

The Future of Steel is Circular

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And It Starts with Scrap



Mā te mahi tahi
Driving impact through collaboration



Sims Limited Overview

- Founded in 1917, global leader in metal recycling
- Operates 160+ facilities across 13 countries
- 4,500+ employees worldwide
- Focus on circular solutions and decarbonisation



Sims Metal Performance

- ~6.3 million tonnes recycled annually
- ~9.3 million tonnes CO2e emissions avoided
- Global leader in recycled metals supply

Role in Decarbonisation

- Supplies recycled steel to producers such as New Zealand Steel, reducing reliance on high-emission ironmaking
- Lowers carbon emissions by replacing virgin raw materials with recycled inputs
- Supports the transition to a low-carbon, circular steel industry

Energy Savings

- Recycling steel uses significantly less energy than producing steel from raw iron ore. In fact, it can save up to 75% of the energy required for traditional steelmaking. This efficiency helps reduce greenhouse gas emissions and conserves valuable resources.

Reduced Carbon Emissions

- Electric Arc Furnaces (EAFs), which are now commonly used in steel recycling, emit far less CO₂ than blast furnaces. When powered by renewable energy, EAFs can reduce carbon emissions to near zero—making recycled steel a key player in climate-conscious manufacturing.

Conservation of Natural Resources

- Recycling steel reduces the need for mining iron ore and coal, preserving natural landscapes and ecosystems. It also minimizes the environmental impact of extraction and transportation.

Infinite Recyclability

- Unlike many materials that degrade with each recycling cycle, steel can be recycled indefinitely without losing its strength or quality. This makes it ideal for a truly circular economy.

Economic Efficiency

- Steel recycling supports a robust industry that creates jobs in collection, processing, and manufacturing. It also lowers production costs for manufacturers by reducing the need for raw materials and energy.

Waste Reduction

- Recycling steel helps divert millions of tons of waste from landfills each year. This not only reduces environmental pollution but also extends the lifespan of landfill sites. Approximately 90% of steel from building demolition is reused or recycled.

NZ Steel Usage

How Recycled Steel Supports New Zealand Infrastructure

- Steel is a core material in New Zealand's infrastructure, construction, and manufacturing sectors
- Majority of steel demand is supplied by domestic producers such as New Zealand Steel and Pacific Steel
- Recycled scrap metal, processed by **Sims Metal Limited**, is supplied to steel mills as a key raw material
- Used in buildings, bridges, transport networks, and industrial applications across the country
- Supports a circular economy by reducing reliance on virgin materials and lowering emissions

NZ infrastructure pipeline valued at ~\$237B, with \$50B+ under construction (2024–2026)

Recycled steel supports major projects including:

Hospitals (Dunedin Hospital – ongoing)

- Ongoing (2024–2026)
- ~\$1.8+ billion project
- Hundreds of tonnes of reinforcing steel

Highways (Te Ahu a Turanga – 2025)

- Opened: 2025
- 11.5 km major highway
- Significant use of reinforced steel structures

Bridges (Te Ara Pekaeka – 2024)

- Completed: 2024
- 200+ tonnes of structural steel
- Key regional transport connection

Stadiums (Te Kaha – 2026)

