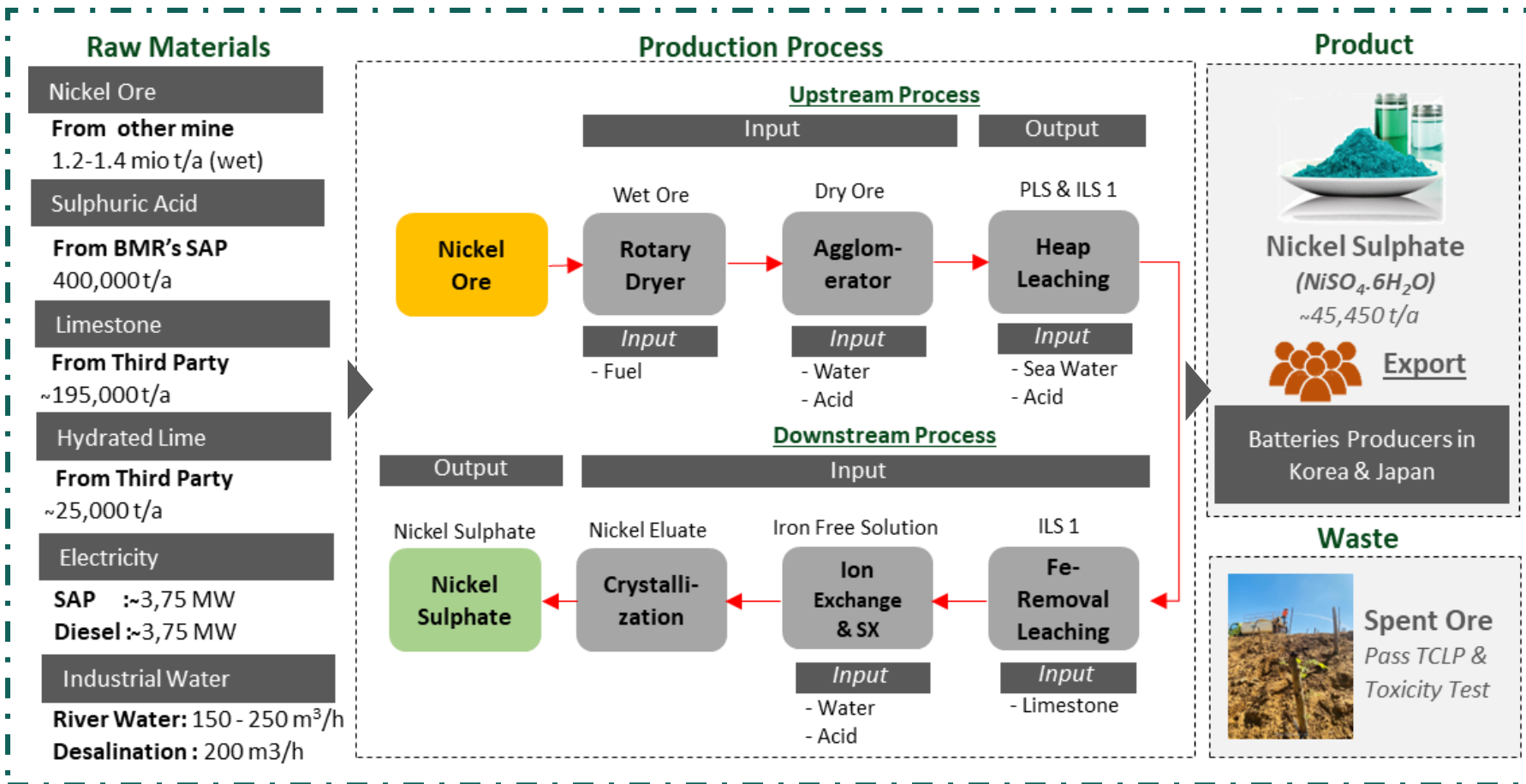
# The Flow Processing in Our Heap Leach Plant

We recirculate the water in our plant operation to conserve water and convert liabilities into opportunity



# PT Bukit Makmur Resources

## PT BMR's Business Model



## Who we are?

PT Bukit Makmur Resources is the pioneer in **heap leach technology in Indonesia**, which processes low grade laterite nickel ore into **Nickel Sulfate Crystal**

