



pure kiwi mettle

NEW ZEALAND'S ALUMINIUM SMELTER

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Submission on: *Reforming the New Zealand Emissions Trading Scheme: Proposed settings*

New Zealand Aluminium Smelters Limited ('NZAS') is pleased to have the opportunity to provide a submission in response to the consultation document '*Reforming the New Zealand Emissions Trading Scheme: Proposed Settings*' (the 'NZ ETS Settings Consultation'). Nothing in this submission is confidential.

NZAS is the operating company for the aluminium smelter at Tiwai Point in Invercargill which is managed by Rio Tinto (79.36% ownership) in joint venture with Sumitomo Chemical Company, Limited, a Japanese company. The Tiwai Point smelter is a world-class facility which contributes around half a billion dollars to the Southland economy annually (6.5% of Southland's GDP¹) and supports more than 2,600 direct and indirect jobs in the region. In 2019 NZAS made NZ\$422 million in payments to New Zealand suppliers, including NZ\$58 million to suppliers in Southland. NZAS is the only smelter in the world producing ultra-high purity aluminium using hydro-electricity generated from renewable sources, giving it one of the lowest carbon footprints of a smelter anywhere.

NZAS is the largest single user of electricity in New Zealand and as the chemistry of the process for smelting aluminium unavoidably produces CO₂, climate and energy policy are vitally important to NZAS and its future. Rio Tinto, NZAS's majority owner, is currently undertaking a strategic review of its interests in NZAS, which pays one of the highest delivered electricity prices, outside of China. It is because of this very high electricity and transmission cost that means aluminium production at NZAS is not internationally commercially competitive for its owners. We remain hopeful that a solution in Rio Tinto's strategic review can be found to secure NZAS' future as a vital contributor to the New Zealand economy and an emissions-intensive trade-exposed (EITE) business with a demonstrated commitment to emissions reduction.

NZAS supports action by the New Zealand Government to ensure that New Zealand delivers on the international commitments made under the Paris Agreement. In providing our comments on the NZ ETS Settings Consultation we are seeking to ensure that proper attention is paid to the workability of the detailed design of New Zealand's climate policy. In particular, to ensuring that EITE industries continue to be supported in New Zealand by climate policy that recognises the real risk of emissions leakage where the timing and scale of transition is not properly married with comparable international carbon action in those industries.

¹ Venture Southland: The economic and social impacts of NZAS on the Southland Economy summary, 2019

Aluminium will continue to have a significant role in a carbon-constrained world. It is light, strong, flexible, non-corrosive and endlessly recyclable. Recycling aluminium uses only five per cent of the energy needed to produce primary metal. Its use in lightweight vehicles means it is the fastest growing material used in the automotive sector. The use of one kilogram of aluminium to replace heavier materials in a car or light truck can save a net 20 kilograms of CO₂ over the life of the vehicle.

NZAS has taken every opportunity to reduce emissions where it is commercially sustainable, reducing on-site emissions by 55% from ~4.5 tCO₂-e/t Aluminium to ~2 tCO₂-e/t Aluminium since 1990. Currently the only process for economically producing aluminium on an industrial scale, the Hall-Héroult electrolysis process, releases CO₂ because of the inherent nature of the chemical reaction taking place. Rio Tinto, Alcoa, Apple and the Government of Quebec have recently announced a joint venture called “Elysis”² supported by the Government of Canada which looks to scale up and demonstrate the economic viability of an alternative process for making aluminium that does not release CO₂ as part of the underlying chemical reaction. The joint venture is targeting the middle of this decade to demonstrate this process at an industrial scale. The applicability and economic viability of retrofitting this, as yet undeveloped, process to NZAS (or to any other site) is at this stage unknown. As with any major capital investment at an aluminium smelter, the possibility of retrofitting the process will depend on the ability of NZAS to secure an internationally competitive electricity price for the long term.

It should also be noted that this process is potentially significant only where the emissions of a smelter's electricity supply are low. Powered by renewable hydro-electricity, NZAS has one of the lowest carbon footprints of a smelter in the world, emitting around 15 tonnes less of CO₂-e per tonne of aluminium produced than its coal-fired competitors. NZAS is now one of a small number of smelters which has its metal certified by the Aluminium Stewardship Initiative and marketed by Rio Tinto under its ‘RenewAl’ Brand³. This certifies the aluminium is made from traceable raw materials and is produced with electricity from low carbon sources, using world class smelting processes. Despite NZAS being by far the largest consumer of electricity in New Zealand, using up to 12% of total generation, aluminium production contributed only 0.7% of national emissions in 2015⁴. In addition, NZAS is now certified by the Aluminium Stewardship Initiative (ASI). ASI certification means customers can be assured that the aluminium they purchase has been produced to the highest environmental, social and governance standards, ranging from greenhouse gas emissions to human rights.

