MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

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Some information has been withheld for the reasons of commercial information; confidential advice to Government, free and frank opinion, legal professional privilege, negotiations.

Commercial In confidence

Office of the Minister of Energy and Resources

Office of the Minister of Climate Change

Cabinet Economic Development Committee

Engagement with very large emitters: investment package for significant decarbonisation proposal

Proposal

1 This paper seeks agreement for the Crown to provide up to NZD $140 million as a grant via the Government Investment in Decarbonising Industry Fund to NZ Steel for the purchase and installation of an Electric Arc Furnace at its Glenbrook Steel Mill.

2 This project would result in significant emissions reductions of an initial 800,000 tonnes of CO2e per annum after becoming operational in 2027. It is expected to contribute to approximately 5.3 of the required emissions reductions within emission budget two (2026-2030) and approximately 3.4 per cent of the total required within emission budget three.

3 It is also expected to deliver approximately 13.4 per cent of the emissions reductions required from the Energy & Industry sector in emission budget two and approximately 11.4 per cent in emissions budget three.[1]

Relation to government priorities

4 New Zealand legislation sets a domestic target for Aotearoa to reduce greenhouse gas (GHG) emissions (except for biogenic methane) to net zero by 2050.

5 Accelerating decarbonisation of industry and heat through expansion of the Government Investment in Decarbonising Industry Fund (GIDI) is a key deliverable in the government's first emission reduction plan (ERP).

6 This proposal relates to two areas of cooperation between the Labour and Green Parties, supporting the use of renewable energy for industrial heat and taking action to minimise waste.

Executive Summary

7 Reducing emissions from industry is essential to meet the Government's net zero 2050 targets, and to transition New Zealand to a high-wage, low-emissions economy.

8 Government grants in support of decarbonisation projects can address barriers and create a tipping point for immediate action, bringing forward emissions savings in line

[1] These percentages are calculated using the central points of abatement estimates, included in the Emissions Reduction Plan, based on ERP policies at the release of the ERP.

with the emissions budgets. Without Government co-funding, many decarbonisation projects would present too high an upfront cost to a business with too low a corresponding return to be prioritised or proceed at all.

9 The GIDI is the key mechanism through which the Government partners with businesses to provide this co-funding.

10 NZ Steel has approached government officials seeking support for a substantial decarbonisation project via the installation of an Electric Arc Furnace (EAF) to process scrap steel at the Glenbrook Steel Mill. It is requesting a government contribution of NZD Commercial Information associated with the procurement and installation of an EAF.

11 NZ Steel would initially operate the EAF under a hybrid model where a combination of recycled scrap steel and molten iron produced using the existing process is used as the input feed. This hybrid model is forecast to reduce NZ Steel's annual emissions by 800,000 tonnes of carbon dioxide equivalent (CO2e) per year relative to current levels from 2027. This is the equivalent of keeping around 300,000 cars off the road each year.

12 If (as planned) NZ Steel subsequently was able to transition to 100% steel production from scrap processing through the EAF, then a further reduction in emissions of 900,000 tonnes of CO2e per annum would be achieved.

13 Due diligence on the request has confirmed the case for government support and identified that a funding range Confidential advice to Government will likely be needed to advance the deal and provides good public value for money based on the expected emissions reductions.

14 At Confidential advice to Government $140 million, the project is forecast to have a marginal abatement cost (MAC) of $16.20 to 31 December 2046 (based on a 20-year asset life). This compares favourably to the MACs of other GIDI-funded projects. These have steadily increased over time (as 'low-hanging fruit' projects are completed) from $12.29 in the first round of GIDI contestable funding to $33.39 in the most recent round. It also compares favourably to the possible cost of offshore mitigation, of $78 to $136 per tonne[2] to meet our first Nationally Determined Contribution.

15 In addition to emission reductions, NZ Steel's installation of an EAF would have other economic, environmental and resilience benefits to New Zealand, including:

15.1 Continuation of employment for New Zealanders
15.2 Greater economic activity than under a potential import model
15.3 Greater supply chain resilience relative to a potential import model
15.4 Avoidance of emissions leakage
15.5 Energy grid resilience
15.6 Support waste minimisation and circular economy objectives.

16 Moreover, if NZ Steel does not install an EAF the Crown will need to allocate a significant number of units (NZUs) to NZ Steel (through industrial allocation under the New Zealand Emissions Trading Scheme) while it continues its current

[2] This estimate is based on the possible cost of purchasing units through linking to the EU Emissions Trading Scheme.

operations, valued at approximately $56m annually at current emissions prices of approximately $70/NZU[3]. This means a Crown contribution of $140m to an EAF is less than the value of three years' units that would be allocated under the status quo.[4]

17 We propose the Government progress with negotiating a co-funding agreement through the Government Investment in Decarbonising Industry Fund with NZ Steel, to a value of between NZD Confidential advice to Government

18 The Funding Agreement will include clawbacks for the Government for under delivery of carbon abated and other appropriate safeguards on expected emissions reductions delivered as well as various off ramps for NZ Steel should major issues with the EAF arise.

19 Providing a grant contribution at this scale has some associated risks, which include but are not limited to:

19.1 Precedent setting for future GIDI projects
19.2 Failure to reach agreement with NZ Steel resulting in failure of the EAF proposal
19.3 Free and frank opinions
19.4 Potential project failure, including failure by NZ Steel to access sufficient scrap steel
19.5 Legal professional privilege

20 We are also proposing Cabinet note a proposed account management process for very large emitters including those receiving industrial allocation (where such an approach is required) seeking support for large decarbonisation projects under the GIDI Fund.