- Opening: 2026
- ~\$683 million project
- Steel-intensive structural framework

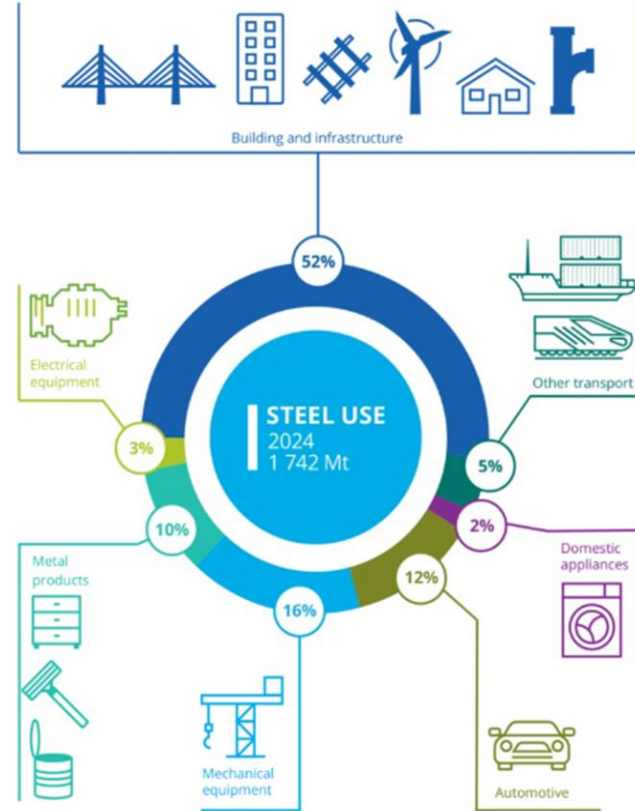
Renewable energy (Twin Rivers Solar – 2024–2026)

- Under construction: 2024–2026
- ~31 MW capacity
- Steel used in mounting + structural systems

Steel is a core material across transport, construction, and energy sectors.

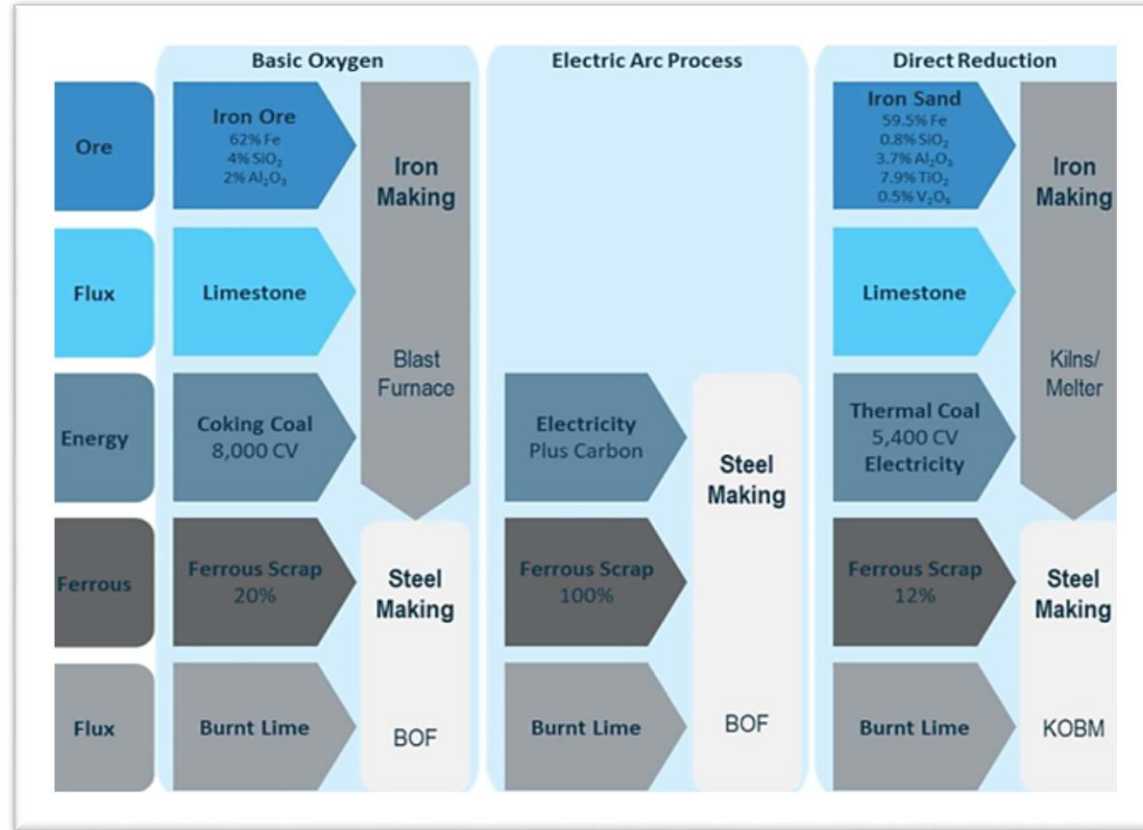
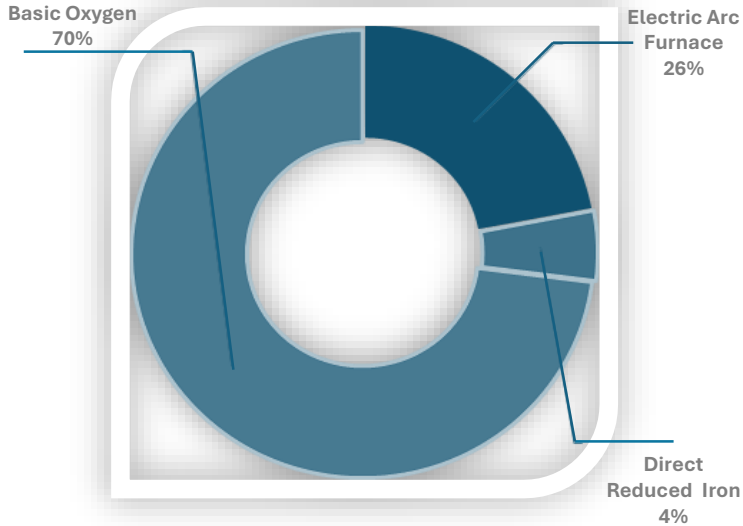
Growing shift toward **recycled steel supply in NZ infrastructure.**

