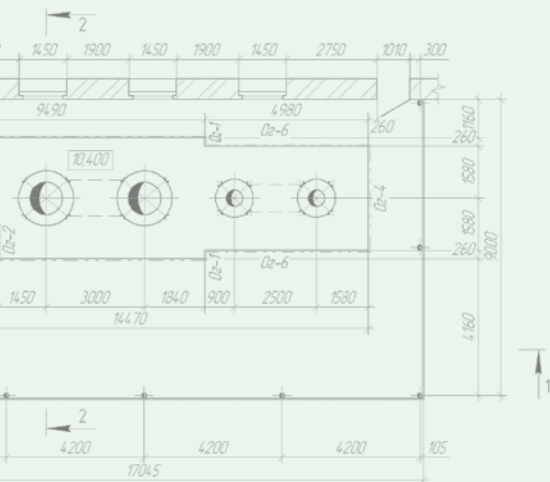


# CARBON FRIENDLY NICKEL PROCESSING

**Paradigm change in mining:  
reducing carbon emissions can  
result in lower capital and  
operating costs today**



Simulus, with the assistance of a Commonwealth Climate Ready Grant, 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:

- Size-neutral - relevant to smaller operations as well as larger ones
- Lower CO<sub>2</sub> emissions
- Fewer reagents and lower consumptions
- Lower energy requirements
- 15-30% less 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 downstream recovery and purification 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 world nickel production is 1,400,000 tonnes per year. A life cycle assessment commissioned by 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.

Keep in touch for more news on this exciting development.

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