Ministry for the Environment
Manatū Mō Te Taiao

PROACTIVE RELEASE COVERSHEET

Minister	Watts	**Portfolio**	Climate Change
Title of briefing paper	Progressing updates to industrial allocation in the emissions trading scheme	**Date to be published**	Friday 11 October 2024

List of documents that have been proactively released

Date	*Title*	*Author*
	Cabinet paper: Progressing updates to industrial allocation in the emissions trading scheme	Minister of Climate Change
25 September 2024	Cabinet Economic Policy Committee Minute of Decision: Progressing updates to industrial allocation in the emissions trading scheme (ECO-24-MIN-0201)	Cabinet Office
1 August 2024	Regulatory Impact Statement: Emission costs incurred by New Zealand Steel Limited for cogenerated electricity	Ministry for the Environment

Information redacted **YES**

Any information redacted in this document is redacted in accordance with the Ministry for the Environment's policy on proactive release and is labelled with the reason for redaction. This may include information that would be redacted if this information was requested under Official Information Act 1982. Where this is the case, the reasons for withholding information are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Summary of reasons for redaction

Legal privilege – paragraphs 33 and 34 of the Regulatory Impact Statement

Policy and Privacy

Office of the Minister of Climate Change

ECO - Cabinet Economic Policy Committee

Progressing updates to industrial allocation in the Emissions Trading Scheme

Proposal

1 I seek Cabinet agreement to delegate powers to allow the Minister of Climate Change to make decisions and issue drafting instructions for updating industrial allocative baselines in emissions trading scheme regulations.

2 I seek Cabinet agreement to a change to industrial allocation policy treatment for New Zealand Steel Development Ltd (NZ Steel) for its use of cogenerated electricity under the New Zealand Emissions Trading Scheme (NZ ETS).

3 I also seek Cabinet decision on when the above updates to industrial allocation regulations enter into force.

Relation to government priorities

4 The proposals in this paper support the coalition agreements between the National Party and our coalition partners – restoring confidence, certainty and price stability in the NZ ETS and strengthening and streamlining Government regulation.

Executive Summary

5 New Zealand's industrial allocation system protects firms in certain industries from facing the full costs that the NZ ETS would otherwise place on them. The purpose of industrial allocation is to reduce the risk of industrial activity reducing or closing in New Zealand and production moving elsewhere in the world.

6 Under the industrial allocation system, firms in industries that are emissions intensive and exposed to international competition receive New Zealand units (NZUs) from the government each year. Allocations are based on the industry-wide average emissions intensity of an activity (an "allocative baseline"), and the actual level of a firm's production. The value of allocations made in 2023 was $400 million.[1]

General update to all industrial allocative baselines

7 Industrial allocation "baseline" settings – that is, emissions per product unit – have not been updated since they were first set in 2010 and consequently are out of date. Officials have collected data to support updates to the baselines so that allocations reflect firms' actual emissions intensity and emissions costs. This process is part of implementing reform legislation from 2023.

8 Updating baselines to reflect this new data will affect firms ranging from small glasshouse tomato and rose growers to some of our largest firms, such as Methanex. Most firms would see a reduction in their allocation. Overall, there will be a net

[1] 5.6 million NZUs at the 2023 carbon price in regulations of $71.97

reduction in allocations made to industry of approximately 112,000 units, valued at $6.7 million[2] per year.

9 I seek Cabinet approval for delegation to the Minister of Climate Change to make decisions and issue drafting instructions for amendment regulations to the Climate Change (Eligible Industrial Activities) Regulations 2010, updating the baselines. The new baselines are outcomes of applying methods prescribed in the Climate Change Response Act 2002 and no policy decisions are required.

10 I also seek Cabinet approval to make decisions and issue drafting instructions for technical amendments to two activity definitions that are eligible to receive industrial allocation. I will bring the amendment regulations to Cabinet before the end of 2024 for approval.

11 I also seek Cabinet decision on when these updates are first applied. The earliest date is 1 January 2024 through the annual true-up process for industrial allocation. This will prevent further overallocations and address instances of under allocation as soon as possible, with a net fiscal benefit to the Crown of approximately $6.7 million. This is the start date that has been signalled to the public and firms in the course of amending legislation and collecting data.

12 However, the change for some firms is significant. An alternative start date of 1 January 2025 would give those firms time to adjust to the outcome of this one-off regulatory process.

Specific update for NZ Steel's electricity allocation factor

13 NZ Steel has been receiving an industrial allocation for consuming electricity from on-site cogeneration since 2010. However, a recent independent review has found that this cogenerated electricity is not affected by emissions pricing, meaning that NZ Steel has been receiving an allocation to compensate it for costs it is not actually facing. The cost to the Crown is approximately 225,000 NZUs per year, or $13.5 million.

14 NZ Steel has not contested this finding but has sought a 'phased transition' for changes to its industrial allocation. The Crown separately has a funding agreement with NZ Steel for the installation of an electric arc furnace. The project is running ahead of schedule and expected to deliver one million tonnes of emission reductions per year from the end of 2025.

15 I propose to remove NZ Steel's overallocation from using cogenerated electricity and develop specific electricity allocation factors (EAF) each year for NZ Steel, reflecting its sources of electricity in that year.

16 I seek Cabinet's decision on when this change takes effect. The earliest this over-allocation could be removed is from 1 January 2024. However, applying this from 1 January 2025 would recognise the significance of the change for NZ Steel, who have argued the nature and timing of the change was not clear in communications at the time of negotiations around the arc furnace project.

Future updates

[2] Using the secondary market price of $60 as at 20 August 2024. All financial forecasts of changes to allocations use this price in this Cabinet paper.

17 I expect to receive data that affects allocative baselines and the EAF each year, requiring further updates to the regulations. These updates follow a legislative formula and there is no discretion involved. Unlike, the one-off updates to baselines discussed above, these changes would become routine and ongoing. Consequently, I seek an ongoing delegation from Cabinet to make decisions and issue drafting instructions to amend update baselines each year due to annual updates to the general EAF and other components of allocative baselines. I will ensure that Cabinet still has visibility of any changes that could have significant impacts on firms.

Background

18 New Zealand's industrial allocation system protects firms in certain industries from facing the full costs that the NZ ETS would otherwise place on them. The purpose of industrial allocation is to reduce the risk of industrial activity reducing or closing in New Zealand and production moving elsewhere in the world. This would have economic and social consequences to New Zealand and would potentially increase global emissions.

19 Under the industrial allocation system, firms in industries that are emissions intensive and exposed to international competition receive New Zealand units (NZUs) from the government each year. The allocations allow firms to offset their NZ ETS-related costs. Allocations are based on the industry-wide average emissions intensity of an activity, and the actual level of a firm's production.[3]

20 Firms receiving industrial allocations include those in large emissions intensive and trade exposed industries such as steel and cement manufacturing. But less obvious industries are also eligible, including the growing of some vegetables in glasshouses, and production of newsprint and whey powder.

