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Metals New Zealand Submission to:

Phasing out fossil fuels in process heat.

Ministry for the Environment. May 2021

1. Do you agree with this characterisation of the status quo? If not, please provide evidence to support your views.

Metals New Zealand is a pan industry organisation committed to the future of metals manufacturing and the future of metals to deliver robust, resilient buildings and infrastructure, essential to support New Zealand's transition to a low carbon future.

Metals New Zealand members, (listed at the end of this submission) manufacture a wide range of metal products for local and export markets, creating high value jobs, particularly in our regions. Much of New Zealand's added value primary exports rely on sophisticated metal fabrication (wine, dairy, food and beverage).

In 2019, New Zealand's Steel Industry employed 10,670 FTEs, across eight industries. The operation of New Zealand's Steel Industry generates further employment through upstream industries, downstream industries, and other industries. Upstream industries supply goods and services to the steel industry, downstream industries make use of the steel industries' outputs, and other industries through the expenditure of the steel industries workers.

In total, a further 11,220 full-time equivalents (FTEs) are employed in upstream industries, with 12,630 FTEs employed in downstream industries, and 4,440 FTEs employed in other industries. Combined, 28,290 FTEs can be linked to the operation of New Zealand's Steel Industry, beyond those directly employed in the industry.¹

Employment in the steel sector is significant – as demonstrated above. In addition, there are thousands of jobs across aluminium extrusion, iron, brass, bronze and other metal foundries, tube mills which provide products/solutions for New Zealand's construction/infrastructure and manufacturing sectors. A recent case study of aluminium extruders in the Waikato quantified the contribution of three aluminium extrusion businesses: -

These firms are critical to the Waikato region economy, employing more than 350 people directly. Many more jobs are provided within the region in other finished products, fabrication, die manufacturing along with those created in downstream distribution and manufacturing industries.

¹ New Zealand's Steel Industry: Employment created outside the Industry. www.berl.co.nz 2020

NO, Metals New Zealand does not agree with Ministry for the Environment's characterisation of the status quo. The importance of manufacturing to New Zealand's economy/society, (manufacturing currently relies on natural gas as there is no commercially available alternative fuels to provide heat required) is not factored into proposed policy/regulatory changes.

Metals New Zealand agrees with the Minister's message that

"Climate change is an unprecedented challenge — it affects global communities, world economies, and therefore New Zealand as a whole" ...

... and we agree that we need to reduce greenhouse gas emissions over the coming decades.

However Metals members are hugely disappointed that the approach taken by the Ministry is focused on regulating process heat from fossil fuels, and the associated emissions, out of existence.

Achieving NO PROCESS HEAT from fossil fuels enables the Ministry to achieve the Zero Carbon target. The current bundle of proposals will spell the death nelly of many forms of metals manufacturing which:

- Are successful exporters in their own right, competing globally in high value added goods
- Enable New Zealand's exporters to add value to commodity export products
- Enable New Zealand's building, construction and infrastructure sectors to deliver
- Contribute significantly to the local / regional communities in which they are located.

For New Zealand to successfully transition to a low emissions economy will require a basket-load of "sticks" and "carrots". The discussion document is loaded with sticks focusing only on emissions produced by small, medium sized and large enterprises in New Zealand.

A positive and constructive alternative approach would have been to recognise the contribution which New Zealand's manufacturing sector makes to New Zealand's economy, regional communities and society and work constructively with the sector to enable a strong manufacturing sector to transition to a low emission New Zealand.

2 . How would you describe the status quo? What other factors should be considered?

The Ministry for the Environment needs to invest time to better understand the challenges faced by small to medium sized manufacturing entities in the transition to a low emission economy.

- Electricity does not provide high value process heat required for all metals manufacturing processes which currently rely on natural gas
- Natural gas enables the processing of metal products, increasing material performance parameters and material durability
- Natural gas enables the recycling of aluminium in New Zealand – reducing the GHG emissions from imported aluminium significantly.

Also missing from this document is the fair transition for local manufacturing to a circular and low emission economy. It ignores how circularity can significantly reduce GHG emissions. The Circularity Gap report 2020 identifies that the world is only 8.6% circular ². The report identifies that 70% of GHG's result from materials handling and use and identifies enormous opportunities in transitioning to a circular economy – *“through smart strategies and reduced material consumption, we find that the circular economy has the power to shrink global GHG emissions by 39% and cut virgin forest use by 28%”*³

Ironically it is natural gas which currently fuels New Zealand's aluminium circularity.

Examples of high value process heat (natural gas) required by metals manufacturing, which enable construction and infrastructure, include

- Bronze bearing components for servicing of the power generation and hydro systems
- A wide range of water and electrical reticulation products - key infrastructure components
- Urgent replacement castings for flood pumps across New Zealand
- Annealed pipe⁴ for calandria evaporators (milk powder) around New Zealand both new projects, repairs and exports of complete systems.