21 This will ensure coordination is enabled across different government departments and relevant policy levers as more projects of this nature arise in future.

Background

22 Reducing emissions from industry is essential to meet the Government's net zero 2050 targets, and transition New Zealand to a high-wage, low-emissions economy.

23 There is a rationale for Government to provide grants in support of decarbonisation projects in order to address barriers and accelerate emissions reductions in line with the emissions budgets. Without Government co-funding, many decarbonisation projects would present too high an upfront cost to a business with too low a corresponding return to be prioritised or proceed at all.

24 In recognition of the important role of Government partnership with industry on decarbonisation projects, expanded funding of around $650 million from the Climate Emergency Response Fund (CERF) was allocated through Budget 2022 to the

[3] This is based on both provisional historical data and forecasts provided by NZ Steel. In 2027 it is estimated the reduction in allocations between its current operation and the EAF operation is 800,000 units. This amount decreases in future years due to the phase-out of industrial allocation.
[4] We note that while NZUs allocated to NZ Steel represent a non-cash cost to the Crown, the cost of grant funding allocated through the GIDI Fund is has a cash impact.

existing GIDI fund. This sees the Government partner with businesses to improve energy efficiency and switch from fossil fuels to low-emissions renewable alternatives.

25 To date, GIDI has supported around 70 projects, which will result in a projected reduction of CO2 emitted of 390,000 tonnes per annum.

26 The principle of additionality is an important criterion for GIDI-supported projects. Projects will only be funded if they are unlikely to be implemented, or unlikely to be implemented until a much later date, without government support.

27 Most businesses have competing demands on their resources (including capital, expertise, and attention). The projects funded under GIDI would not have made it to the top of the firms' priority list without co-funding. As such, government investment has helped to get projects across the line, and happening faster, than they otherwise would have, unlocking larger and earlier emissions reductions for Aotearoa.

28 The expanded GIDI fund now allows for a broader range of investments, including support for partnerships on large projects of national significance.

29 Delivering on our emissions budgets requires us to act with urgency. Acting now is critical to help mitigate the global and local effects of climate change. Government support for decarbonisation investment is in recognition of the public good that all New Zealanders benefit from as our emissions are reduced and our international obligations are met. It also reflects that the welfare of our environment affects us all and is a critical consideration for both present and future generations.

We have an opportunity to enable a substantial decarbonisation project at the Glenbrook Steel Mill, operated by NZ Steel

30 New Zealand Steel Limited (NZ Steel) is currently New Zealand's only domestic steel producer. It is a subsidiary of the BlueScope group, an ASX listed company. The business has operated from a fully integrated steel mill in Glenbrook, South Auckland for over 50 years.

31 NZ Steel produces approximately 660,000 tonnes of steel each year and supplies approximately 70% of New Zealand's domestic steel consumption. It provides a range of hot rolled, plate, coated and pre-painted steel products which serve several sectors including the construction, manufacturing, infrastructure and agriculture industries.

32 NZ Steel currently manufactures steel through a globally unique process by deriving molten iron from iron sand and coal using a series of multi-hearth furnaces, kilns and melters. The molten iron, with added scrap steel, (from NZ Steel's own processes), is then fed into an oxygen furnace to produce steel.

33 This production process is an inherently emissions intensive activity, primarily due to the consumption of coal to produce molten iron. The current annual emissions (from all sources) of NZ Steel are approximately 2.2 million tonnes of CO_2e. This equates to approximately 2.7% of New Zealand's gross national emissions annually.

34 In response to the Government's increasing commitment to net zero emissions by 2050, NZ Steel has undertaken a strategic review with the objective of decarbonising operations while maintaining underlying commercial performance. It has developed two decarbonisation pathways in addition to a 'base case (do minimum)' option, which assumes that NZ Steel continues under its current operating model, implementing smaller projects to bring down its carbon emissions over time.

35 NZ Steel is planning to implement a series of incremental improvements that are targeted at reducing emissions by 1% per annum from 2018 – 2030. This is in response to the emissions price and sinking lid on industrial allocations under current New Zealand Emissions Trading Scheme (NZ ETS) settings. However, there are limits to the carbon reduction that NZ Steel can achieve within its current production process.

NZ Steel is considering installing an Electric Arc Furnace (EAF) to partially, and potentially fully, replace its existing oxygen steelmaking furnace

36 An EAF produces steel by generating heat through an electric current to melt scrap steel, alongside an iron source, to produce molten steel. Being powered by electricity, it substantially reduces the amount of coal used in the steelmaking process.

37 NZ Steel would initially operate the EAF under a hybrid model where a combination of recycled scrap steel and molten iron produced using the existing process is used as the input feed. This hybrid model is referred to as the '50/50 EAF' scenario. Use of an EAF would enable NZ Steel to continue to supply the full range of steel products.

38 NZ Steel estimates installation and full commissioning of the EAF would take three years from the time the project is approved. Therefore, on current timelines, production through the EAF under the hybrid 50/50 scenario would begin at the end of 2026, with full benefits arising at the beginning of 2027.

39 NZ Steel forecasts that, operating under this 50/50 EAF Scenario, it would be able to reduce its annual emissions by 800,000 tonnes of carbon dioxide equivalent (CO_2e) relative to current levels. The key driver in these emissions savings is the reduction in use of coal.

40 NZ Steel expects to be able to increase the portion of recycled scrap used as input feed over time, as additional scrap supply is secured, with a long-term target of reaching a 'full EAF' scenario. At this point the remaining iron plant would be shut down and input feed would consist of recycled scrap steel supplemented by imported pig iron.