21 Decisions on eligibility and entitlements for industrial allocations were, in general, last made in 2010. Those decisions were made on firm level data from 2006 to 2009 and are significantly out of date. Twenty-six industrial activities are eligible and over eighty firms receive allocations from the Environmental Protection Authority each year. The value of allocations made in 2023 was over $400 million and this is recognised as an expense in Crown accounts.

Analysis

General update to all allocative baselines

22 I have collected data to support updates to the industrial allocation "baseline" settings so that allocations will better reflect firms' actual emission costs. This process is part of implementing reform legislation from last year, which requires the Minster to update baselines.

23 The baseline update will affect firms differently. Some firms would see a reduction in their industrial allocation, and some would see an increase. These changes result from industry consolidation, and emission factor and plant efficiency changes. While the allocative baselines decrease for 80 percent of firms, they increase for the rest.

[3] The rate of industrial allocation or the 'level of assistance' is currently being phased-out at one percentage point each year. Highly emissions intensive activities receive an allocation equivalent to 86% of their NZ ETS costs, and moderately emissions intensive receive a 56% allocation.

24 These decisions are technical in nature. Allocative baselines are solely based on emissions and production data from firms and determined using a formula in the Climate Change Response Act 2002. The Minister of Climate Change sets the resulting allocative baselines in regulations.

25 I seek Cabinet's approval to delegate to the Minister of Climate Change the power to make decisions and issue drafting instructions for amendment regulations to the Climate Change (Eligible Industrial Activities) Regulations 2010.

26 I will bring the amendment regulations to Cabinet for approval when drafted. Once implemented through regulatory change, the updates will result in approximately 112,000 fewer NZUs being allocated per year ($6.7 million).

27 Indicative new allocative baselines have been communicated to firms.

Timing of when changes take effect

28 I seek Cabinet's decision on when these updates take effect. There are no statutory timeframes for updating industrial allocation regulations following the collection of emissions information.

29 The earliest date is 1 January 2024. This can be done through the annual true-up process that will occur in May 2025. Provisional allocations, originally made on projected production values, are adjusted for final production data. This basic process is an annual one that participants in the scheme are used to. The difference this time is that the adjustment would use the new allocative baselines.

30 This will prevent further overallocations and address instances of under allocation as soon as possible, with a net fiscal benefit to the Crown of approximately $6.7. It is consistent with the messaging to the public and firms over the course of the review of baselines. It also addresses a few instances where some firms are being under-allocated under current baselines.

31 I am aware that this could be seen as a retrospective change. However, the legislation already requires the annual correction of a previous year's allocation.

32 The updates could also come in force one year later, from 1 January 2025. This timing would reflect the significant change for some firms and give those firms time to adjust to the outcome of this one-off regulatory process.

Approval for changes to two activity definitions

33 For this year's allocative baseline updates, I am also seeking a one-off agreement to make decisions and issue drafting instructions for technical amendments to two activity definitions, which currently do not accurately reflect the activity inputs and outputs. These are technical changes to activity definitions for the production of carbamide (urea), and production of protein meal, which will not materially affect their allocations. Last year's data collection used these two updated activity definitions.

Specific update for NZ Steel's electricity allocation factor

34 Producing iron and steel from iron sand is a highly emissions intensive and trade exposed industrial activity. In line with the purpose of the industrial allocation policy, NZ Steel receives an allocation to reduce the risk of emissions leakage.

35 The estimated impact of the NZ ETS on electricity prices is described as the electricity allocation factor (EAF). NZ Steel uses cogenerated electricity supplied by Alinta at its Glenbrook plant. Since 2010, NZ Steel has been receiving industrial allocation from its use of cogenerated electricity as if that electricity was from the grid; that is, using the general EAF.

36 To test the accuracy of that allocation, an independent expert reviewed the relevant electricity contract. It was found that that emissions pricing has no impact on the price for most of the electricity from the cogeneration plant. The exception being a small amount of natural gas, as the contract allows for gas market price pass through. The cost to the Crown of this allocation is approximately 225,000 NZUs per year, or $13.5 million.

37 I propose to remove NZ Steel's over-allocation from using cogenerated electricity by developing annual EAFs for NZ Steel according to its sources of electricity each year. The only emissions that will be counted towards NZ Steel's EAF is that from any natural gas used by the cogeneration plant at a rate of 0.5618 tonnes of carbon dioxide equivalent per megawatt hour and from any grid-based electricity. I will use existing powers in the Act to call for electricity and natural gas consumption data from NZ Steel to apply that framework and update allocative baselines. This will reduce NZ Steel's allocation by 225,000 NZUs per year ($13.5 million).

Timing of when changes take effect

38 NZ Steel has not contested the finding that it is currently overallocated. However, NZ Steel has written to the Ministry for the Environment and sought a 'phased transition' for this change. The firm argued that this is a material financial change to the assumptions supporting the funding agreement between them and the Crown for an electric arc furnace, signed in October 2023. NZ Steel sought for the changes to have effect from the start of 2026.

39 I seek Cabinet decision on when this change takes effect from. The earliest this change could take effect would be 1 January 2024. This removes the over-allocation of 225,000 NZUs per year ($13.5 million) to NZ Steel as soon possible.

40 As with the updates to allocative baselines, the alternative is to apply this change from 1 January 2025. This would recognise the significance of the change for NZ Steel, who argued the nature and timing of the change was not clear in communications at the time of negotiations around the arc furnace project.

Ongoing delegation to make future updates

41 I expect to receive updated data including the annual electricity allocation factor each year. This data will affect allocative baselines requiring further updates to the regulations. These updates are technical in nature and there is no discretion involved – the updates will follow a legislative formula. Unlike, the one-off updates to baselines discussed above, these changes would become routine and ongoing.

42 Consequently, I seek an ongoing delegation from Cabinet to make decisions and the issuance of drafting instructions for updates to baselines each year. I will ensure that Cabinet still has visibility of any changes that could have significant impacts on firms.

Cost-of-living Implications

43 Updates to allocative baselines will result in a reduction of approximately 2.3% in the overall level of industrial allocation. Over time and at the margins, this will result in more emissions-efficient producers gaining market share, drive emission reductions, and change consumer behaviours.

44 The impact on consumers is expected to be minimal. One of the largest decreases in allocative baselines is for growing fresh cucumbers. A cucumber grower will have a 78% reduction in their allocation from this change, which amounts to approximately $60 per tonne of cucumbers. A tonne of cucumbers was valued at $2750 in 2020/21.

