MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

EVENT BRIEFING

Meeting with NZ Steel

Date:	14 July 2022	**Priority:**	High
Security classification:	In Confidence	**Tracking number:**	2223-0157

Action sought		
	Action sought	**Deadline**
Hon Dr Megan Woods **Minister of Energy and Resources**	**Note** the background information and suggested talking points ahead of your meeting with NZ Steel on Tuesday 19 July from 2.30 – 3.00 pm.	19 July 2022

Contact for telephone discussion (if required)			
Name	**Position**	**Telephone**	**1st contact**
Osmond Borthwick	Manager, Energy Markets Policy	Privacy of natural persons	✓
Grace Skene	Policy Advisor, Energy Markets Policy	Privacy of natural persons	

The following departments/agencies have been consulted
Energy Efficiency and Conservation Authority, MBIE International Science Partnerships

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

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Meeting with NZ Steel

Date:	14 July 2022	**Priority:**	High
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Purpose

You have agreed to meet with Robin Davies, the new Chief Executive New Zealand & Pacific of NZ Steel.

The purpose of the meeting is to introduce you to Robin Davies, and to discuss options for NZ Steel producing low carbon steel, the importance of access to reliable firmed renewable energy for this to occur, and how this is progressing.

Robin Davies will also seek to discuss how the Government and NZ Steel could work together on these matters.

Recommendations

The Ministry of Business, Innovation and Employment recommends that you:

a **Note** the background information and suggested talking points ahead of your meeting with NZ Steel on Tuesday 19 July from 2.30 – 3.00 pm

Noted

Privacy of natural persons

Osmond Borthwick
Manager, Energy Markets Policy
Buildings, Resources and Markets MBIE

14 / 07 / 2022

Hon Dr Megan Woods
Minister of Energy and Resources

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Background

New Zealand Steel

1. NZ Steel is the owner of the Glenbrook Steel Mill and is the only fully integrated steel producer in New Zealand. It uses locally sourced iron sand and coal to manufacture about 650,000 tonnes of steel slab and billet a year. It produces a range of flat and long steel products for domestic and export use, and supplies all major markets including construction, manufacturing, infrastructure, packaging, and agriculture. The mill employs 1,150 full-time staff.
2. NZ Steel is the only large steel plant in New Zealand. NZ Steel's plant is bespoke, using iron sands to produce steel. This is a unique process and would require a bespoke solution to decarbonise.

NZ Steel has previously expressed interest in collaborating on a strategy for hard-to-abate industries

3. You last met with NZ Steel on Tuesday 7 December 2021 alongside Minister for Climate Change, Hon James Shaw [briefing 2122-1294 refers]. At this meeting, NZ Steel expressed a desire to collaborate with the Government to co-create a strategy for hard-to-abate industries.
4. Officials noted at the time that that an approach for addressing issues relating to hard-to-abate industries should be aligned with and build on approaches to other related Climate Change Commission strategic recommendations, including developing:
    a. An action plan for decarbonising industry
    b. An energy strategy
    c. An equitable transitions strategy
5. The emissions reduction plan (ERP) includes an initiative to develop a strategic approach for addressing emissions from single-firm industries with emissions that are hard to reduce or remove, as outlined below. The ERP notes that this will consider how to support innovation and the role that these industries play in Aotearoa's economic resilience and in the economic and social wellbeing of our regions. Development of an approach is not scheduled to begin until late 2023.
6. In December, officials noted that relevant Ministers could meet to discuss the Government's view on single firm industries with emissions that are hard-to-abate and to determine next steps for required work programmes, the relationship of these with existing work programmes, and resourcing in this area, once work on other strategies has progressed.