41 If NZ Steel can achieve the full EAF scenario, then a further reduction in emissions would be achieved of 900,000 tonnes of CO_2e per annum. NZ Steel advises that no further material capital investment would be required to reach the full EAF scenario.

42 Commercial Information

Commercial Information

Commercial Information

43 Commercial Information

43.1 Commercial Information

43.2 Commercial Information

43.3 Commercial Information

44 Commercial Information

45 Commercial Information

46 Commercial Information

NZ Steel is seeking a government commitment to fund the Commercial Information

47 NZ Steel has indicated that BlueScope will decide whether to progress to a full feasibility study for investment in an electric arc furnace in March 2023. NZ Steel has

emphasised that a key factor in this decision will be the degree of progress in discussion with Government to confirm substantial financial support and relevant policy certainty.

48 NZ Steel has stated that without significant Government support, there is a real risk BlueScope may choose to terminate the project. Free and frank opinions

49 NZ Steel is requesting a government contribution valued at Commercial Information associated with the procurement and installation of an EAF.

50 It has proposed a combination, or sole use of, either grant funding through the GIDI Fund or bespoke treatment of its industrial allocation under the NZ ETS to create a comparative 'return on investment'.

51 Officials have conducted due diligence on NZ Steel's proposal and identified an option for a government contribution which:

51.1 would likely be sufficient to make the EAF investment the commercially preferred option for NZ Steel compared to alternatives, and

51.2 would represent good public value for money.

Officials have undertaken due diligence on the appropriate Crown contribution

KPMG has advised on a range, Commercial Information *that would likely make the project commercially preferred for NZ Steel*

52 EECA engaged KPMG to complete due diligence on the funding request received from NZ Steel. The analysis suggests that the level of financial support sufficient to make the EAF investment commercially preferred for NZ Steel sits between Negotiation. Importantly, this analysis is sensitive to a range of financial assumptions, which NZ Steel may assess differently.

Moreover, NZ Steel would benefit from the project and should have 'skin in the game' as per standard GIDI funding agreements

53 The appropriate Government contribution does not represent the full capital cost of an electric arc furnace on the basis that NZ Steel would also benefit from the investment, for example through improved social licence to operate, reduced exposure to NZ ETS liabilities and indirect emissions costs and competitive benefits of producing low-carbon domestic steel. This is in line with GIDI co-funding parameters.

54 Additionally, it is important that NZ Steel has a material level of 'skin in the game' so it is adequately incentivised to ensure the success of the investment. This will also ensure NZ Steel is incentivised to secure adequate scrap steel supply, particularly to enable it to move from a hybrid 50/50 EAF model to a full EAF model.

Officials advise a Crown contribution of Confidential advice to Government will likely be necessary to advance the deal, and provides good public value for money based on the expected emissions reductions

55 Based on negotiations to date with NZ Steel, officials have advised that a funding contribution between Negotiations/Confidential advice to Government is likely to be necessary to obtain BlueScope's agreement to proceed with the EAF. The relative risk of proceeding with an EAF versus alternatives (such as NZ Steel continuing to operate under a status quo model with higher emissions, possibly reducing by only 1% per year) means Negotiations

56 KPMG due diligence shows this funding level could justifiably be provided entirely through the GIDI Fund, provided suitable safeguards are in place for the achievement of the proposed emission benefits.

57 Confidential advice to Government ($140 million) equates to 21 per cent of the expanded GIDI fund to 30 June 2026.

58 Commercial Information

59 The co-funding ratio reflects the amount of private investment for every dollar of Government spend and aims to maximise the amount of private funding leveraged for decarbonisation projects. It also reflects that businesses need to contribute to the private good of decarbonisation, alongside government's investment in the public good.

60 Government GIDI contributions typically do not go much beyond 50 per cent of the capital costs of a decarbonisation project to ensure the other party, from the time funding is approved, is incentivised to take appropriate ownership of the project. Commercial Information

61 Commercial Information, as the emissions reductions the Crown would in effect be purchasing represent good value for money:

61.1 The emissions reductions from this single project are substantial and will be a major contributor to achieving the emission reduction contributions from the energy and industry sectors under the Government's Emissions Reduction Plan. Overall, the expected emissions reduction from the EAF project is equivalent to more than double all GIDI projects funded to date, combined.

61.2 At Confidential advice to Government NZD $140 million[5], the NZ Steel project is forecast to have a marginal abatement cost (MAC) of $16.20 to 31 December 2046 (based on a 20-year asset life).

[5] Commercial Information

61.3 Over time, the average MAC in each GIDI contestable funding round has steadily increased from $12.29 in Round 1, $18.65 in Round 2, $20.57 in Round 3 and $33.39 in Round 4. EECA anticipate that average abatement costs will continue to increase for future supported projects and rounds.

61.4 The lowest abatement cost projects to date have involved fuel switching to biomass, as frequently this allows existing coal boilers to be used and thereby dramatically reduces the project capital cost.

61.5 The most comparable project to the EAF (in terms of switching from coal to electricity as the renewable fuel) is the Mataura Valley Milk project. This will displace 22,381 tonnes of CO2 per annum with an abatement cost of $15.85, based on forecast project costs at the time of approval. The EAF marginal abatement cost is therefore well within the range of existing GIDI projects and presents good value for money for emissions abated.