Steel use by sector



FOR CONTEXT – MAIN TYPES OF IRON/STEELMAKING

World Crude Steel Production (by Process)



NZ Government acknowledgement

A Step Change for NZ Steel

- \$300M investment into EAF technology
- Shift from ironmaking → recycled steel production
- ~1 million tonnes CO₂ reduction annually
- Our single largest decarbonisation initiative in NZ to date.

GLENBROOK EAF: A STEP CHANGE FOR NEW ZEALAND STEEL

This year, New Zealand Steel is commissioning a new EAF at Glenbrook, backed by around \$300 million in co investment from BlueScope Steel and the New Zealand Government.

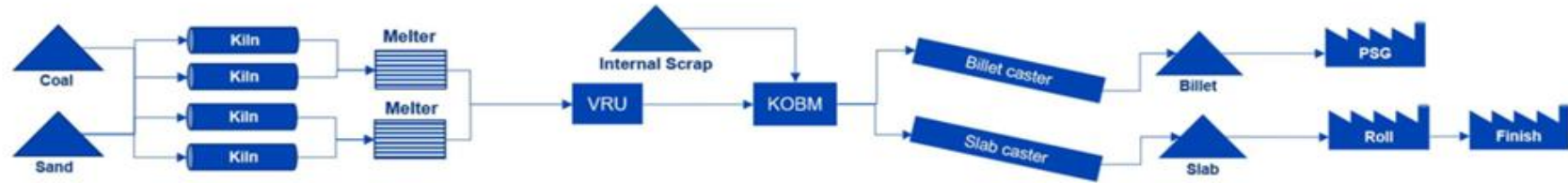
The furnace replaces the previous oxygen-blowing process and significantly increases the use of recycled steel scrap, allowing part of the site's ironmaking capacity to close.

From late 2026, it is expected to cut national greenhouse gas emissions by around one million tonnes per year - more than 1% of New Zealand's gross emissions.

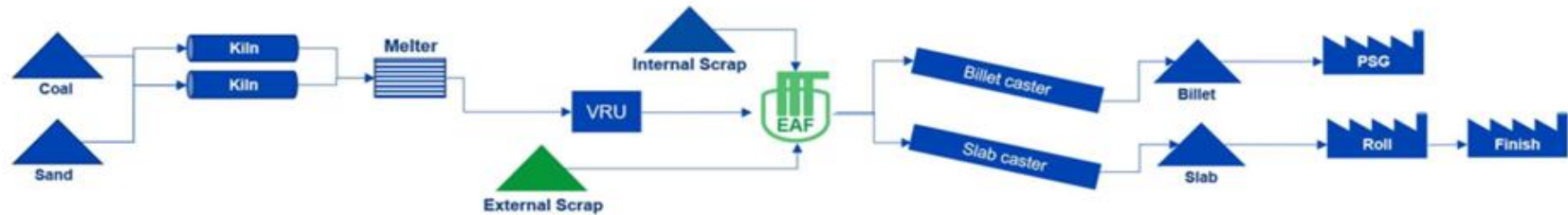
It is the largest single-site emissions reduction initiative in New Zealand to date and signals a decisive shift toward a more circular, lower-emissions steel industry.