The focus of your upcoming meeting is the opportunity to produce low carbon steel

7. We understand that the focus of your upcoming meeting is to discuss options for NZ Steel producing low carbon steel.
8. NZ Steel met with Hon David Parker and Hon James Shaw in May to discuss the strategic importance of a domestic steel industry and options to work with the Government on its decarbonisation pathway. NZ Steel note that this was a discussion on the "hypothetical but credible" options for New Zealand to produce low carbon steel through greater consumption of scrap.
9. NZ Steel wishes to update you on this potential project and to highlight the importance of access to reliable firmed renewable energy to enable this to occur.
10. Robin Davies may also ask for your view on how the Government and NZ Steel could work together on this issue.

NZ Steel's decarbonisation pathway

11. NZ Steel has developed a specific 'Decarbonisation Pathway for New Zealand Steelmaking', to set out the scale of potential emission reductions that are feasible within its business over the first three emissions budgets and out until 2050. This is outlined in NZ Steel's submission on the ERP discussion document. NZ Steel considers that:

    a. material emissions reductions can occur between now and 2030, with the right mix of stable and secure climate and energy policy; and

    b. remaining emissions reductions to enable low to zero emissions steel can be achieved via three potential pathways, which involve the scaled deployment of:

        i. breakthrough technologies such as green hydrogen steelmaking that are currently being researched and developed and which they anticipate being available in the 4th and/or 5th emissions budgets;

        ii. secondary steel making, i.e., the melting of scrap steel as the primary raw material via an electric arc furnace supported through electricity generated via renewable energy; or

        iii. a mix of primary and secondary steelmaking utilising i and ii.

12. NZ Steel is undertaking work to implement this pathway, and since 2018 has achieved cumulative emissions reductions of approximately 5 per cent.

13. NZ Steel has also engaged and participated in research on opportunities for New Zealand to use renewable hydrogen as an energy and feedstock for steel production. However, this is still in an early phase and will potentially be very expensive to implement, with major capital and operational investment required.

Comment on green hydrogen Confidential advice to Government

14. In 2019, Dr Chris Bumby of the Robinson Research Institute received a $6.5 million Endeavour research grant to explore manufacturing steel in New Zealand using hydrogen, as a low emissions process.

15. You met with Dr Peter Crabtree and Dr Chris Bumby from the Robinson Research Institute on Tuesday 21 June 2022 [briefing 2122-4157 refers]. This meeting outlined a proposal to take the prototype Robinson Institute steel making process using NZ iron sands to the next stage of a pre-commercial scale project.

16. Confidential advice to Government

17. Confidential advice to Government

18. We note that NZ Steel is supporting the Robinson Research Institute project development – providing $750k over 3 years.

On your recent trip to Europe, you saw first-hand how international efforts to decarbonise steel are progressing

19. In Stockholm you visited H2 Green Steel, which is aiming to build the world's first large-scale green steel plant [Briefing 2122-4520 refers]. It aims to have production up and running as early as 2024.

20. This demonstrates how key comparator nations are investing heavily in hydrogen steelmaking from their own indigenous ores, as they attempt to drive down their emissions.

21. There is an opportunity for New Zealand to leverage its potential for renewable hydrogen production and take a world-leading position in the production of both green steel and green vanadium, a by-product of producing steel from New Zealand iron sands, which can be used in battery storage technology.

You may wish to say to NZ Steel:

- *I have recently returned from Stockholm where I visited H2 Green Steel, which aims to build the world's first large-scale green steel plant by 2024. I recognise that New Zealand faces unique challenges associated with its indigenous iron sands that means we cannot just adopt technology from overseas.*
- *I have also recently been briefed by the Robinson Research Institute on their project exploring manufacturing steel in New Zealand using green hydrogen and its potential viability.*
- *What is NZ Steel's view of the project and your reasons for supporting it?*
- *Is the Robinson Research Institute project the primary, or only project, that NZ Steel views as an avenue through which it could produce green steel or are there other options NZ Steel is investigating?*
- *If Robinson is successful in their approach to producing green steel in NZ, I understand access to hydrogen will be a major input. Is NZ Steel looking ahead to where this might be sourced from?*

Comment on secondary steel making through use of scrap steel

22. Secondary steel making relates to the melting of scrap steel as the primary raw material via an electric arc furnace.