The project would also bring additional environmental, economic, and resilience benefits to New Zealand…

62 The EAF pathway also offers good environmental benefits. We also expect that there are strong economic, and resilience co-benefits[6] to New Zealand, relative to the alternative option of NZ Steel choosing to maintain its current production method or transitioning to an import model:

62.1 Continuation of employment for New Zealanders Commercial Information

62.2 Greater economic activity than under a potential import model

62.3 Greater supply chain resilience relative to a potential import model

62.4 Avoidance of emissions leakage, if imported products were produced using coal-based blast furnace technology, or if the competing market did not have an emissions cap

62.5 Energy grid resilience – whereby the transition to EAF production introduces 'interruptible load' (through a Power Purchase Agreement) which can be turned off when the electricity system is under pressure and could support security of supply into the Auckland region[7]

[6] Commercial Information

[7] Note according to NZ Steel's business case, the EAF is not expected to increase New Zealand's electricity offtake. This is because the increase in electricity use for the EAF will be offset by the reduction in electricity use from the iron making process.

62.6 NZ Steel estimates at an initial level of Commercial Information, will be diverted from waste/export under an 50/50 EAF scenario, which would contribute to waste minimisation and circular economy objectives. This equates to approximately Commercial Information of New Zealand's scrap steel market.

63 Information about these potential benefits is currently imperfect. We propose directing MBIE and MfE officials to continue assessing the likely impacts as negotiations progress. We will incorporate those findings into our proposed report back to Cabinet.

…and benefits to the Crown associated with reducing current levels of industrial allocation to NZ Steel

64 The amount of NZ ETS industrial allocation[8] the Crown provides annually to NZ Steel would significantly reduce following implementation of an EAF. If NZ Steel does not install an EAF the value of the units the Crown will allocate to NZ Steel under the status quo is approximately $56m annually at current emissions prices.[9]

65 Reduced industrial allocation can be accounted for as either a fiscal benefit or emissions reduction, but not both. Nonetheless, a Crown contribution of $140 million to an EAF is less than the value of three years' units that would be allocated under the status quo.

66 Units available for industrial allocation, and via NZ ETS auctions make up the total number of units permitted under the NZ ETS cap[10]. The treatment of large reductions in future industrial allocation volumes is not fixed. Two possible options are:

66.1 the reduction in industrial allocation results in a corresponding increase to NZ ETS auction volumes. This would allow emissions to occur elsewhere in the economy and there would be no net benefit from the EAF project to achieving emissions budgets or domestic targets, however there would be a significant financial benefit to the Government from new cash revenue generated through auctions.

66.2 the reduction in industrial allocation is removed from the overall limit on NZ ETS units, resulting in no change to NZ ETS auction volumes. There would be no new cash generated from auction revenue, however the reduction in allocation would reduce the number of units available to the economy. This would support New Zealand's emissions budgets, and reduce the amount of offshore mitigation required to meet the NDC.[11]

[8] Industrial allocation is the provision of free emissions units to firms in eligible activities to reduce the cost impact of the NZ ETS and the competitive disadvantage caused by differing levels of climate policy between trading countries. It reduces the risk that production shifts offshore and the potential to increase global emissions.

[9] We note that while NZUs allocated to NZ Steel represent a non-cash cost to the Crown, the cost of grant funding allocated through the GIDI Fund is has a cash impact.

[10] The 'NZ ETS cap' is the overall limit on units able to be sold by auction and transferred as industrial allocation or via negotiated greenhouse agreements.

[11] The offshore mitigation needed to meet our first Nationally Determined Contribution (NDC1) under the Paris Agreement is estimated as 102 million tonnes of abatement (under the Climate Change Commission's demonstration pathway), at a total cost of $7.9 – 13.8 billion [CAB-21-MIN-0434 refers]. This amounts to a

67 NZ ETS settings are updated by Cabinet annually. Decisions on how this significant allocation reduction will impact the overall NZ ETS cap, or the units available for auction will be taken in future when the emissions reductions from the EAF are realised, and there is a corresponding decrease in NZ Steel's industrial allocation. Confidentia

Confidential advice to Government

Officials have explored NZ Steel's request for the Crown to create a bespoke overallocation via the emissions trading scheme, but this is not recommended

68 As part of NZ Steel's request for government funding, it proposed bespoke treatment of its NZ ETS industrial allocation could be a potential option to provide a return on its investment. This would be achieved by providing allocations as if it was continuing its current iron making process, and not the lower emitting EAF process.

69 Officials do not recommend pursing this option because:

69.1 Legal professional privilege

69.2 Free and frank opinions

69.3 Providing funding support for these investments is the purpose of GIDI.

69.4 Based on KPMG's assessment, Confidential advice to Gov million of GIDI funding is considered sufficient to support commerciality of the investment for NZ Steel, Negotiations/Confidential advice to government

69.5 Legal professional privilege

NZ Steel has also raised other policy support it would like the Government to consider

NZ Steel has sought a mechanism for ongoing dialogue with Government on regulatory matters which may prove to be significant for the overall EAF investment...

70 NZ Steel is seeking to establish a mechanism to maintain an ongoing dialogue with the government on any issues which arise during the course of the EAF project, which may have a material impact on the viability of its investment.

cost of abatement of $77.5 to $135.3 per tonne. The EAF's forecast abatement cost of $17.10 compared to the lower bound abatement cost to meet NDC1 ($77.5), or the current NZ ETS price of $70 makes this investment considerably attractive.