Export industries relying on high value process heat include

- Over 200 different bronze castings for the defence industry - an Australasian based project
- High value bronze componentry
 - exported to China, US and Europe for bearings in wind turbines
 - exported to US and Japan for heavy earth moving equipment
 - exported to US for marine engines.

5. In your view, what is an effective and efficient threshold for low-GHG emitting process heat sites that would be out of scope of the requirements? Options and combinations of options include: below 100 tonne CO₂-e/year, 50kW, 2 MW, assets operating fewer than 400 hours per year. Please explain why.

The problem with focusing solely on regulation is creative individuals/businesses will always find paths around the regulation – for example dividing operations/emissions across multiple sites / jurisdictions to keep emission levels below thresholds in regulation.

If the target is zero emissions from fossil fuel process heat then surely the regulatory focus must be on all emissions from process heat.

6. Do you agree with the scope of industrial emissions proposed to be subject to national direction instruments? If not, why not?

² <https://circularity-gap.world/2020>

³ Ibid page 8.

⁴ an annealing oven in Hamilton which runs at 1200°C. They take the oven up to 900°C using natural gas and up to 1200°C using hydrogen

While we understand what is being proposed – for Councils to effectively deliver climate change mitigation – we would ask the Ministry for the Environment to consider the practicality of what this will mean for business in securing discharge permits for GHG emissions.

Business needs **certainty** to invest in low emission technologies. The Ministry needs to ensure that the proposed changes provide that **certainty** to maintain and grow local employment.

7. Should commercial sector water and space heating (above an appropriate size threshold) be included in the scope of national direction? If not, why not?

If the target is zero emissions from fossil fuel process heat then the regulatory focus must be on all emissions from process heat, including water / space heating.

11. In your view, what is a fair and reasonable duration for consents that would balance the need for investment certainty with the need to improve energy efficiency and reduce emissions over time?

Two decades is a fair and reasonable duration for consents to provide investment certainty for business, enabling planning / introduction of new technologies to improve energy efficiency and reduce emissions. Future energy scenarios for New Zealand focus strongly on electricity from renewable sources. Given current reliance on coal / natural gas, a two decade horizon is appropriate to enable sufficient new renewable electricity to come on stream.

13. Do you agree with the approach to avoid new fossil fuel assets (excluding coal) unless it can be demonstrated there are no feasible alternatives, and where the applicant prepares a GHG emission plan, and complies with relevant best practices? Are there more effective and efficient ways to achieve this outcome?

Post COVID and faced with significant disruption of international supply chains and global shipping, New Zealand needs to maintain and grow local manufacturing. Until New Zealand has a price competitive alternative to natural gas we will need to continue to rely on natural gas to provide high value process heat for manufacturing.

As alternative, and lower/zero GHG fuels become available then government will need to work with industry to develop pathways for transition, recognising that our manufacturing needs to be globally competitive.

14. How can national direction and guidance best assist applicants and consent authorities to assess economically and technically feasible alternative fuel options?

New Zealand currently doesn't have technically feasible alternative to natural gas for many of our industrial processes.

15. Should the policy approach for new process heat assets target specific fossil-fuel sources or should it take a fuel neutral approach? In your view, what is the best approach to define thresholds and requirements?

Government needs to take a fuel neutral approach, focused on outcomes it wishes to achieve. Government should not be prescribing how outcomes are achieved.

16. Referring to each option, what are the likely compliance costs and impacts on your firm? Who are the small to medium size industry users that could struggle to meet the requirements?

Metals New Zealand members, who are impacted, include aluminium extruders, foundries, tube mills, metal protection business.

17. What supporting initiatives are needed to transition away from fossil fuels in new industrial sites?

Transition away from fossil fuels requires:

- The supply of sufficient high energy renewable fuel at a competitive price
- Investment incentives including
 - access to low interest finance
 - accelerated depreciation.

18. Is there anything that you feel has been overlooked in this section with regards to the reality of your businesses' industrial practices? Or for local government: is there anything that you feel has been overlooked in this section with regards to the reality of consenting practices?

The Ministry for the Environment's proposals add to the increasing uncertainty faced by small to medium sized manufacturing businesses in New Zealand, at a time when, across the Tasman, considerable investment and support is being provided to the Australian manufacturing sector.

21. Is it appropriate to phase out other (non-coal) fossil fuels in existing industrial assets through consenting processes and best practice requirements?

The successful phasing out of fossil fuels will require certainty through

- An abundant supply of competitively priced alternative fuels
- Investment support for business
- Consenting processes which value / support high value local jobs.

22. Is a more flexible approach for the re-consenting of other (non-coal) fossil fuel-fired assets warranted/needed?

Undoubtedly a more flexible approach is required.