Financial Implications

45 The current fiscal forecast is based on the continuation of existing allocative settings. I expect an reduction in industrial allocation from the updates to allocative baselines to be approximately 112,000 NZUs per year, or $6.7 million[4].

46 The policy change for NZ Steel replaces the use of the general EAF with an annual calculation that will result in a NZ Steel specific EAF each year. This change results in a decrease of approximately 225,000 emission units per year allocated to NZ Steel ($13.5 million).

47 The cogeneration plant is expected to be impacted by the move to an electric arc furnace. The contract with Alinta will need to be renegotiated because of that change and the existing contract expires near the end of 2026. Therefore, no fiscal implications can be provided beyond that year.

48 Should Cabinet agree to implement these changes from the earliest possible date, 1 January 2024, the combined reductions of industrial allocation against the forecast for 2024/25 is $30.4 million. Adjustments to 2024 allocations made for the first six months of 2024 will be reflected in the allocation expense for 2024/25.. Reduced Crown expenses from unit allocations will have a positive impact on OBEGAL. Since unit allocations are not a cash item, there is no cash impact.

49 Should Cabinet decide to implement updates from 1 January and the NZ Steel change from 1 January 2025, the combined reductions of industrial allocation against the forecast for 2024/25 is $16.9 million.

50 Should Cabinet agree to implement these changes from 1 January 2025 instead, the combined reductions of industrial allocation against the forecast for 2024/25 is $10.2 million.

51 Table 1 below presents these options accordingly:

Table 1: Approximate reduction in allocation expense from proposal

Fiscal year $ million	2024/25	2025/26	2026/27	2027/28 and outyears
Unit allocation expense (updates) • start 1 January 2024 or	-$10.0	-$6.7	-$6.7	-$6.7

[4] Using the secondary market price of $60 (20 August 2024) and assumes constant 2020/21 production of iron and steel products from NZ Steel over the period.

• start 1 January 2025	-$3.4			
Unit allocation expense (NZ Steel) • start 1 January 2024 or • start 1 January 2025	 -$20.3 -$6.8	-$13.5	-$6.8	
Total impact on unit allocation expense • all start 1 January 2024 or • split start or • all start 1 January 2025	 -$30.3 -$16.9 -$10.2	-$20.2	-$13.5	-$6.7

Legislative Implications

52 The decisions in this paper will be reflected in the Climate Change (Eligible Industrial Activities) Regulations 2010. I will bring amendment regulations to Cabinet later this year for approval.

Impact Analysis

Regulatory Impact Statement (general baseline updates)

53 The Ministry for Regulation has determined that this proposal to amend industrial allocation regulations is exempt from the requirement to provide a Regulatory Impact Statement on the grounds that the government has limited statutory decision-making discretion or responsibility for the content of proposed delegated legislation.

Regulatory Impact Statement (NZ Steel electricity allocation factor)

54 A Ministry for the Environment Regulatory Impact Analysis (RIA) panel has reviewed the "Emission costs incurred by New Zealand Steel Limited for cogenerated electricity" regulatory impact statement and considers that it meets the RIA requirements.

Climate Implications of Policy Assessment

55 The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that CIPA requirements do not apply to these proposals as they are not expected to result in any significant, direct emissions impacts.

Population Implications

56 There are no significant population issues from the proposals in this paper. I have been mindful of the fundamental purpose of industrial allocation, being to mitigate against the risk of a loss in domestic production, with the local economic and societal impacts this would bring to a region such as South Auckland.

Use of External Resources

57 Advice in this paper was based on the work of an independent expert (Concept Consulting) and extensive engagement with NZ Steel throughout the analysis and reporting phases which cost $30,000. The consultant has assisted officials several

times in the measurement of NZ ETS impacts on electricity contracts. A competitive procurement process was followed for this work.

Consultation

58 The Treasury, the Ministry of Business, Innovation and Employment, the Ministry of Primary Industries, Te Puni Kokori and the Energy Efficiency and Conservation Agency were consulted on this Cabinet paper. Comments received have been incorporated.

Communications

59 I intend to contact the chief executive officer of NZ Steel personally following Cabinet's decision.

Proactive Release

60 I intend to proactively release this paper and associated Cabinet committee papers and minutes within 30 business days of final decisions being confirmed by Cabinet, subject to redaction as appropriate under the Official Information Act 1982.

Recommendations

The Minister of Climate Change recommends that the Committee:

Allocative baseline updates

1 **Agree** the Government will continue to make ETS policy decisions that will prioritise price stability and credibility in the market

2 **Note** that industrial allocation baseline settings – that is, emissions per product unit – have not been updated since they were first set in 2010 and consequently are out of date;

3 **Note** that data has been collected from all recipients of industrial allocation to update allocative baselines;

4 **Agree** to delegate powers to make decisions and issue drafting instructions for amendment regulations to the Climate Change (Eligible Industrial Activities) Regulations 2010 to the Minister of Climate Change in accordance with the emissions information obtained and with decisions in this paper;

5 **Note** that the new baselines set out in the amendment regulations will be the result of applying methods set out in the Climate Change Response Act and will not involve policy decisions;

6 **Agree** the delegation in recommendation 4 includes making decisions and issuing drafting instructions to make technical amendments to the activity definitions of the production of carbamide (urea), and the production of protein meal.

New Zealand Steel Development Ltd (NZ Steel) matters

7 **Note** that NZ Steel has been receiving an industrial allocation for consuming electricity using the general electricity allocation factor (EAF);

8 **Note** a large amount of NZ Steel's electricity demand is supplied under contract with Alinta Energy Ltd until near the end of 2026 through an on-site cogeneration plant;

9 **Note** that an independent review has found that that almost all of this cogenerated electricity is not affected by emissions pricing;

10 **Agree** the Minister of Climate Change can determine a unique EAF for NZ Steel each year from data on the amount of electricity consumed at the site, the electricity generated by the cogeneration plant, and the quantity of natural gas used by the cogeneration plant;

11 **Agree** the emissions that can be counted towards NZ Steel's electricity allocation factor are those from any natural gas used by the cogeneration plant at a rate of 0.5618 tonnes of carbon dioxide equivalent per megawatt hour and from any grid-based electricity;

Timing matters

12 Either

12.1 **Agree** that the amended regulations for all updates including for NZ Steel's cogeneration use will take effect from 1 January 2024, or

12.2 **Agree** that the amended regulations for all updates except that relating to NZ Steel's use of cogenerated electricity will take effect from 1 January 2024, with the NZ Steel change taking effect from 1 January 2025, or

12.3 **Agree** that the amended regulations for all updates will take effect from 1 January 2025;

Ongoing delegation to make future updates

13 **Note** updates to all allocative baselines in regulations will be needed each year due to annual updates to the general electricity allocation factor and other components of allocative baselines;

14 **Agree** to delegate an ongoing power to the Minister of Climate Change to make decisions and issue drafting instructions for amendment regulations to the Climate Change (Eligible Industrial Activities) Regulations 2010 in accordance with annual data updates;

15 **Note** that regardless of this general ongoing delegation, the Minister of Climate Change will ensure that Cabinet is informed of any updates to the regulations that are expected to have significant impacts on firms.