71 NZ Steel has flagged the following as examples of the type of regulatory matters which it may seek further engagement on:

71.1 the availability of scrap – although it expects to work within the existing domestic scrap steel market, NZ Steel's ability to procure sufficient scrap steel supply is key to delivering the EAF project and expected emissions reductions

71.2 ongoing access to domestic or imported coal for NZ Steel's remaining non-EAF production – noting that although an EAF will reduce its exposure to coal availability, it will still require secure supply, in particular through a transition window during the period to 2035

71.3 NZ ETS industrial allocation phase out rates and future updates to allocative baselines – particularly, assurance that the Crown will not "arbitrarily" accelerate the current phase down rates of NZU allocations for NZS or re-review allocation levels (allocation baseline or eligibility) for the remaining 50 per cent of production that utilises coal once those levels have been set

71.4 resource consents – including potentially referral of the project to fast-track consenting.

72 NZ Steel has proposed the establishment of a cross agency transition group of MfE, MBIE, EECA and NZ Steel to discuss ongoing key regulatory settings and other issues associated with NZ Steel's transition to EAF production.

...and technical changes to the industrial allocation system to recognise the new products associated with the EAF

73 NZ Steel is pursuing changes to industrial allocation policy to ensure it receives an accurate allocation for the emissions costs associated with the operation of the electric arc furnace.

74 The emissions costs related to this new process do not currently fit within any product definition within the activity 'Manufacture of iron and steel from iron sand' set in regulations. Therefore, if the EAF commences operation, its output would not be eligible to receive an allocation.

75 Legal professional privilege

76 The Climate Change Response (Late Payment Penalties and Industrial Allocation) Amendment Bill (the Bill)[12] is reforming elements of NZ ETS industrial allocation policy and is currently at Select Committee. We intend to consider the new EAF production process for eligibility alongside the Bill process, and any other changes

[12] Part of the Bill is amending technical industrial allocation settings in the CCRA to reduce the risk of over-allocation of units to allocation recipients (which currently costs the Crown approximately $60 million a year) and to improve alignment with Aotearoa New Zealand's national and global climate change commitments.

needed to legislation to allow the EAF to receive an allocation once the Bill has passed.

77 Negotiations However new regulations cannot be made to include new EAF products without the passing of the Bill (including the addition of new provisions) and this is not expected until the middle of this year.

78 Negotiations/Commercially sensitive

We propose providing funding between Confidential advice to Government million, and committing to work with NZ Steel on its additional requests for policy support

79 Considering the above analysis, we propose the Government progress with negotiating a co-funding agreement through the Government Investment in Decarbonising Industry Fund with NZ Steel, to a value of between NZD Confidential ad million.

80 Confidential advice to Governr million is Commercial Information co-funding approach used in other GIDI fund projects. However, in carrying out negotiations the 50% co-funding approach is used as a reference point in considering NZ Steel's proposal.

81 A portion of this funding would be tied to the speed of project commissioning (i.e., by 1 January 2027) and it is also proposed part of the support be allocated as an incentive to provide additional abatement benefit by 31 December 2030, being the date New Zealand's commitments under the Paris Agreement crystallise.

82 The funding agreement being negotiated with NZ Steel requires 800k of abatement per annum once the EAF is operational. However roughly 150K per annum of this abatement is hoped to be achieved by NZ Steel under the base case (i.e. without the project progressing).

83 This is based on forecasts by NZ Steel of what they can achieve through a combination of reducing production volumes, and incremental improvements in emissions intensity. These reductions are uncertain and may not eventuate. For the purposes of calculating the marginal abatement cost and investment benefits, officials have used 650k as the abatement delivered.

84 This is a highly conservative approach for estimating the benefits of the project but, given the significance of this investment, EECA has chosen to use this figure to ensure the additionality of the proposed investment is not in any way over-stated. This is consistent with how GIDI projects are generally assessed.

[13] Negotiations

85 Therefore the agreement to install an EAF will require NZ Steel to reduce emissions by a total of 800k per annum. Approximately 650k of this abatement is new, entirely additional abatement that could not be achieved with NZ Steel's current production set up. The remaining 150k may have occurred, but the investment in an EAF greatly increases the certainty of these reductions occurring.

86 We also propose to communicate to NZ Steel, via letter, the Government's intent to progress work in tandem to NZ Steel's feasibility assessment. This will not commit the Crown to any policy but will indicate that we will:

86.1 explore through the Select Committee process of the Bill or via supplementary order paper:

86.1 how NZ Steel could be enabled to receive accurate allocations for its new 'molten steel' products after introduction of an EAF (if industrial allocation eligibility tests are met)

86.1 how a 'decarbonisation agreement' on updates to industrial allocation allocative baselines could work in conjunction with some discretion points allowed to the Minister of Climate Change in the Bill.

86.2 maintain an open dialogue between NZ Steel and the Government on the additional policy issues NZ Steel has raised as significant for the overall EAF investment.

We propose the Ministers of Energy and Resources, Climate Change and Finance be authorised by Cabinet to agree the final package of support to be provided to NZ Steel

87 Should the BlueScope Board choose to procced with full feasibility assessment, following an indication of Government support as above, the parties will then negotiate a final Funding Agreement, which would include conditions that must be met by Commercial Information [Under active consideration]. We will work with NZ Steel to determine when announcements on a final agreement can be made.

88 The Funding Agreement will not be fully unconditional Confidential Information pending any necessary resource consents being received.

89 We propose Cabinet agree to authorise the Ministers of Energy and Resources, Climate Change and Finance to approve a final deal with NZ Steel, including a financial contribution of up to $140 million.