23. Robin has indicated previously that he would like to discuss retaining a domestic steel industry in a net-zero carbon emissions economy, focusing on decarbonisation pathways. This may include infrastructure options, such as an electric arc furnace, which would contribute to decarbonisation as well as enabling increased onshore processing of recovered steel.

24. NZ Steel may brief you on opportunities for steel's infinite recyclability and talk through detailed options. NZ Steel will likely discuss the capacity to process scrap steel domestically, potential emissions abatement, lead times and investment required.

25. NZ Steel may wish to discuss the provision of reliable firmed renewable energy for the purpose of achieving this decarbonisation pathway. NZ Steel may be interested in the recently announced Budget funding for work on electricity market measures.

You may wish to say to NZ Steel:

- *I was interested to read in your letter about your discussions on the hypothetical, yet credible, options for New Zealand to produce low carbon steel through greater consumption of scrap steel. Could you elaborate on what is needed for this to occur?*
- *At present you are investigating both hydrogen-produced steel and secondary steel making, how do you see these two options interacting over the longer term?*
- *Funding was announced in Budget 2022 for work to investigate whether electricity market measures and policies are needed to support affordable and reliable electricity supply while accelerating the transition to a highly renewable electricity system.*
- *This work is in early stages. It will investigate the need to consider measures to help facilitate build of new renewable generation at a sufficient rate, while maintaining existing thermal generation in the market long enough to ensure security of supply until it can be replaced by firm renewable generation options and/or storage.*

Options for further engagement between Government and NZ Steel

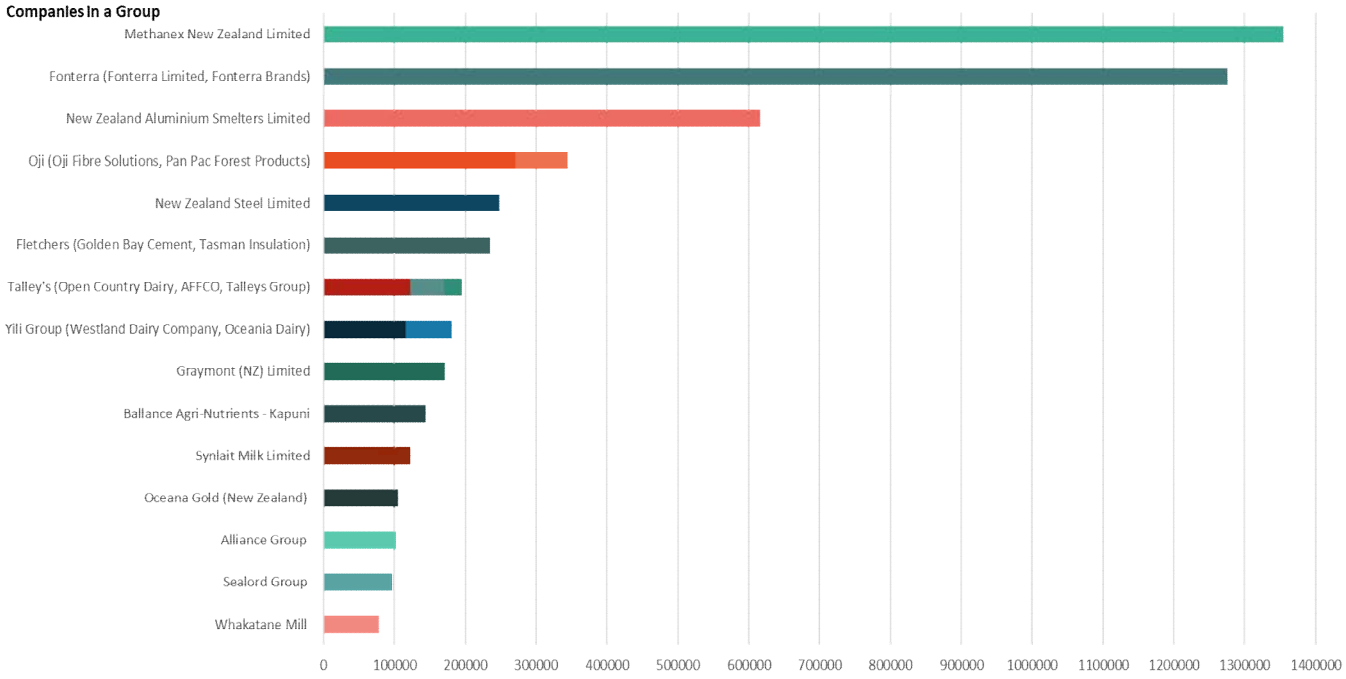
26. We understand that NZ Steel may seek to discuss opportunities for Government and NZ Steel to work together on NZ Steel's decarbonisation journey.