Next steps

16 **Invite** the Minister to seek Cabinet approval for amendment regulations to update allocative baselines before the end of 2024.

Authorised for lodgement

Hon Simon Watts

Minister of Climate Change

ECO-24-MIN-0201

Cabinet Economic Policy Committee

Minute of Decision

Progressing Updates to Industrial Allocation in the Emissions Trading Scheme

Portfolio **Climate Change**

On 25 September 2024, the Cabinet Economic Policy Committee:

Allocative baseline updates

1 **agreed** that the Government will continue to make New Zealand Emissions Trading Scheme (NZ ETS) policy decisions that will prioritise price stability and credibility in the market;

2 **noted** that industrial allocation baseline settings, i.e. emissions per product unit, have not been updated since they were first set in 2010 and consequently are out of date;

3 **noted** that data has been collected from all recipients of industrial allocation to update allocative baselines;

4 **authorised** the Minister of Climate Change to make decisions and issue drafting instructions to the Parliamentary Counsel Office for amendment regulations to the Climate Change (Eligible Industrial Activities) Regulations 2010 in accordance with the emissions information obtained and the decisions under ECO-24-SUB-0201;

5 **noted** that the new baselines set out in the amendment regulations will be the result of applying methods set out in the Climate Change Response Act 2002 and will not involve policy decisions;

6 **agreed** that the authority referred to in paragraph 4 above includes making decisions and issuing drafting instructions for technical amendments to the activity definitions of the production of carbamide (urea), and the production of protein meal;

New Zealand Steel Development Ltd (NZ Steel) matters

7 **noted** that NZ Steel has been receiving an industrial allocation for consuming electricity using the general electricity allocation factor (EAF);

8 **noted** that a large amount of NZ Steel's electricity demand is supplied under contract with Alinta Energy Ltd until near the end of 2026 through an on-site cogeneration plant;

9 **noted** that an independent review has found that that almost all of this cogenerated electricity is not affected by emissions pricing;

10 **agreed** that the Minister of Climate Change can determine a unique EAF for NZ Steel each year from data on the amount of electricity consumed at the site, the electricity generated by the cogeneration plant, and the quantity of natural gas used by the cogeneration plant;

11 **agreed** that the emissions that can be counted towards NZ Steel's EAF are those from any natural gas used by the cogeneration plant at a rate of 0.5618 tonnes of carbon dioxide equivalent per megawatt hour and from any grid-based electricity;

Timing matters

12 **agreed** that the amended regulations for all updates, including for NZ Steel's cogeneration use, will take effect from 1 January 2024;

Ongoing delegation to make future updates

13 **noted** that updates to all allocative baselines in regulations will be needed each year due to annual updates to the general EAF and other components of allocative baselines;

14 **agreed** to delegate an ongoing power to the Minister of Climate Change to make decisions and issue drafting instructions for amendment regulations to the Climate Change (Eligible Industrial Activities) Regulations 2010 in accordance with annual data updates;

15 **noted** that, regardless of the above general ongoing delegation, the Minister of Climate Change will ensure that Cabinet is informed prior to the promulgation of regulations that are expected to have significant impacts on firms;

Next steps

16 **invited** the Minister of Climate Change to seek Cabinet approval for amendment regulations to update allocative baselines before the end of 2024.

Rachel Clarke
Committee Secretary

Present:
Hon David Seymour
Hon Chris Bishop (Chair)
Hon Shane Jones
Hon Brooke van Velden
Hon Simeon Brown
Hon Louise Upston
Hon Todd McClay
Hon Tama Potaka
Hon Matt Doocey
Hon Simon Watts
Hon Melissa Lee
Hon Andrew Bayly
Hon Andrew Hoggard
Hon Mark Patterson
Simon Court MP

Officials present from:
Office of the Prime Minister
Office of Hon Simon Watts
Officials Committee for ECO

Regulatory Impact Statement: Emission costs incurred by New Zealand Steel Limited for cogenerated electricity

Coversheet

Purpose of Document	
Decision sought:	Cabinet approval to set an electricity allocation factor for New Zealand Steel Limited for its emission unit allocation for their consumption of cogenerated electricity under the New Zealand Emissions Trading Scheme.
Advising agencies:	Ministry for the Environment
Proposing Minister:	Hon Simon Watts, Minister of Climate Change
Date finalised:	1 August 2024

Problem Definition

NZ Steel's industrial allocation entitlements set out in regulations under the Climate Change Response Act 2002 do not reflect the emissions costs NZ Steel incurs from consuming cogenerated electricity. Evidence shows the current allocation double counts emissions, leading to fiscal costs to the Crown that are inconsistent with the purpose of industrial allocation.

Executive Summary

Industrial allocation is the free provision of NZUs to participants in the NZ ETS that undertake eligible activities deemed to be emissions-intensive and trade-exposed (EITE). The statutory authority and settings for industrial allocation are provided for in the Climate Change Response Act 2002 and the Climate Change (Eligible Industrial Activities) Regulations 2010.

The purpose of industrial allocation is to mitigate the risk of emissions leakage. Emissions leakage is where firms shift their production overseas to avoid climate policies such as emissions pricing, which could increase global emissions.

NZ Steel is exposed to NZ ETS costs for consuming electricity amongst other sources. A large proportion of NZ Steel's electricity is sourced under contract from on-site cogeneration plants. These are fuelled primarily by waste gases from the iron making process with a small amount of natural gas also used. NZ Steel currently receives allocation for electricity consumed from the cogeneration plants as if that electricity had the same emission costs as grid sourced electricity. Our examination of the contractual arrangements shows NZ Steel is not exposed emissions costs for consuming cogenerated electricity, other than for a small amount of natural gas. This is over-allocating approximately 225,000 emission units per year to NZ Steel ($13.1 million).

The objective of this assessment is to align industrial allocation outcomes with the purpose of industrial allocation. This will reduce the Crown's fiscal costs of allocation.

We have considered options against policy alignment, fiscal costs, and regulatory certainty.

NZ Steel did not contest our finding that there is very little emission cost exposure from their use of cogenerated electricity. The firm noted there were options for the timing of change. The firm also noted financial impacts from change which may have changed the financial case for a large investment.

The Government is updating industrial allocation settings.

