

28 November 2023

The Hon Simon Watts
Minister of Climate Change
New Zealand Parliament
Wellington

Dear Minister

Briefing for incoming Minister – Steel and the Environment

Congratulations on your appointment as Minister of Climate Change. We look forward to supporting you in any way we can with regards to sustainability in our sectors of operation.

Steel is the rockstar of the circular economy as it is the only material that can be infinitely recycled without degradation. Approximately 85% of steel in NZ buildings is recovered with commercial buildings topping 90% recovery. The steel in the chair supporting you as you read this briefing paper was likely recycled, and it will be recycled again at the end of the chair's life to perhaps form part of a bus, a medical device, a renewable energy installation, or a structural building frame. There is very little that can be built or manufactured in our economy without steel. Regardless of whether the steel is the output, or the tool that creates the output, steel is indispensable.

The Sustainable Steel Council (SSC) was established in 2020 by New Zealand's seven steel industry membership associations¹ committed to a vision where steel is valued as an infinitely recyclable resource, a critical enabler of the New Zealand economy, and a contributor to the country's journey towards a low emission economy.

In this respect, all SSC members are required to demonstrate commitment towards lowering their carbon footprint and are audited under our sustainable steel certification programme which is recognised and accepted under the Green Business Council's Green Star rating scheme.

Our member organisations range from industry bodies, steel manufacturers, importers, wholesalers, recyclers (exporters), and a growing representation of the manufacturers and fabricators of end user steel products.

Globally, steel manufacturers are reducing carbon emissions through new manufacturing technologies and through increased recycling. Best practice steel manufacture now releases around a third of a ton of CO₂ per ton of steel produced, which is down from more than three tons of CO₂ per ton of steel. An example of emerging best practice in New Zealand is New Zealand Steel's project to install an electric arc furnace (EAF) which will reduce carbon emissions from current levels by the equivalent of 300,000 cars per year. The potential future hydrogen replacement for coal in steel production is also expected to make an exponentially greater impact on carbon reduction in the coming years.

¹ Metals NZ, NZAMR, HERA, SCNZ, NASH, Casting Technology, NZSSDA, MRM

It is well known that every building material contributes to New Zealand's carbon footprint in its own way. But what is less recognised is the differing degrees that materials release CO₂ and chemicals at different stages of their life. Steel has a larger footprint at the beginning, less when being recycled, and wood has its higher end of life carbon and chemical release occur as it breaks down in landfill.

The Sustainable Steel Council has a particular interest in the narrative around using accurate and balanced measurement of whole lifetime carbon and other emissions to develop a level playing field and informed decision making when evaluating between materials.

It is our experience, and concern, that different products are currently measured differently with respect to carbon emissions and cost. For example, virgin steel requires more carbon input in its initial chemical transformation from ore to steel but, because steel is already steel at the point of recycling, significantly less carbon is emitted in the recycling and repurposing processes.

In contrast, other products sequester significant quantities of carbon at the beginning of their life, but that carbon is released at end of life. With treated wood, that cycle may take more than 120 years to go full circle (30 years to grow, 70 years in use, 20 years to degrade in landfill²).

The steel industry has experienced bias emerging from the asymmetric measuring of whole of life embodied CO₂ and this can have a significant effect on downstream industry choices and Government policy decisions.

The SSC advocates for 'apples with apples' measures that consider whole of life, start from nothing through to end with nothing, rather than the use of often selective and convenient timeframes² for measuring carbon impacts of products. Or at least ensure there is transparency and disclosure about what is excluded from calculations.

The Sustainable Steel Council believes and advocates that all materials have their place in the different industries, building and construction needs wood, concrete, and steel, and so long as all the materials sectors are actively working towards reduced carbon and a circular economy, we support them all.

Minister, the Sustainable Steel Council is at your disposal and willing to provide any support or information you may require with regards to steel, sustainability, and circular economy in the performance of your portfolio.

Best wishes
Sustainable Steel Council



Darren O'Riley
Chairman

021 221 6936
Darren.O'Riley@scnz.org



Jeremy Sole
Executive Officer

021 777 646
jeremy@sustainablesteel.org.nz

² John, S., Buchanan, A. (2013), *Review of End-of-Life Options for Structural Timber Buildings in New Zealand and Australia*. University of Canterbury.