GIDI 2.0

27. As part of the expanded GIDI fund, EECA has been undertaking work on how to engage with 'very large emitting businesses', which includes NZ Steel.

28. The 'Top 15' emitters (through stationary energy use) (by company group) are organisations with annual emissions of >78,000 t CO2e, including any subsidiaries. These businesses are unlikely to achieve enough emissions reductions to ensure New Zealand meets our emissions budgets without specific, targeted support at a corporate level.

Figure 1: EECA 'Top 15' emitters (aggregated by Group) (tCO2-e, 2020 or latest)



29. As the Top 15 emitting businesses (or thereabouts) in NZ make up annual emissions of over 5Mt CO2e, EECA is considering a long(er) term partnership approach to support selected businesses in their decarbonisation journey.

30. EECA is currently reviewing its understanding of these organisations. As part of this review, EECA will evaluate the decarbonisation maturity and level of opportunity for each of the emitters and identify potential partnership engagement models. A partnership would likely involve working directly with organisations on a long-term decarbonisation pathway for the entire organisation (rather than at a site level). We anticipate that partnerships would initially focus on trusted information sharing to identify opportunities for areas in which government support could help accelerate an organisation's decarbonisation journey.

31. We will provide you further advice on options for partnering with the Top 15 in early 2023 at the latest. In the meantime, we will consider any applications for discrete projects through the contestable funding rounds.

32. Commercial Information

You may wish to say to NZ Steel:

- *I recognise that NZ Steel is the only large steel plant in New Zealand, providing an asset for the country. I also recognise that its unique process would require a bespoke solution to decarbonise*.
- *My officials are currently working on programme design for the expanded Government Investment in Decarbonising Industry Fund. I would encourage you to consider discussing your priorities and interest in collaboration with my officials at the Energy Efficiency and Conservation Authority.*

The Emissions Reduction Plan includes an action to develop a strategic approach or framework for single firm industries with emissions that are 'hard to abate'