Two options for reducing NZ Steel's allocative baselines were assessed. The first considered a change to the EAF value for electricity consumed by NZ Steel after reviewing emissions costs passed through in the cogeneration contract. The second option involved an adjustment to the amount of coal emissions, because the waste gases that fuel the cogeneration plants are ultimately from coal use. Based on our assessment of the options against the status quo and the criteria, the first option of setting an EAF for NZ Steel of 0.270 tCO_2-e/MWh was preferred. [1]

A decision to update NZ Steel's allocative baselines will be implemented through amendment to the regulations.

The EAF will only be reviewed if there is another change to the contract terms, otherwise the EAF is set, and the allocative baselines are updated annually.

Limitations and Constraints on Analysis

We are confident in the evidence base and analysis in this RIS.

The analysis has mainly been drawn from three key sources:

1) Independent expert advice provided by an electricity modeller
2) Engagement with NZ Steel/Rio Tinto and Alinta Energy Limited
3) Past analytical frameworks and decisions on emission costs passed through to another large industrial allocation recipient for electricity use, the New Zealand Aluminium Smelters Limited

Responsible Manager

Kate Whitwell

Manager

NZ ETS Policy

Ministry for the Environment

[1] This is an indicative value only. It will change annually, leading to change in allocative baselines, depending on actual input factors including NZ Steel's actual electricity consumption proportions and changes to those proportions over time.

1 August 2024	

Quality Assurance	
Reviewing Agency:	Ministry for the Environment
Panel Assessment & Comment:	A Ministry for the Environment Regulatory Impact Analysis (RIA) panel has reviewed the "Emission costs incurred by New Zealand Steel Limited for cogenerated electricity" regulatory impact statement and considers that it meets the RIA requirements.

Section 1: Diagnosing the policy problem

Context behind the policy problem

1. The objectives of the NZ ETS as set in the CCRA are to reduce New Zealand's net greenhouse gas emissions and to assist New Zealand to meet its international climate change obligations and domestic climate change targets.
2. The NZ ETS places an obligation on firms carrying out certain activities to surrender emission units corresponding to the amount of greenhouse gases they have reported they are responsible for in a year.
3. Industrial allocation is the free provision of NZUs to firms in the NZ ETS that undertake eligible activities deemed to be emissions intensive and trade exposed (EITE). These firms do not have to be mandatory participants and be surrendering emission units. For example, the production of cut roses is an EITE activity, but no firms producing cut roses have mandatory ETS obligations other than through industrial allocation.
4. The purpose of industrial allocation is to mitigate the risk of emissions leakage. Emissions leakage is where firms shift their production overseas or lose market share to overseas competitors because of NZ ETS costs. Such changes could have local economic and societal costs, and potentially increase global emissions.
5. Industrial allocation is determined using rules set out in the CCRA. The allocative baselines are set out in the Climate Change (Eligible Industrial Activities) Regulations 2010 (the Eligible Industrial Activities Regulations). Industrial allocation is calculated using allocative baselines for each activity, and some activities have multiple baselines. Baselines are calculated on the average historical emissions of an eligible activity.
6. The CCRA lists the emission sources that are taken into account in setting the baselines. Most of these are direct emissions associated with the activity: on-site fuel use and process emissions. However, industrial allocation is also provided for indirect emissions associated with electricity use to compensate for higher electricity prices caused by the NZ ETS. This is because higher electricity prices could affect the competitiveness of EITE firms and increase their risk of emissions leakage. Free allocation offsets the indirect cost impact of the NZ ETS on electricity.
7. NZ Steel is the largest recipient of industrial allocation in the NZ ETS. In 2022, NZ Steel was allocated 1.9 million NZUs, valued at about $111 million[2]. Allocative baselines are set for the products of NZ Steel. These are used, along with production figures for each

[2] All NZU valuations in this RIS are at $58.35, which is the fiscal forecast value used for Budget 2024.

product, to determine allocations each year. The EAF is very important to those baselines. Around 20 per cent of NZ Steel's total industrial allocation is to cover indirect NZ ETS costs from electricity consumption.

An EAF is used to calculate the quantity of NZUs for indirect NZ ETS costs from electricity use

8. To determine the quantity of industrial allocation provided for indirect NZ ETS costs from electricity use, an EAF is used. The EAF is an estimate of the impact of the NZ ETS on wholesale electricity prices passed through to consumers.
9. The EAF is expressed in tonnes of carbon dioxide equivalent per megawatt-hour (tCO_2-e/MWh). It is part of the rates of allocation prescribed to industries considered EITE.
10. Calculating the EAF is complex and involves electricity market modelling to estimate the marginal cost that the NZ ETS adds to electricity prices.
11. A standard EAF of 0.537 tCO_2-e/MWh has been used to calculate most participants' industrial allocation for indirect NZ ETS costs through electricity use.
12. Allocation is given for electricity consumption, not generation. In plants where a fuel is being used both to conduct an industrial activity and generate electricity (e.g. in a combined heat and power plant), a method is required to distribute emissions from that fuel use between the activity and electricity generation. This prevents double counting emissions from consuming electricity as well as from the industrial activity.
13. Section 161C (4) and 161C (5) of the CCRA allows the Minister to take into account electricity-related contracts that affect the electricity cost increases due to emissions costs. The Minister has used this power in the past to analyse electricity contracts held by the New Zealand Aluminium Smelters (NZAS). NZAS's allocative baseline is informed by a unique EAF that reflects the cost impact of the NZ ETS on electricity purchased under its various electricity contracts.

NZ Steel receives industrial allocation for both direct and indirect emissions

14. NZ Steel is eligible to receive industrial allocation for carrying out an eligible EITE activity ('producing iron and steel from ironsand'). Under current policy settings, NZ Steel is eligible to receive an allocation to offset 86 per cent of its NZ ETS costs over 2024. Its allocation covers:
    a) Direct emissions from chemical processes on site
    b) Direct emissions from the use of coal.[3]
    c) Indirect emission costs from purchased electricity and natural gas.
15. At present, the allocation for NZ Steel's emissions is determined using the same rules that apply to all other industrial allocation activities in the NZ ETS. In particular, all of NZ Steel electricity consumption is assumed to face the same emission costs.
16. Much of NZ Steel's electricity consumption is supplied through contract with Alinta Energy who own and run an on-site cogeneration facility. The emissions rule regarding heat and power plants does not apply for this cogeneration as it is fuelled primarily by waste gases. In 2010, the Minister for Climate Change Issues decided NZ Steel's use of electricity from that facility should be treated the same as grid-sourced electricity.

[3] Usually, consumers of coal face indirect emissions costs as the NZ ETS mandatory participant is the person who imports or mines the coal. NZ Steel has used CCRA provisions to 'opt-in' and take the NZ ETS obligations from the miner or importer of coal it transacts with.