We empower Indonesian engineers to produce nickel sulfate crystal from low grade laterite nickel ore with **green technology**

We support the need for **sustainable energies**, through our Nickel Sulfate Crystal, which are the main ingredients for electric vehicles' batteries. Our heap leach technology guarantees a **low cost and low carbon** process for a better tomorrow

# BMR Commitment to Sustainability



## Low Energy & Carbon Intensity

We offer low carbon emission technology (Heap Leach) to produce Battery Grade Nickel Sulphate. Currently, Our process emits **16 t.CO<sub>2</sub>/t.Ni** lower if compared to RKEF~50 t.CO<sub>2</sub>/t.Ni



## Zero Waste

We use green technology. Our spent ore is categorized as non-hazardous waste and suitable for plantation purposes. The spent ore samples **have passed the TCLP and toxicity test.**



## Water Conservation

We conserve the usage of water in our plant by processing the effluent through desalination process to produce **Raw Water** for plant operation.



## Converting Liabilities to Opportunity

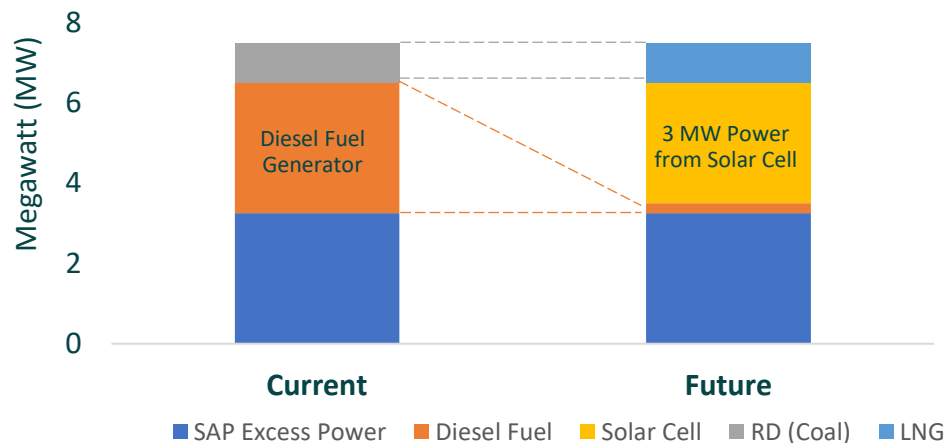
We innovate to convert Liabilities to valuable product, **Magnesium Derivative Products** which also greener than common products in the market.

# Low Energy Nickel Processing

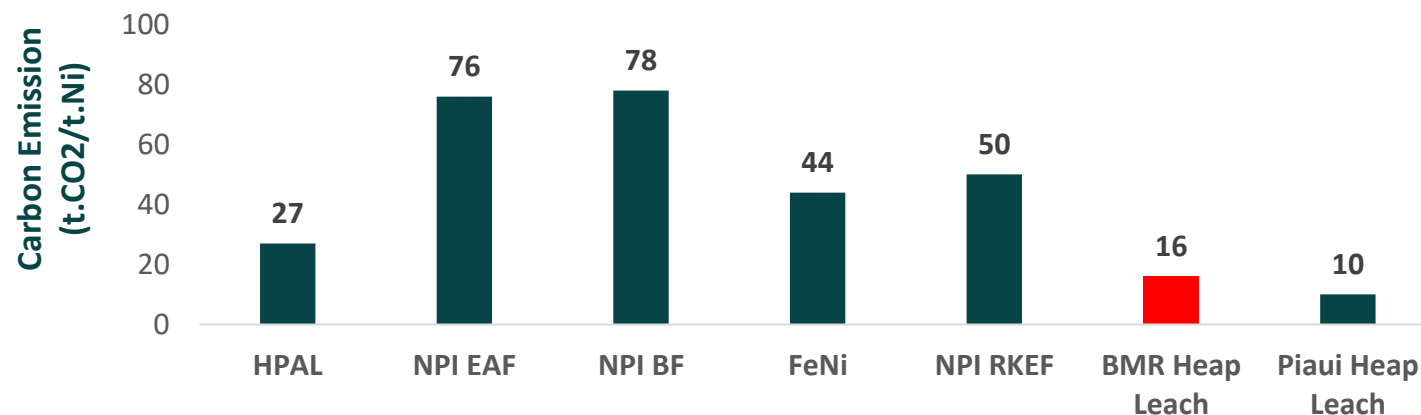
## Heap Leach Technology Posses' Low Energy Consumption