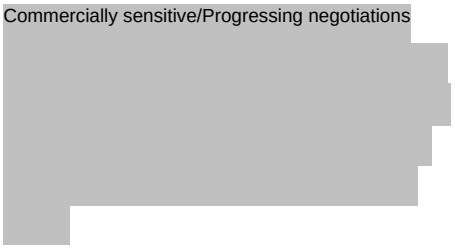
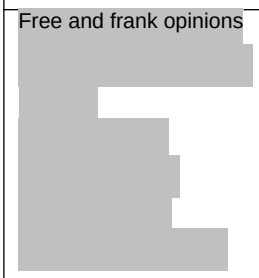
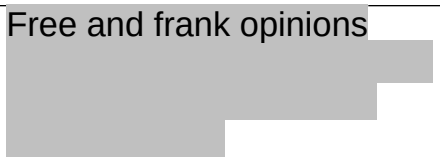
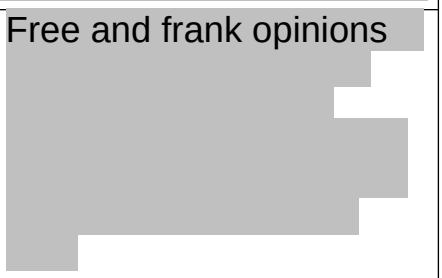
90 Following decisions by Cabinet, the Ministers of Energy and Resources and Climate Change intend to write to NZ Steel outlining the Government's offer.

91 Additionally, the Ministers of Energy and Resources and Climate Change intend to report back to Cabinet after agreement has been reached with NZ Steel or by 30 June 2023, whichever is sooner.

Risks

92 Given the size and nature of NZ Steel's request, there are several risks which should be considered:

Risk	*Description*	*Proposed Mitigations*
Precedent setting for future GIDI projects	The Government's decision on the NZ Steel proposal is likely to set expectations for future levels of funding support with other very large emitters through the GIDI fund and other sources of Government support. It is therefore important that any precedent-setting impacts are considered. More detail on this risk is provided in the section below.	The Government may be able to partially mitigate this risk by communicating the value for money in abatement cost terms and more unique aspects of this proposal. These will help differentiate the proposal.
NZS decides not to pursue project/rejects negotiation	If NZS chooses to reject the Government's offer, New Zealand misses out on the emissions reduction benefits in the short term from such a project and this contributing to our ability to meet our emissions budgets.	The government is working at pace to ensure a timely and attractive but balanced form of support can be offered to NZS.
Free and frank opinions	Free and frank opinions	Free and frank opinions
Free and frank opinions	Free and frank opinions Commercially sensitive/Negotiations	Free and frank opinions Free and frank opinions

	Commercially sensitive/Progressing negotiations 	Free and frank opinions 
Potential project failure / cost overruns following further feasibility assessment	There are risks that the project ultimately ends up experiencing cost overruns or failing to proceed for either technical or commercial reasons e.g., access to sufficient scrap steel supply.	The government can manage this risk through the contracting approach (e.g., being clear about which party carries escalation risk, is responsible for managing delivery risk and only providing funding at agreed milestones), and through active contract monitoring after agreement. Negotiations/Commercial information 
Free and frank opinions 	Free and frank opinions 	Free and frank opinions 
Perception risks	There may be negative perceptions surrounding the agreement. These could include perceptions of: - unfairness in significant financial support being provided to a large corporate. - low additionality from the project.	The risks of negative perceptions can be partially mitigated by having a fair, robust process, and clearly communicating the broader social benefits of the investment.

	- poor value for money.	
Free and frank opinions	Free and frank opinions	Free and frank opinions
Legal professional privilege	Legal professional privilege	Legal professional privilege

We have also developed a robust process for engagement with other very large emitters, should more opportunities arise in future

93 The Government's decision on the NZ Steel proposal is likely to set expectations for future levels of funding support with other very large emitters through the GIDI fund

and other sources of Government support. It is therefore important that any precedent setting impacts are considered.

94 The top 15 emitters in New Zealand (by company group) are organisations with annual emissions of >96,000 t CO2e, including any subsidiaries. They make up over 5 million tCO2e of emissions per annum (43% of total business stationary energy related emissions, non-transport).

95 The expanded GIDI fund includes a component, 'Partnerships with Very Large Emitters', which seeks to identify decarbonisation project packages with these emitters, to unlock greater emissions reduction potential.

96 EECA is aware of several other very large emitters developing decarbonisation projects. Based on this information, officials expect similar requests in future from other very large industrial emitters.

97 Negotiations/Commercial information

98 Negotiations/Commercial information

99 With this in mind, we are proposing Cabinet note a proposed account management process for very large emitters including those receiving industrial allocation (where such an approach is required) seeking support for large decarbonisation projects under the GIDI Fund. This will ensure coordination is enabled across different government departments and relevant policy levers as more projects of this nature arise in future. This approach would enable consistency as negotiations of this kind progress with individual large emitters.

100 A summary of this process is attached as appendix one.

Implementation

Intended Investment Approach

101 The Funding Agreement will include clawbacks for the Government for under delivery of carbon abated and other appropriate safeguards on expected emissions reductions delivered as well as various off ramps for NZ Steel should major issues with the EAF arise.

102 EECA officials are working through the mechanisms with NZ Steel. At a high level, this would require a minimum expected level of benefit to the Crown to be agreed, in terms of emissions reductions and ongoing domestic production.

103 The funding agreement would include a contractual recovery mechanism, supported by an appropriate form of security, that would trigger an obligation to repay a portion of the grant funding should NZ Steel fail to achieve the minimum benefit threshold.