17. In 2022, approximately 50% of NZ Steel's electricity consumption was fuelled by waste gases, 3% from natural gas, and 47% was sourced from the electricity grid.

What is the policy problem or opportunity?

18. NZ Steel's allocative baselines need to be set so they accurately reflect the emissions costs NZ Steel incurs from its use of electricity supplied by Alinta Energy from the cogeneration plant.
19. Independent expert modelling suggests that the electricity supplied under contract from Alinta Energy has very little emission costs. Because NZ Steel is being allocated emission units as if it is grid-sourced electricity with fossil fuel generation, there is over-allocation.
20. Over-allocation creates fiscal costs and is unfair for other emitters and industrial allocation recipients. When over-allocation occurs, emission units are allocated for free when they could have been auctioned and cash received by the Crown. Over-allocation undermines the effectiveness of the NZ ETS to reduce emissions in line with emissions budgets and targets.
21. A decision on correcting NZ Steel's allocative baselines could be made now to allow those for 2024 to be calculated and set in regulations before the end of the year. This will allow NZ Steel to apply for its final allocations for 2024 and provisional allocations for 2025 using the updated allocative baselines before the statutory deadline of 30 April 2025.
22. The CCRA allows for NZ Steel's allocative baselines to be reviewed and adjusted annually. It is important that NZ Steel's baselines are accurate and updated annually, with appropriate analysis and transparency, to maintain the integrity of the NZ ETS.

Objective for updating NZ Steel's allocative baselines

23. The objective for this work is to set allocative baselines for the products of NZ Steel that accurately reflects the indirect cost impact of the NZ ETS on the electricity purchased under the contract with Alinta Energy and ensures NZ Steel receives an appropriate level of industrial allocation. This will reduce the Crown's fiscal costs of allocation and help the equitable application of industrial allocation policy.

Section 2: Considerations and scope used to decide upon an option to address the policy problem

Criteria used to compare options to the status quo

24. The RIS assesses two options to update NZ Steel's allocative baselines against three criteria and the status quo.

Table 1: Criteria for assessing EAF options

Criteria	Description
Aligns with industrial allocation policy	NZ Steel's industrial allocation should continue to minimise the risk of emissions leakage. It should mitigate any loss of competitiveness NZ Steel may face due to higher direct and indirect NZ ETS costs.
Accurately allocates NZUs	NZ Steel's industrial allocation should be accurate and reflect the actual NZ ETS costs that are incurred.
Improve regulatory certainty and predictability	Changes to NZ Steel's allocative baselines should give NZ Steel certainty with respect to its future allocation levels.

Legal considerations for setting a new EAF for NZ Steel

25. Section 161C(4) and 161C(5) of the CCRA allows the Minister to take into account electricity-related contracts that affect electricity costs due to emissions costs, such as the contract between NZ Steel and Alinta Energy.

26. There are legislative implications from decisions to amend allocative baselines for NZ Steel's products for such electricity consumption. Decisions will be used to calculate NZ Steel's final 2024 allocative baselines and provisional 2025 allocative baselines in 2025, which will require amendments to the appropriate regulations.

27. NZ Steel's allocative baselines are prescribed in the Eligible Industrial Activities Regulations 2010. Cabinet agreement will be required to confirm the final amendments to NZ Steel's allocative baselines before 30 April 2025.

What scope will options be considered within?

28. The scope of this RIS is limited to quantifying the emission costs incurred by NZ Steel under the contract. Options are limited to measuring that emission costs exposure for the purpose of updating industrial allocation regulations. Implementation matters are discussed after the assessment of options.

29. Other changes are proposed to NZ Steel's allocative baselines outside of this RIS. The Climate Change Response (Late Payment Penalties and Industrial Allocation) Amendment Act 2023 allows the Minister to collect emissions and production data for the purpose of updating allocative baselines. It also allows an update to the standard EAF for electricity use. That implementation work is separate from this RIS. It maintains the emission rules described above: that all electricity consumption must be considered in in allocative baselines and that emissions from electricity generation cannot be included.

30. Additionally, changes to the NZ Steel plant at Glenbrook are out of scope of this RIS. The Crown entered into a funding agreement with NZ Steel in 2023 for the installation of an electric arc furnace. This furnace will be operational from 2026 and will affect the cogeneration facility, as less waste gases will be available. NZ Steel entered into an

electricity contract with Contact Energy for supplying the new furnace. The contract with Alinta expires in 2026.

31. NZ Steel has written to the Ministry for the Environment linking the future of that project with changes to the industrial allocation treatment of their cogeneration electricity use. The key issue raised was the impact on the financial forecasts made by NZ Steel to inform its decision on the funding arrangements.

32. Officials engaged with NZ Steel in July 2023 on the cogeneration allocation issue and provided financial impact data and clear notification of potential policy change, before the funding agreement was finalised.

33. [redacted]

34. [redacted]

Section 3: Options for changing allocative baselines for NZ Steel

Determining options

35. Two options are assessed to determine changes to NZ Steel's allocative baselines for the consumption of cogenerated electricity. They were determined by drawing from the advice to the Minister in 2010 and modelling done by an independent expert.
    a. Option 1 is based on modelling by an independent electricity modeller. Further information on this modelling can be found in Annex One.
    b. Option 2 is based on treating the cogeneration plant like a model cogeneration plant burning coal, as proposed by officials in 2010.

Status quo – The grid-based EAF of 0.537 tCO_2-e/MWh

36. This is the current EAF value for NZ Steel's use of cogenerated electricity. The standard EAF value is also used for all other eligible industrial activities except the production of aluminium.
37. NZ Steel would continue to receive industrial allocation for that electricity use as if it was sourced from the grid. No changes would be made to allocative baselines for the problem identified in this RIS.

38. This option was NZ Steel's preference in 2010 and for this current review.

39. Under the status quo NZ Steel will receive approximately 1.89m NZUs for industrial allocation in 2024. This is valued at $110 million based on an NZU price of $58.35.

Option 1 – Amend allocative baselines for actual emission cost pass through in the contract

40. This option uses advice from an independent expert. The advice identified that while emission costs are passed through to NZ Steel for natural gas used in the cogeneration plant, no emission costs are incurred for electricity from waste gas.
41. This option would set an EAF that is determined annually by the proportion of electricity purchased from the grid and from Alinta Energy. This would then change allocative baselines. The report of the expert noted:

    a. The price paid by NZ Steel to Alinta to produce electricity from natural gas is linked to the delivered gas price, so changes to emission costs will impact NZ Steel

    b. NZ Steel pays Alinta to generate electricity from waste gases on a fixed rate basis. This means there is no identified emissions cost exposure for electricity generated by waste gases therefore the emissions price intensity for electricity generated using waste gas is effectively zero.