THE OVERALL PROCESS

Current Process



EAF Process



PATHWAYS TO LOW-EMISSION STEEL PRODUCTION

Three critical enablers for a sustainable steel future

OUR ROLE



RENEWABLE ENERGY

Powering the transition



Powers Electric Arc Furnaces (EAF)



Enables production of green hydrogen



Critical for low-emission steelmaking



KEY MESSAGE:

Clean energy is the foundation of low-carbon steel.



STEELMAKING (EAF)

Maximising the potential of recycling



Uses recycled steel scrap



Reduces reliance on coal-based processes



Lower emissions than traditional methods



Expected to grow with increased scrap supply



KEY MESSAGE:

Recycling is the fastest path to lower-emission steel.



IRONMAKING (CHALLENGE AREA)

Addressing the biggest source of emissions



Most emissions-intensive stage in steel production



Still required for virgin steel production



Emerging solutions: hydrogen-based ironmaking



Carbon capture technologies being developed and deployed



Large-scale impact expected from 2040 onwards



KEY MESSAGE:

Innovation is needed to decarbonise ironmaking.



CLEAN ENERGY

+



INCREASED RECYCLING

+



INNOVATION IN IRONMAKING

=

LOW-EMISSION STEEL FOR A SUSTAINABLE FUTURE



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ALGA

NET-ZERO STEEL NEW ZEALAND

Our industry is committed to achieving net-zero greenhouse gas emissions by 2050.

This roadmap sets out how we will reduce emissions across the steel value chain in line with New Zealand's climate targets, the Paris Agreement and the Zero Carbon Act.



OUR GOAL

Net-zero emissions by 2050
Supporting New Zealand's climate targets and a sustainable future.



OUR FOCUS

- Reduce emissions from ironmaking and steel production
- Increase the use of recycled steel
- Transition to electric and low-emission technologies



OUR APPROACH

Collaboration across the entire value chain is essential.

- Manufacturers
- Engineers & builders
- Recyclers
- Government



ENABLERS FOR NET-ZERO STEEL



CLEAN ENERGY

More renewable electricity to power low-emission steelmaking.



INNOVATION

Investing in hydrogen, carbon capture and other emerging technologies.



CIRCULAR ECONOMY

Maximising recycled steel and sustainable resource management.



COLLABORATION

Working together across industry, government and communities.



**NET-ZERO STEEL.
STRONGER FUTURE.**



BETTER PLANET



STRONG ECONOMY



STRONGER COMMUNITIES



BUILDING A
SUSTAINABLE
NEW ZEALAND



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Eliminates a minimum of 800,000 tonnes of carbon emissions annually.



Results in approximately 50% less coal use, equivalent to a reduction of 400,000 tonnes.



Equivalent to permanently taking at least 300,000 cars off the road.



Reduces total scope 1 & 2 emissions by more than 45%.



Removes 1% of the country's annual emissions.



Enables steel production in New Zealand with an average embodied carbon per tonne below the world average.



Sets the platform for our net-zero goal by 2050.



Powered by an average of 30 megawatts from New Zealand's largely renewable grid.



Has the ability to reduce electricity demand when the power grid is under stress.



Secures New Zealand's future in steelmaking.



Collaboration & Education

Collaboration across industry and ongoing education are key to reducing emissions and enabling a more efficient, circular steel supply chain.

- Working with steel producers, logistics partners, and suppliers to improve efficiency
- Supporting the transition to lower-emission steel production
- Sharing knowledge across the supply chain to drive better practices
- Promoting awareness of recycling and circular economy benefits
- Encouraging continuous improvement in emissions reduction