As benefits are progressively realised the potential repayment obligation to the Crown would also progressively decrease.

104 The funding agreement will also allow for potential 'off-ramps' under certain circumstances, such as a regulatory change materially impacting on the business operations of NZ Steel. The funding agreement will also ensure that any cost escalations sit with NZ Steel rather than EECA.

Timeline/Next steps

105 NZ Steel plans to present to the BlueScope Board on whether to progress to the next stage of feasibility assessment on 13-15 March 2023.

106 For the Board to make the decision to proceed NZ Steel is requesting a definitive level of financial support from Government as well as sufficient comfort that negotiations are progressing well on acceptable Terms and Conditions of any Funding Agreement surrounding the provision of this support.

107 Should the BlueScope Board choose to procced the parties will then negotiate a final Funding Agreement which will be conditional on various matters including the final feasibility assessment with a likely deadline date of Commercial Information for these conditions to be satisfied.

Financial Implications

108 Funding of approximately $650 million over four years was allocated to GIDI in Budget 2022. Any final funding contribution agreed with NZ Steel for investment in an EAF will draw down this existing appropriation Confidential advice to Government

109 There may be wider fiscal implications if the precedent risks described above are realised. For example, large commitments Commercial Information may lead to GIDI funding becoming exhausted faster than expected. The Crown would then face a choice about whether to invest further in the programme.

Legislative Implications

110 There are no direct legislative implications associated with the proposals in this paper

Impact Analysis

Regulatory Impact Statement

111 A regulatory impact statement is not required for a proposal of this nature.

Climate Implications of Policy Assessment

112 The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements apply to this proposal.

113 This proposal is likely to result in substantial emissions reductions through the use of electricity and scrap steel to substantially reduce the amount of coal used in the steelmaking process at the Glenbrook Steel Mill.

114 Under the minimum obligation scenario where NZ steel reduces emissions by 0.8 million tonnes (Mt) of CO_2-e per year from 2027 to 2035, this proposal would result in a reduction of 7.2 Mt CO_2-e across this period. This represents a scenario where the EAF is utilised at 50% while 50% of the steel mills production is met using the existing emissions-intensive process.

115 If NZ steel continued to operate the EAF at this level indefinitely, this would result in a cumulative reduction of 19.2 Mt CO_2-e from 2027 to 2050 compared to continued operation of the steel mill using its existing process.

116 The impact of the EAF could be as high as 1.7 Mt CO_2-e per year if NZ steel is able to secure more scrap and run it closer to 100% of its production.

117 The actual emissions reduction impact achieved depends heavily on:

117.1 the final funding agreement,

117.2 the delivery and continued operation of the EAF itself,

117.3 the supply of scrap material that NZ steel is able to secure on an ongoing basis.

118 If successful, this proposal has the potential to be one of the main contributing measures to achieving the emissions reductions required to meet our second and third emissions budgets.

119 The CIPA team has reviewed the emissions impact estimates and considers them to provide a good indication of the domestic emissions impact provided that this proposal is successfully implemented. The CIPA does not provide a comprehensive assessment of the risk of unsuccessful implementation.

Population Implications

120 There are no specific implications for population groups arising as a direct result of the proposals in this paper. However, the results of any future decision on support for NZ Steel could have flow on impacts for workers, communities, regions, iwi/Māori and other population groups.

121 NZ Steel estimates its total direct and indirect FTE as 2,988 across the Glenbrook steel mill, Pacific Steel rolling mill, Waikato North Head Mine and indirect supporting operations.

122 Impacts on associated industries and workforces from changes, or lack thereof, to NZ Steel's operating model may need to be considered pending the outcome of negotiations. Confidential advice to Government

Human Rights

123 The proposals in this paper are not in any way inconsistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Consultation

124 The following agencies were consulted in the development of this paper: Ministry for the Environment; the Treasury; Energy, Efficiency and Conservation Authority; Ministry of Foreign Affairs and Trade, Inland Revenue. The Department of Prime Minister and Cabinet has been informed.

125 The Green Party was consulted on the proposals in this paper and supports negotiating a co-funding agreement that achieves the goals of significantly reducing emissions and waste to landfill, sustaining jobs in New Zealand, and improving domestic supply chain resilience. The Green Party supports appropriate safeguards and clawbacks to protect the Crown's interests. NZ ETS unit supply should be adjusted downwards to account for emissions reductions achieved because of the co-investment in an EAF. The Green Party's view is that further regulatory action is urgently needed to ensure any increased demand on the electricity system is met by renewables and not fossil-fuel generation.

Communications

126 We will work with NZ Steel to determine a communications approach. This will likely include a public announcement following successful negotiation of a conditional funding agreement. Officials anticipate this will be sometime during April, but that date is dependent on progress in negotiations.

Proactive Release

127 We do not intend to release this paper in full within 30 business day, given it includes commercially sensitive material. We will consider the appropriate timing and content for release alongside the broader strategy for communication on any future agreement reached with NZ Steel.

Recommendations

1. **Note** the government has been approached about an opportunity to support a substantial decarbonisation project via the installation of an Electric Arc Furnace (EAF) to process scrap steel at the Glenbrook Steel Mill, operated by NZ Steel.
2. **Note** that this project would result in significant emissions reductions of around 800,000 tonnes of CO2e initially (approximately 36 per cent of NZ Steel's total emissions), likely increasing over time.
3. **Note** this emissions reduction is expected to contribute approximately 5.3 per cent of the required emissions reductions within emission budget two (2026-2030) and approximately 3.4 per cent of the total required within emission budget three.
4. **Note** that this is also expected to deliver approximately 13.4 per cent of the emissions reductions required from the Energy & Industry sector in emission budget two and approximately 11.4per cent in emissions budget three.

