

# CARBON FRIENDLY NICKEL PROCESSING



## Acid recycling technology

- ↓ Operating costs
- ↓ Carbon emissions

Simulus Engineers is developing an exciting new process for recovering nickel from lateritic ore in an environmentally sustainable manner. The Carbon Friendly Nickel Processing (CFNP) flowsheet represents a paradigm change in process design, with the key focus (after high metal recovery) being reagent and water recycles.

This has led to the development of a flowsheet with the following characteristics:

- Smaller projects are economic and large projects have improved economics
- Lower CO<sub>2</sub> emissions
- Fewer reagents and lower consumptions
- Lower energy requirements
- Reduced tailings
- Lower water requirements
- Little to no limestone/calcrete consumption
- Based on sulphuric acid leach technology
- Lower operating costs than existing laterite projects
- Similar or slightly lower capital costs

The leaching process remains similar, but the inefficient neutralisation and metal recovery process is replaced with a combination of carbon friendly process technologies.

The impact of adopting this new flowsheet will be:

- A CO<sub>2</sub> reduction equal to taking 125,000 cars off the road
- 50-500ha less area disturbed for tailings per site
- Around 500-900,000t less sulphur imported per site per year

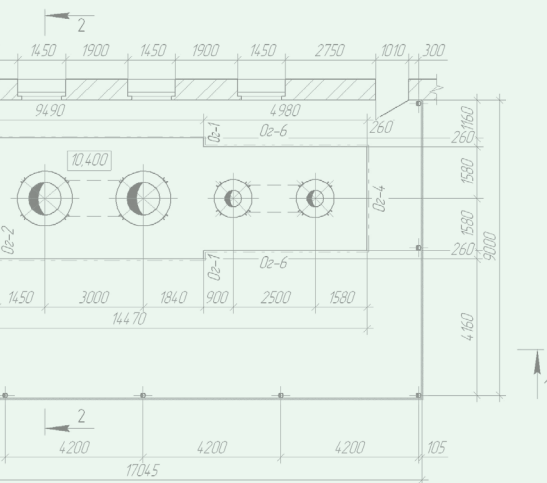
Current annual world nickel production is 1,400,000 tonnes. The Nickel Institute reports that the average carbon dioxide emission is 15.4t CO<sub>2</sub> per tonne of nickel. Total CO<sub>2</sub> emissions attributable to nickel production are therefore over 21,000,000 tonnes per year. Australia contributes approximately 13% of this total.

Seventy percent of the world's nickel resources are in nickel laterite ores.

The majority of new nickel projects under evaluation around the world are nickel laterite projects. An environmentally sustainable means of nickel production from nickel laterite ore is required to meet the required global reduction in carbon emissions and maintain Australian and international nickel production.

The opportunity exists for suitable industry partners to participate with Simulus Engineers in the demonstration of this valuable technology.

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