33. Developing this strategic framework will involve consideration of how to support innovation and the role these industries play in New Zealand's economic resilience, and in the economic and social wellbeing of our regions. The Minister for Economic and Regional Development will lead development of a framework, in consultation with the Minister of Energy and Resources, the Minister of Research, Science and Innovation, the Minister of Climate Change, and other Ministers as appropriate, with work due to begin in September 2023 [DEV-22-MIN-044 refers].
34. Several of the Top 15 emitters (including New Zealand's Aluminium Smelter, Methanex, New Zealand Steel and Golden Bay Cement) are likely to be involved in developing the framework.
35. At your previous meeting, NZ Steel sought to work with Government to co-create a strategy for hard-to-abate industries, in line with the recommendation of the Commission.
36. NZ Steel highlighted the importance of developing a hard-to-abate sector strategy that supports investment in emissions reductions in the steel sector. This would be achieved via continued ETS industrial allocation appropriate to the sector and transparent and well-signalled ETS emissions pricing.
37. The Cabinet paper on energy and industry content for the ERP highlighted that a broad range of issues needs to be considered in developing an approach to address challenges for decarbonising hard-to-abate industries. Any such approach will need to consider the potential strategic role of firms in facilitating Aotearoa's wellbeing, including supporting resource needs, economic and regional development, and employment. The potential strategic role of firms will need to be weighed up against considerations such as:
    a. the role of industrial allocation policy and costs to the economy and society if the firm does not face the full costs of its emissions due to industrial allocation (having regard to the risks of carbon leakage)
    b. the potential for a successful transition, including:
        i. the cost, likelihood and timeframe for innovation and/or the uptake of new technology that reduces emissions
        ii. understanding, and the ability to mitigate, the potential impacts on workers, regions, communities, iwi/Māori, and other population groups.
38. In addition to the types of considerations above, such an approach will need to consider connections with the strategies outlined above (action plan for decarbonising industry, energy strategy, equitable transitions strategy) as well as with the Government's economic strategy approaches and policy areas such as industry transformation plans, national infrastructure plans and innovation policy. The timeframe in the ERP (starting development in late 2023) reflects the inter-relationships with planned and existing initiatives as above.

In the meantime, you might like to reiterate to NZ Steel:

- *The Government recognises engagement with hard-to-abate businesses, workers, and other key stakeholders will be a critical component of addressing issues relating to hard-to-abate industries when this work begins in late 2023.*
- *Given the range and bespoke nature of these businesses in the New Zealand economy, a key focus will be on collaboration, practical solutions and understanding what resilience in strategic assets looks like.*

Risks and mitigations

39. We have not identified any risks associated with this meeting.

Annexes

Annex One: Biography of attendees

Annex Two: Suggested talking points

Annex Three: NZ Steel letter to Hon Dr Megan Woods, May 2022

Annex One: Biography of attendees

Robin Davies, Chief Executive New Zealand & Pacific, NZ Steel

Robin has a depth of international and operational experience, having worked for Tata Steel Europe prior to joining BlueScope in 2008. He held a number of roles in New Zealand before moving to Ohio in 2017 as President North Star BlueScope Steel. Returning to New Zealand in 2020, Robin took up the role of General Manager Sales & Marketing NZPI / General Manager Pacific Steel, and since February 2021 has been Chief Operating Officer.

Annex Two: Suggested talking points

Comment on green hydrogen

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Annex Three: NZ Steel letter to Hon Dr Megan Woods, May 2022

26 May 2022

Hon Megan Woods
Energy and Resources Minister
Megan.woods@parliament.govt.nz

Dear Minister

Meeting request to discuss decarbonisation pathway

Congratulations on Budget 2022 and New Zealand's first Emissions Reduction Plan.

I note in particular the Emissions Reduction Plan has a strong focus on a joined-up approach between government and industry - this is an approach we support at New Zealand Steel.

My colleague Jason Dale and I had the opportunity to meet with Minister Parker and Minister Shaw earlier this month to discuss the strategic importance of a domestic steel industry and options to work with the Government on its decarbonisation pathway.

It was a constructive discussion on the hypothetical, but credible, options for New Zealand to make some of the lowest carbon steel in the world, through greater consumption of scrap.

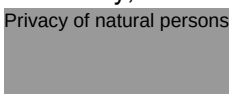
As you will appreciate, access to reliable firmed renewable energy is a key factor and as Energy and Resources Minister I consider it timely to meet so I can update you on these discussions and get your view on how we could work together.

This would also be a good opportunity to introduce myself formally as the new Chief Executive New Zealand & Pacific.

I look forward to your response and will follow up with your office in the next week to hopefully schedule a time for our meeting.

Please feel free to contact me if you have any questions or require further information.

Sincerely,



Robin Davies
Chief Executive New Zealand & Pacific Islands