42. This option would allocate approximately 225,000 fewer NZUs to NZ Steel for indirect emissions costs from electricity than under the status quo. This is a decrease of $13.1 million NZD from the status quo.[4]

Option 2 – Adjust coal emissions

43. This option is based on an analysis in 2010 of the coal needed to generate the electricity from the cogeneration plant. It estimates emissions associated with the on-site generation and subtracts this from the total emissions associated with coal use by NZ Steel.
44. NZ Steel would receive allocation for consuming electricity from the cogeneration plant at the same rate as all other electricity consumers. However, the emissions from coal use would be adjusted downwards, impacting the allocative baseline calculations.
45. This approach uses a model plant as a proxy for emissions from the on-site generator. It uses coal as an input fuel and an assumed efficiency of 35%, consistent with the assumptions used for cogeneration emissions that other firms are required to use. This would estimate emissions from the plant as equivalent to an emissions factor of approximately 0.58t/MWh or up to approximately 0.36 million tCO_2-e in total.
46. Because this approach uses a coal-based emission factor, it results in emissions that are attributed to the plant being greater than those that are attributed to them from their electricity consumption: 0.58 tCO_2e/MWh as opposed to 0.537 tCO_2e/MWh. NZ Steel's allocation would be less than in option 1, and about $17 million less than under the status quo.
47. Annexes 2 and 3 provide allocation and financial forecasts out to 2026 under each option compared to the status quo.

Assessment against key criteria: each option is given a rating outlined in the key below

Key	
++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
o	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

[4] Assumes NZ Steel consumes approximately 943 GWh in the year. Does not account for differences between electricity consumption at the Glenbrook and Otahuhu sites, so may be a 5-10% overstatement.

Table 2: Impact analysis of EAF options for NZ Steel for the main contract against the three assessment criteria

	Status quo 0.537	Option 1 Unique EAF	Option 2 Model plant adjustment
Alignment with the objectives/purpose of industrial allocation	o	+	+
Accurately allocates NZUs	o	+ +	+
Improve regulatory certainty and predictability	o	-	- -
Total		+ +	o

Criteria 1: Alignment with the objectives/purpose of industrial allocation

48. The status quo maintains NZ Steel's current EAF for electricity use and allocative baseline. Based on the evidence this would be an over-allocation because the use of the cogenerated electricity does not increase the risk of emissions leakage.

49. Both options are better aligned with this criterion than the status quo. The evidence shows very little indirect emissions costs are passed on to NZ Steel for electricity consumption under the contract. It therefore does not require industrial allocation for most of that consumption.

50. Options 1 and 2 have equal alignment. Option 1 is consistent with how other unusual electricity contracts are treated in industrial allocation policy (the example being the NZAS – Meridian Energy contracts). Option 2 has consistency with how emissions from cogeneration plants are counted in policy. Neither have both benefits.

Criteria 2: Accurately allocates NZUs for emissions costs

51. The status quo would inaccurately represent NZ Steel's exposure to emissions costs under the electricity contract, according to the modelling evidence. It does not reflect that NZ Steel pays a lower electricity price compared to other industrial allocation recipients that purchase electricity from the spot market.

52. Option 1 (new modelled EAF) would accurately allocate NZUs to NZ Steel for indirect emissions costs for the price of electricity in the main contract.

53. Option 2 is an improvement against the status quo but may result in a slight under-allocation as it assumes the cogeneration plant is indirectly coal powered. In reality some of the electricity is generated by a lower emitting fuel, natural gas.

Criteria 3: Improve regulatory certainty and predictability

54. Because either option results in regulatory change, both score negatively against this criteria compared to the status quo. Both options will require the annual updating of allocative baselines, creating economic uncertainty for NZ Steel and for forecasting Crown costs of industrial allocation. However, variance from year to year is expected to be small for the remaining duration of the contract (to the end of 2026). Option 1 will allow NZ Steel to predict industrial allocation outcomes by applying the same spreadsheet model that officials will use to recommend regulatory change.

55. Option 2 has greater uncertainty than option 1 due to it being based on a hypothetical cogeneration plant, rather than actual emission cost pass through. There is a lack of information about the accuracy of assumptions regarding the hypothetical plant, as parameters could change to improve accuracy. Such change is unlikely under option 1.

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

56. Option 1 (new modelled EAF) is likely to best address the problem, meet the policy objectives and deliver the highest net benefits. It more accurately reflects the actual impact of the NZ ETS on electricity purchased under the cogeneration contract. Implementing this option supports the purpose of industrial allocation by aligning NZ Steel's allocation with its actual exposure to a carbon cost. Therefore, option 1 strongly supports criteria 1 and 2.

57. The trade-off is that it decreases regulatory consistency and certainty compared to the status quo. This can be partially mitigated through policy transparency, allowing NZ Steel to predict changes to allocations. However, as the contract with Alinta expires at the end of 2026, it will be necessary to repeat this analysis for any new or amended contract to ensure future industrial allocations are accurate.

58. On balance, having an accurate EAF that realigns NZ Steel's industrial allocation to its risk of emissions leakage is more important than regulatory certainty.

What are the marginal costs and benefits of the preferred option?

59. Option 1 will reduce allocation by approximately 225,000 NZUs per year for 2024 to 2026. This annual reduction is valued at around $13.1 million NZD. The economic impact of the reduction may not affect NZ Steel disproportionately given NZ Steel does not incur emission costs for most of that cogenerated electricity.

60. NZ Steel will not be at a competitive disadvantage because of the emissions price.

61. Option 1 maintains the integrity of the NZ ETS and has a positive fiscal impact per year (2023/24 to 2026/27) to the Crown. The changed EAF would result in an annual reduction of approximately $13.1 million in expense and a reduction of $13.1 million in NZ ETS liability.

62. This reduction in allocation is part of a broader suite of changes to industrial allocation settings. Depending on the timing of decisions, the overall reductions in allocation could be included in decisions later in 2024 on NZ ETS settings, including auction volumes for 2025 to 2029.

63. A reduction in NZ Steel's allocation could increase the number of units the Government can auction from 2026, subject to Cabinet decisions on NZ ETS settings and advice from the Climate Change Commission. Auctioning raises cash for the Crown. At current NZU prices, this will be approximately $13.1 million per financial year.