Hydrometallurgy Process posses' low energy consumption. Heap leach offer even **lower energy consumption from commonly used technology (HPAL)**. BMR Heap Leach technology also emits **16 t.CO<sub>2</sub>/t.Ni** makes our product categorized as **"Clean Nickel" (<20 t.CO<sub>2</sub>/t.Ni)**.

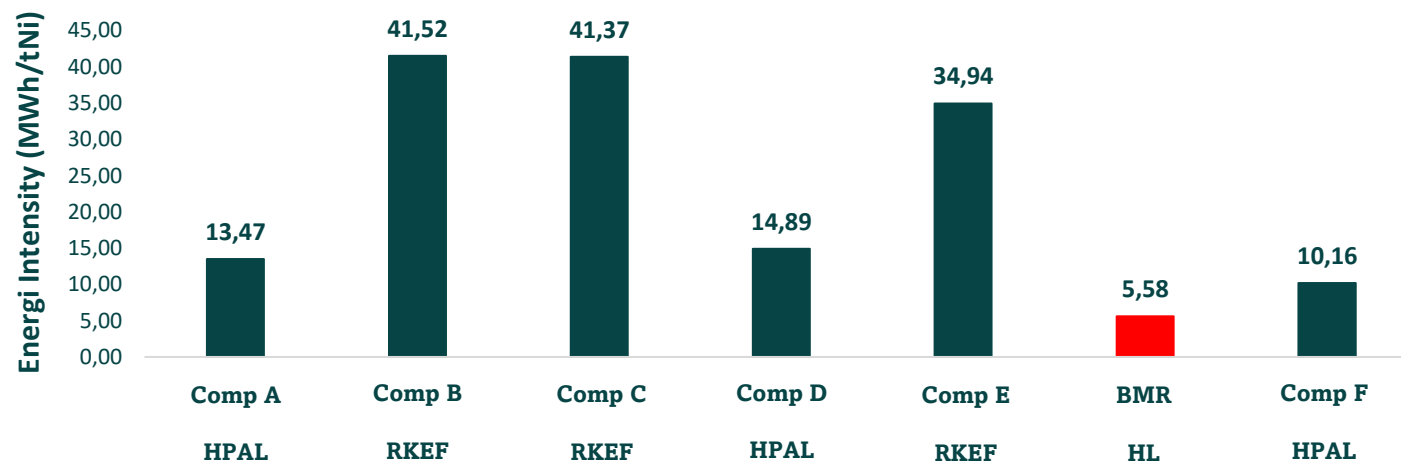
## Our Plan to Use around 90% Green Energy



## Nickel Industry Average Emission by Process



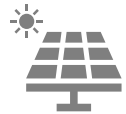
## Energi Intensity Comparison (MWh/tNi)



# Our Plans in Reducing the Carbon Footprint

## Carbon Footprints Reduction Plan

BMR has several plans to reduce its carbon footprints:



### Convert Fuel Diesel Generator to Solar Cell

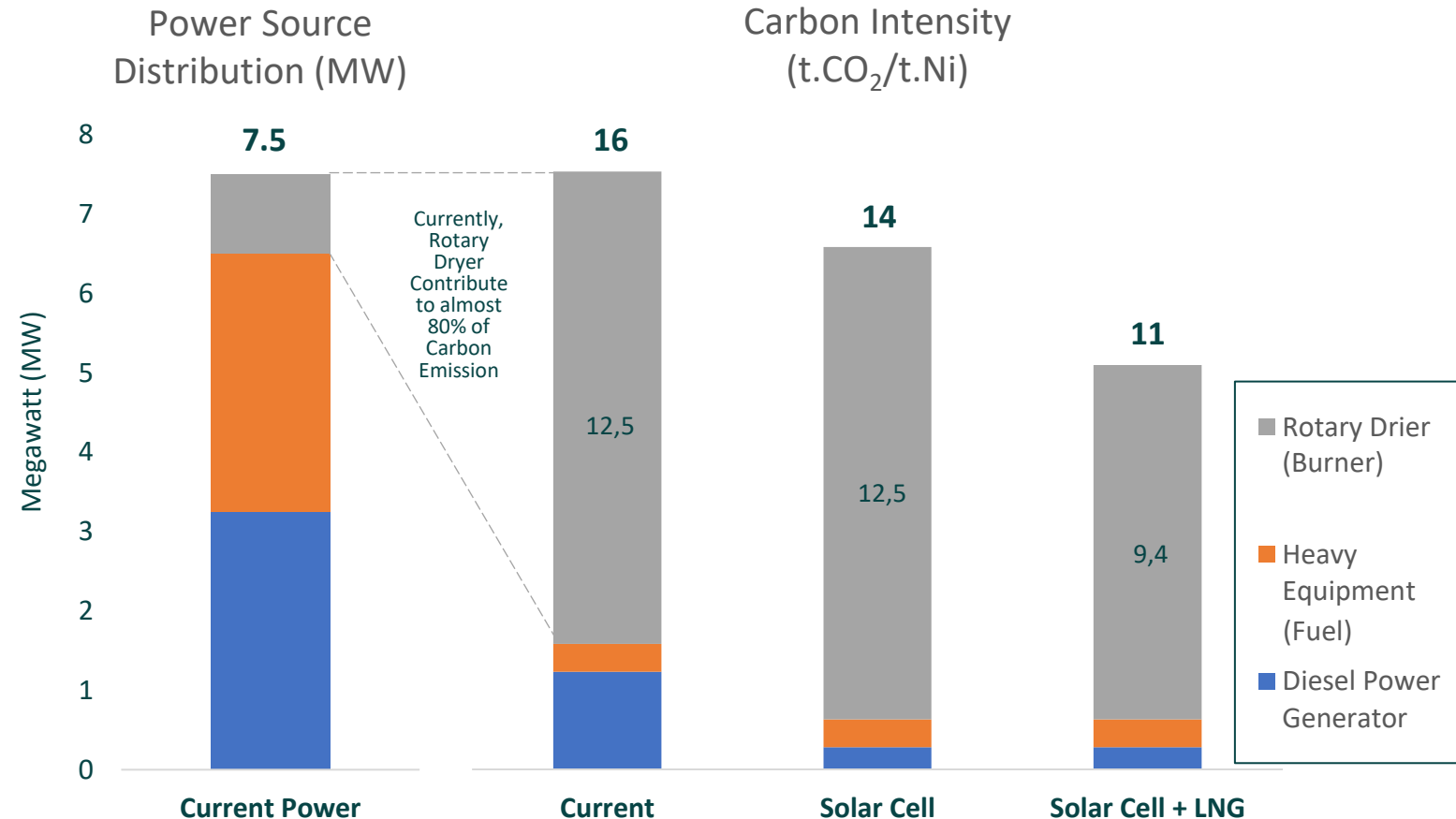
Our 20 hectares heap leaching roof can install 16 MWp of solar cell and generate up to 3 MW electricity.



### LNG Burner for Ore Drying System

gas offered a 10–20% reduction in GHG emissions by comparison with diesel.

## Our Initiatives Will Lead to 32% Carbon Footprint Reduction





# Zero Waste Nickel Processing

## Spent Ore

Our process produce non-hazardous tailing which can be used for plantation medium.