In considering climate policy measures, Rio Tinto adheres to the framework set out in its Climate Change Position Statement⁵.

The focus of our response to the NZ ETS Settings Consultation is on how to maintain the competitiveness of New Zealand industry, as one of the engines of the New Zealand economy, during the transition to a low emissions future.

The NZ ETS Settings Consultation is about the regulatory set-points for a series of significant changes to the NZ ETS including the introduction of auctioning, the introduction of a price floor, changes to the fixed price cap followed by its removal and replacement with an auction containment cost reserve.

² <https://elysistechnologies.com/en>

³ For further information, refer to: <http://www.riotinto.com/aluminium/renewal-low-co2-aluminium-20272.aspx>

⁴ New Zealand Productivity Commission. (2018). Low-emissions economy: Draft report. Available from www.productivity.govt.nz/inquiry-content/low-emissions-draft-report_p30 (Figure 2.6)

⁵ http://www.riotinto.com/documents/RT_Climate_change_position_statement.pdf

Based on some modelled outcomes, the NZ ETS Settings Consultation proposes regulatory settings for each of these parameters.

Unlike commodity markets which sell a physical product, the product sold in an emissions trading scheme is created by regulatory settings and the market outcomes are dictated by those regulatory settings. The price of NZUs in the NZ ETS is therefore an outcome of two main drivers – the underlying current and anticipated future cost of abatement in the New Zealand Economy and the anticipation by market participants of the effect of current and future regulatory changes on the NZ ETS operation. This anticipation of regulatory changes will be in respect of both well signalled scheme design changes (such as those canvassed in the NZ ETS Settings Consultation) and perceptions about what additional changes the Government may make.

When regulatory change rather than abatement cost is the more important of these two drivers, then the market price and transaction volume becomes quite divorced from the underlying cost of abatement in the covered sectors of the economy. This is demonstrated by the periods of volatility in the historical market price for NZU's, along with the extreme fluctuations in price in other emissions trading schemes such as the EU ETS. Instead market price and transaction volume become about the quality of the tuning of regulatory set-points and the anticipation of further tuning to those set-points.

In a period where significant new elements of a scheme are being implemented such as those set out in NZ ETS Settings Consultation and further where the Government is currently signalling that there may be other further changes, the NZU market price will be determined by those expectations of regulatory change rather than the underlying cost of abatement in the economy.

NZAS does not have a particular view on what the exact values of the proposed settings being consulted on in the NZ ETS Settings Consultation should be but instead has two recommendations:

- 1) That there be a recognition that the modelling that forms the basis for the proposed regulatory settings will almost certainly prove to be inadequate in predicting the untested response of multiple parameters changing at the same time in the NZ ETS scheme design. The combination of settings proposed rely heavily on the modelling being correct – if it is not then this combination of settings proposed does not allow room to move and will likely be problematic. Accordingly the Government should adopt a staged and flexible near term approach to implementation starting carefully with scheme settings and with an intention to understand the dynamics of the significant changes to scheme design. There should also be a recognition that in the near term the market will be responding primarily to the regulatory context and that price outcomes will not be reflective of the underlying cost of abatement in the New Zealand economy until there have been several years of scheme stability and there is future scheme stability anticipated by market participants.
- 2) That the New Zealand Government clearly signal that there will not be further NZ ETS changes beyond those already legislated and considered for regulation in the NZ ETS Settings Consultation until the new structure has stabilised. Constant market anticipation of future change clouds the abatement cost signal that might properly be expected from an ETS. Commentary by the Climate Change Minister or senior ministers within Government on expected or desired NZU price or other market outcomes, extensive canvassing of alternative approaches to EITE allocation and the treatment of the Electricity Allocation Factor all act to

For the future commercial viability of New Zealand industry it is critical to have a workable ETS that does not undermine competitiveness for trade exposed industries during transition to a low-carbon economy. Decisions regarding climate policy will be most effective when government, community and industry work together. New Zealand now has the opportunity to demonstrate to the world the ability for these groups to act collaboratively applying both policy and technical innovation to do so in a way which transitions not just the economy broadly but the EITE components of the economy in industry and agriculture to a low emissions future. The impact of transition and moving too early in a manner that reduces the competitiveness of EITE industries is a challenge that New Zealand will need to successfully meet if we aspire to international leadership. Reducing domestic emissions by forcing the relocation of entire sectors of the economy offshore will be damaging to New Zealand and will not reduce global emissions. In fact, given New Zealand's high percentage of renewable electricity generation relocation of industry offshore will increase total global emissions, be economically devastating to New Zealand's regional economies, and be unconvincing as a model of leadership to the international community. It is imperative therefore to get the design of the NZ ETS Settings Consultation right as this provides the framework for how EITE activities are managed as part of New Zealand climate policy.

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