Table 3: Impact analysis of preferred option on costs and benefits to affected parties

Affected groups (identify)	**Comment nature of cost or benefit (*eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.***	**Impact $m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.**	**Evidence Certainty High, medium, or low, and explain reasoning in comment column.**
Additional costs of the preferred option compared to taking no action			
Regulated groups	Compared to the status quo, NZ Steel will receive less NZUs per tonne of product per annum for the rest of the contract term.	13 million	High
Regulators	No additional cost from the status quo	$0	High
Others (eg, wider govt, consumers, etc.)	Compared to the status quo there is no additional cost to others	Low	Low
Total monetised costs		$13 million	
Non-monetised costs		Low	
Additional benefits of the preferred option compared to taking no action			
Regulated groups	The preferred option has no benefits for NZ Steel compared to the status quo	$0	High
Regulators	The preferred option has an ongoing benefit compared to the status quo	$13 million	High
Others (eg, wider govt, consumers, etc.)	The integrity of the NZ ETS will be improved because proposal is aligned better with the intent of industrial allocation policy than the status quo	High	High
Total monetised benefits		$13 million	
Non-monetised benefits		High	

Engagement feedback

64. Alinta Energy was asked whether the electricity contract included consideration of emission cost pass through. No feedback was provided on the modelling or its findings. Alinta Energy stated ‘the contract speaks for itself’.

65. NZ Steel was extensively engaged in this work, which began in mid-2023, prior to the various approvals for the electric arc furnace investment. NZ Steel was also consulted to inform the decisions made in 2010. NZ Steel did not have substantive comments on methodology or findings of the analysis. Instead, NZ Steel was concerned about the accuracy of various phrases and descriptions in the analysis report. Edits were made in response and agreement has been reached on the final report which will be published after Cabinet decisions.

Recommendation

66. The preferred option is option 1 because it aligns with the purpose of industrial allocation, accurately allocates NZUs to NZ Steel for emissions costs and does not extensively impair regulatory certainty.

Section 4: Delivering an option

How will the new arrangements be implemented?

67. The decision on the industrial allocation treatment of NZ Steel’s use of cogenerated electricity is part of broader updates to allocative baselines in regulations.
68. A bespoke process for updates will be developed for NZ Steel This involves:
    a. In January, the firm will provide data (after notice in the NZ Gazette from the Minister) on electricity use at Glenbrook over the previous calendar year. Detailed monthly information on electricity generated from waste gases and from natural gas will be required. That data is already compiled as part of the contract between NZ Steel and Alinta Energy.
    b. In March, Cabinet will decide on final allocative baselines for 2024, and provisional allocative baselines for 2025 and 2026. These are implemented through amendment to the Climate Change (Eligible Industrial Activities) Regulations 2010.
    c. In April, NZ Steel will apply for its final allocation for 2024 and provisional allocation for 2025, as normal.
69. This bespoke process is already followed for allocations to the New Zealand Aluminium Smelter and is well established and understood.
70. Regarding the start date for change, NZ Steel has sought the phasing in of any change to allocative baselines arising from this work. It argued regulatory and economic certainty were important factors to their investment decisions on the electric arc furnace.
71. As noted in paragraphs 30 to 34 above, industrial allocation policy changes can only consider the emissions, production and revenue data that was collected. The electric arc furnace investment is not part of that data. Should there be interest in mitigating any risk to the investment, then this can only be achieved outside industrial allocation policy changes, for example a revisiting of the funding split.

How will the new arrangements be monitored, evaluated, and reviewed?

72. The annual review of the allocative baseline requires close interaction with NZ Steel, beginning with the ‘call for data’ Gazette notice.

73. This provides an opportunity to review the allocative baselines and to discuss any potential changes to the electricity contract that may impact the analysis in this RIS.
74. The arrangements will only be reviewed if there is a change to the contract terms.

Annex One: Summary of the modelling

Table 4: Summary of the modelling used for this assessment

Modeller	The Ministry purchased independent expert electricity modelling from Concept Consulting Group to inform the assessment of the policy problem and options.
Credentials	Concept has provided analysis and expert advice for 20 years. Concept has expertise across the wider energy sector, and in environmental and resource economics. Concept's clients include large users, suppliers, regulators and governments. Concept has provided the Ministry with advice on previous EAF determinations for NZAS.
Method used for modelling in the report	Concept developed a report that will be published alongside this regulatory impact statement once assessed under the Official Information Act 1982. Concept were tasked with: • Estimating the emissions cost exposure of NZ Steel for electricity consumed under the contract; and • If any emissions cost in the contract can be expressed as tCO2e/MWh, calculate what the result is • Develop a straw-man approach to developing a NZ Steel-specific Electricity Allocation Factor, 'EAFNZS', that appropriately reflects the emissions exposure faced by NZ Steel. Concept's model followed the this approach to estimating the emissions price impact on electricity consumed by NZ Steel: EAFNZS = (EAFs x Pg) + (EAFngc x Pngc) + EAFwgc x Pwgc) (1) Where: • EAFs = Standard grid electricity carbon price intensity for industrial allocation • EAFngc = Carbon price intensity of electricity generated by Glenbrook cogen using natural gas • EAFwgc = Carbon price intensity of electricity generated by Glenbrook cogen using waste gases • Pg = Proportion of electricity purchased from the grid-based generation • Pngc = Proportion of electricity produced by Glenbrook cogen powered by natural gas • Pwgc = Proportion of electricity produced by Glenbrook cogen powered by waste gases

Annex Two: Comparison of allocation in units from the two options under the current forecast compared to status quo

Table 5: Comparison of allocation in units from the two options under the current forecast compared to the status quo

Change to forecast allocation			
	2024	2025	2026
Forecast allocation			
Status quo forecast	2,090,940	2,066,627	2,042,314
Option 1 EAF approach	1,866,040	1,844,341	1,822,643
Option 2: Model plant adjustment	1,793,958	1,769,645	1,745,332
Change to allocation from the status quo			
Status quo forecast	0	0	0
Option 1 EAF approach	-224,900	-222,285	-219,670
Option 2: Model plant adjustment	-297,000	-297,000	-297,000

The calculations in Table 5 use NZ Steel's 2021 production for each product from the Glenbrook facility projected out to 2026/27. It assumes no change to production or allocative baselines other than the proposals. It uses the legislated minimum phase down rate of industrial allocation of 1% per year.

Annex Three: Financial implications under each option in financial years

Table 6: Comparison of allocation value under the current forecast for each option

Financial implications of options by financial year				
	2023/24	2024/25	2025/26	2026/27
Industrial allocation based on the assessed options (in millions of NZD)				
Status quo forecast	$61.0	$121.3	$119.9	$59.6
Option 1: EAF approach	$54.4	$108.2	$107.0	$53.2
Option 2: Model plant adjustment	$52.3	$104.0	$102.5	$50.9

The calculations in Table 6 use NZ Steel's 2021 production for each product from the Glenbrook facility projected out to 2026/27. It assumes no change to production or allocative baselines other than the proposals. It uses the legislated minimum phase down rate of industrial allocation of 1% per year.