## BMR Plantation Trial Documentation



Plantation 0.7 ha  
with Spent Ore  
Trial

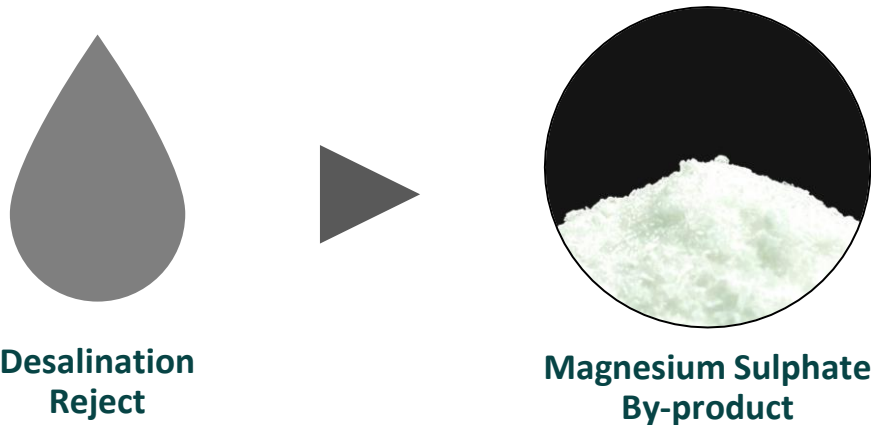
Plantation  
3 ha

**Our Spent Ore will be used as plantation media and empower the local farmers**



# We Innovate to Convert Liabilities into Opportunity

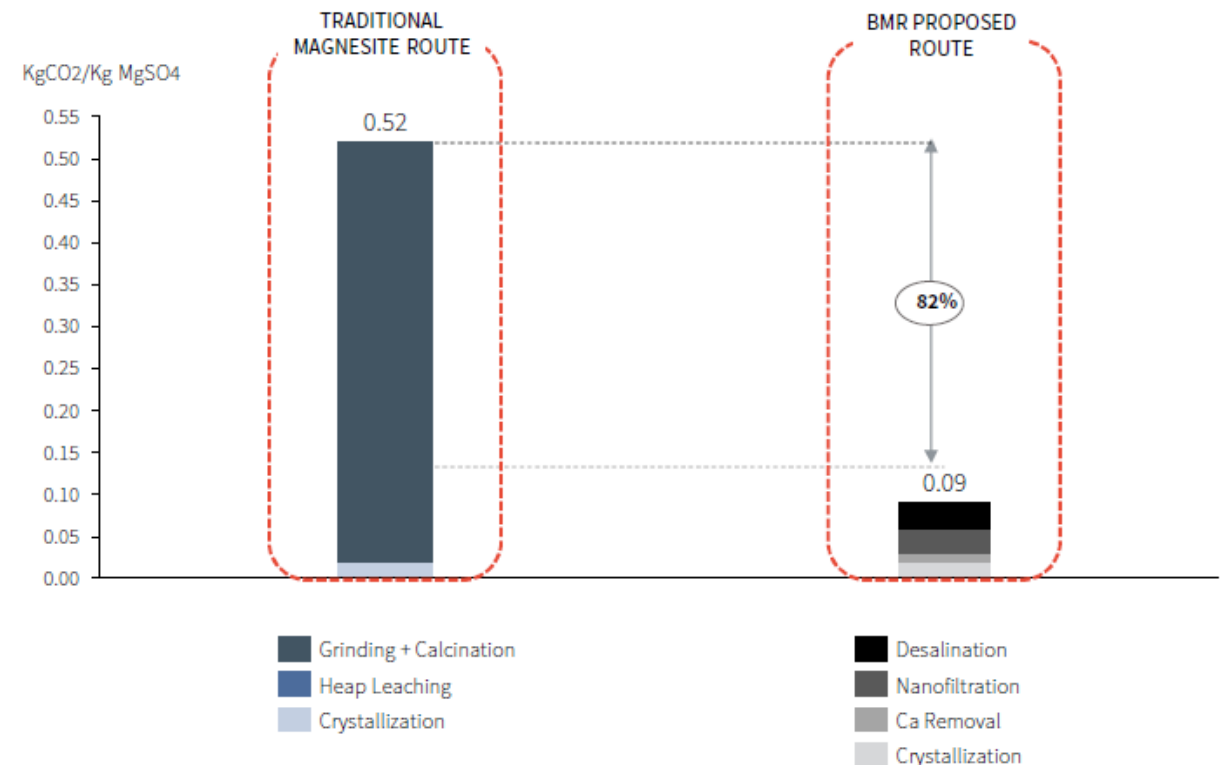
## Convert Reject Water into Valuable Product



## Our Magnesium Product

Our proposed process for magnesium sulphate production is expected to be 80% less carbon intensive compared to traditional magnesite route applied by majority of Chinese producers

## Lower Carbon Intensity Compared to Common Market Products







# Thank You PT Bukit Makmur Resources

“Pioneer in Empowering Nation”

Sept 2024