Business requires certainty from government and timing of transition will be dependent upon competitively priced energy alternatives.

While our members are committed to reducing their GHG emissions they need to maintain their global competitiveness. Business needs certainty along with progressive investment policies which support the transition.

23. Should there be a set phase-out date for other (non-coal) fossil fuels, including natural gas? What are the potential benefits and risks?

Certainly not, given the uncertainty surrounding future energy transitions and widespread availability of commercially competitive fuel sources which deliver high temperature heat.

24. Should the NES require regional councils to review consent conditions of significant GHG emitters with long-term permits to help reduce emissions? What are the benefits and risks?

No. Regional Council overview will add further complexity to consenting processes.

26. Referring to each option, what are the likely compliance costs and impacts on your firm? Who are the small-to-medium size industry users that could struggle to meet the requirements?

Refer question 16

27. Is there anything that has been overlooked in this section with regards to the reality of business practices? For local government: is there anything that you feel has been overlooked in this section with regards to the reality of consenting practices?

The Ministry for the Environment and local government need to be mindful that New Zealand's manufacturing businesses account for 13% of GDP and a similar amount of jobs. Manufacturing is critical in adding value to the exports on which our country relies.

40. Any other feedback on the proposal?

This submission process was made unnecessarily difficult owing to the poor alignment of questions with the source document and inconsistent language between source document and questions.

Metals New Zealand member organisations



The New Zealand Heavy Engineering Research Association (HERA) was established in 1979 as a non-profit research organisation dedicated to serving the needs of the metals-based industries in New Zealand. Its membership consists of approximately 600 companies representing metals-based fabrication and manufacturing companies, the associated design and consulting industry, related education providers, and the supporting material supply and services industry. HERA is base

www.hera.org.nz

funded through an industry generated R&D contribution in the form of a levy on heavy steel and welding consumables administered by the Heavy Engineering Research Levy (HERL) Act. HERA's current research is in the areas of steel construction, general heavy engineering industry development and welding fabrication innovation. HERA works with other research providers such as universities, independent research organisations and CRIs to deliver its programmes.



www.scnz.org

Steel Construction New Zealand Inc. (SCNZ) aims to advance the interests of New Zealand's diverse steel construction industry by promoting the benefits of steel solutions in building and infrastructure projects. Members include manufacturers of structural steel and steel products, distributors, fabricators, designers, detailers, galvanisers, and paint and building supply companies. SCNZ provides its members with technical advice on the latest in steel design trends and standards, networking opportunities, and a representative voice with key industry and Government decision-makers.



www.castingtechnologynz.org

Casting Technology New Zealand (CTNZ) aims to be a major contributor to the success and prosperity of the metal casting industry. The organisation is an advocate for maintaining high industry standards and encourages members to participate in quality training programmes. It provides a network for technical and business activities among its membership at national and international levels. At a Government level, CTNZ keeps abreast of legislation relevant to the metal casting industry and, importantly, represents the industry's position on issues affecting the sector.



www.metalroofing.org.nz

The New Zealand Metal Roofing Manufacturers Association Inc. (NZMRM) represents companies that roll-form steel and other metals for roofing and cladding purposes. Commonly known as 'Rollformers', NZMRM has 30 member companies. Members are involved in producing a wide range of profiled product, both painted and unpainted. The Association is active in the development and promotion of industry standards, and in conducting research that promotes the use of metal roofing and cladding.



Formed in New Zealand and Australia in 1982, the National Association of Steel-Framed Housing (NASH) is an advocate for all forms of low and medium rise steel-framed construction. NASH represents the interests of suppliers, practitioners and customers of steel-framing systems, and provides a representative voice for the sector at Government level.



The New Zealand Stainless Steel Development Association (NZSSDA) was formed in 1998 to promote and develop the stainless steel market in New Zealand. Its members include engineers, architects, fabricators, merchants and end-users with an interest in the supply or application of stainless steels. NZSSDA supports and encourages technical excellence in the industry and provides specialised training courses on stainless steel for the New Zealand market.

www.nzssda.org.nz



New Zealand's major aluminium extrusion companies work collaboratively, (supported by Metals NZ), on areas of common interest which include fair and free trade, non-conforming products, government procurement and sustainability.



The Sustainable Steel Council (SSC) was reconstituted by Metals NZ, HERA, SCNZ, NZMRM, NZSSDA, NASH, New Zealand Steel, Fletcher Steel and Steel and Tube in 2018. Members of the Sustainable Steel Council are committed to a vision where steel is valued as a critical enabler in New Zealand's journey to a low emission economy. The vision is achieved by a financially sound industry taking leadership in delivering to the living standards framework, measured across human, social, natural and financial / infrastructure capitals.