5. **Note** that this could be the most significant opportunity in terms of both emissions quantum or related abatement costs across all other industrial process heat users.
6. **Note** that in addition to emission reductions, NZ Steel's installation of an EAF would have other economic, environmental and resilience benefits to New Zealand, including:
    a. Continuation of employment for New Zealanders;
    b. Greater economic activity than under a potential import model
    c. Greater supply chain resilience relative to a potential import model
    d. Avoidance of emissions leakage
    e. Energy grid resilience
    f. Support waste minimisation and circular economy objectives.
7. **Note** that if NZ Steel does not install an EAF the Crown will need to allocate a significant number of NZ units to NZ Steel under the Emissions Trading Scheme (NZ ETS) while it continues its current operations (approximately 800,000 New Zealand Units (NZU) in 2027 or $56 million at $70/NZU)
8. **Note** if NZ Steel does install an EAF its allocations will reduce by approximately 800,000 NZUs in 2027. Decisions on how this reduction impacts annual NZ ETS settings will be taken closer to the time of the investment.
9. Confidential advice to Government
10. **Note** the BlueScope Board is meeting from 13–15 March 2023 and will decide whether or not to proceed to a full feasibility study of the EAF proposal, and that it has indicated that a key factor in this decision will be the level of financial support available and relevant policy certainty.
11. **Note** that NZ Steel is requesting a government contribution of Commercial Information associated with the procurement and installation of an EAF.
12. **Note** that NZ Steel has proposed a transition group of government officials be established to discuss ongoing key regulatory settings and other issues associated with its transition to EAF production.
13. Negotiations
14. **Note** that due diligence supports a Crown Contribution of Confidential advice to Governm million, as being sufficient to advance the deal, and provides good public value for money.
15. **Note** that Confidential advice to Government $140 million, the project is forecast to have a marginal abatement cost (MAC) of $16.20 to 31 December 2046 (based on a 20-year asset life), which compares favourably to the MACs of other GIDI-funded projects, and to the MAC of offshore mitigation.
16. **Note** that NZ Steel suggested that part of, or all, the Crown's contribution to the EAF could be via a 'wedge' of industrial allocation (intentional over-allocation) to provide

a return on investment. The government does not recommend this in NZ Steel's case because:

a. the Climate Change Response Act 2002 (CCRA) does not currently support this;

b. it would be inconsistent with the purpose of industrial allocation and create considerable precedent risk;

c. an appropriate funding mechanism (GIDI) is already set up to provide capital support;

d. KPMG's assessment, Confidential advice to Government of GIDI funding is considered sufficient to support commerciality of the investment, and there is no need for additional support through industrial allocation policy.

17. **Agree** that the Crown provide up to $140 million as a grant via the GIDI fund to NZ Steel for the purchase and installation of an EAF.

18. **Agree** that the Ministers of Energy and Resources and Climate Change write to NZ Steel outlining the Government's offer.

19. **Authorise** the Ministers of Energy and Resources, Climate Change and Finance to agree the final negotiated package of support to be provided to NZ Steel, subject to it being within scope of the options described in this paper, and not exceeding $140m in grant funding.

20. **Note** that NZ Steel has requested the Ministry of Business, Innovation and Employment, Ministry for the Environment, and Energy Efficiency and Conservation Authority form a transition group with NZ Steel to discuss ongoing key regulatory settings and other issues associated with NZ Steel's transition to EAF production.

21. **Agree** that officials from the Ministry of Business, Innovation and Employment, Ministry for the Environment, and Energy Efficiency and Conservation Authority continue to engage with NZ Steel on ongoing key regulatory settings and other issues.

22. **Note** the risks associated with offering financial and policy support to NZ Steel, which include but are not limited to:

a. Precedent setting for future GIDI projects

b. Failure to reach agreement with NZ Steel resulting in failure of the EAF proposal

c. Free and frank opinions

d. Potential project failure, including failure by NZ Steel to access sufficient scrap steel.

e. Legal professional privilege

23. **Invite** the Ministers of Energy and Resources and Climate Change to report back to Cabinet after agreement has been reached with NZ Steel or by 30 June 2023, whichever is sooner.

24. **Note** the process outlined for engagement with other very large emitters, should more opportunities arise in future.

Authorised for lodgement

Hon Dr Megan Woods

Minister for Energy and Resources

Hon James Shaw

Minister of Climate Change

Appendix one:

Proposed approach for negotiating cross-government, bespoke solutions with very large emitters looking to undertake significant decarbonisation projects

Cross-government partnership process for engaging with large emitters

Why this process?

- Very large emitters are beginning to approach Ministers and agencies requesting support to decarbonise
- Very large emitters may need bespoke and co-ordinated multi-lever support and incentives from government in order to decarbonize swiftly and successfully
- Government needs to consider possible supports for very large emitters as a coherent package to ensure the most effective deployment of different levers
- The scale of potential emissions reductions warrants a bespoke process

What would success look like?

- Fast and significant **emissions reductions** from very large emitters
- Government can **move at pace** to support industry but any bespoke arrangements **stand up to scrutiny**
- Ministers, agencies and large emitters have **role clarity**, all necessary context and shared expectations about how to advance a discussion about possible Government support
- Individual support packages for large emitters are **fit for purpose** and meet a common set of design principles