Ministry for the Environment
Manatū Mō Te Taiao

Industrial Allocation Policy Review

Issues Paper

New Zealand Government

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About this issues paper

Industrial allocation provides support to industries that are materially affected by the direct or indirect costs of the New Zealand Emissions Trading Scheme (NZ ETS) and may be unable to pass these costs onto the consumer. This situation can give rise to emissions leakage – where firms and/or production move offshore to countries with weaker emissions pricing or regulation to reduce compliance costs. This has the potential to increase global emissions and fo New Zealand to lose economic activity.

Current industrial allocation settings have not seen significant changes since 2010 d the e is evidence some firms are receiving an allocation far greater than what is needed o mitiga e any risk of leakage. The Government has decided to carry out a review of indust ial allo tion policy to address this issue and to assess the plausibility of aligning it with missi ns budgets, and support emissions reductions.

This paper is intended as a starting point for the industrial allocatio review. It will help facilitate discussions with a Technical Advisory Group (TAG) who wi l pro ide expertise and direction on possible policy changes to realign industrial allocation wit i s ob ectives. The questions asked in this paper follow what is set out in the terms of ref rence f the review (Appendix 1) and are intended as a brainstorm of ideas and possible soluti ns. The emissions intensity and trade exposure eligibility criteria will be a central f cus, as we l as the methodology of calculating allocation. The review will also address broader sues such as incentivising emissions reductions through industrial allocation, and alt rnativ mechanisms to address the risk of emissions leakage in the long-term. These will not b explore in detail as the priority is to update existing policy parameters to realign allocation policy in th short-term.

Background

Industrial allocation provides support to industry

Firms that are responsible for the emission of greenhouse gases covered by the NZ ETS pay an emissions price – either directly through the requirement to surrender New Zealand Units (NZUs), or indirectly through increased prices for electricity or other energy inputs such as coal, oil, and natural gas.

If the emissions costs of making a product in New Zealand are high enough in comparison with the revenue generated from its sale, this could have a material effect on the produ s competitiveness in the international market. The intention of the NZ ETS is to in duce an emissions price – however, if it is too high relative to offshore alternatives, there is the o ntial to drive away production, firms, or investment to jurisdictions with a weaker emiss ons price. While this would reduce New Zealand's emissions, global emissions c uld ncrease if the additional overseas production has a higher emissions intensity – this is em s ions eakage.

Industrial allocation provides support to emissions-intensive and trade exp sed (EITE) activities to reduce the risk of emissions leakage. Allocations have been gi en sinc 2010 when industrial activities entered the NZ ETS. Industrial allocation was always inten ed t be a transitional policy and incorporate the phasing out of assistance. However, fter introduction of the NZ ETS, provision for a phase-out was delayed and subsequently remov d. A new phase-out provision has recently been reintroduced.

The current system

Current industrial allocation policy p ovi es ass stance by allocating NZUs to firms that carry out eligible industrial activities[1]. Firms can use these NZUs to meet their own surrender obligations, or sell them to generate cash to the o fset the increased cost of electricity and fossil fuels that have an embedded emis ons p ice.

New Zealand's indu trial alloca on policy was heavily influenced by what was proposed in the 2009 Australian Car on Pol ution Reduction Scheme (CPRS) to ensure that support for firms in the developing NZ ETS s compatible with the CPRS. However, the Australian cap-and-trade scheme was never l gislated.

Eligibility

El gibility to receive an allocation is granted to specific industrial activities and is based on two crite a: the emissions intensity of the activity, and whether it is trade-exposed. These criteria are used as a proxy to estimate the extent that an emissions price affects profitability, and a firm's ability to pass on increased prices to consumers (Rontard & Leining, 2020)[2].

[1] These activities are defined in the Climate Change (Eligible Industrial Activities) Regulations 2010 - https://www.legislation.govt.nz/regulation/public/2010/0189/latest/DLM3075101.html

[2] Note – the MOTU report on industrial allocation by Rontard and Leining is currently still in draft with the possibility of publication in early May 2021.

Trade exposure criteria

The Climate Change Response Act (the Act) defines trade exposure broadly. By default, an activity is considered trade-exposed, unless there is no international trade of the activity output across oceans, or it is not economically viable to import or export it.

Emissions intensity criteria and thresholds

The Act measures emissions intensity by assessing an activity's specified[3] emissions pe one million dollars of revenue. An activity is classified as moderately emissions intensive if its emissions intensity is equal to or greater than 800 t CO_2-e/$1 million revenue but les than 1,6 t CO_2-e/$1 million revenue, and highly emissions-intensive if it is equal to or great r than 1 600 t CO_2-e/$1 million revenue.

These criteria attempt to broadly categorise the impact of an emissions price o the profitability of carrying out an activity. The greater an activity's emissions relativ to the revenue generated from the activity's output, the greater a change in emissions pr e af ts the profitability of the firm undertaking the activity.

The emissions intensity of an activity is a national average cal ulat d using this formula:

$$Emissions\ intensity = \frac{total\ specified\ emisisons}{total\ revenue\ (in\ millions)}$$

where

- *total specified emissions* is the combined emissions (of the sources specified in the Act) from all firms carrying ou the activity in New Zealand
- *total revenue* is the combined revenue (in millions) of all firms from the sale of the activity's output.

Provided the trade xposu e criteria is met – these two emissions intensity thresholds defined above determine a moderately emissions-intensive activity as eligible to receive 60 per cent of their emissio s costs and a highly emissions-intensive activity eligible to receive 90 per cent[4]. Table 1 hows the ossible eligibility categories dependent on the assessment of emissions inten ty and trade exposure.

[3] Not all emissions sources and costs are eligible to be included in these calculations. For example, liquid fossil fuels used for transport and emissions from business administration (electricity used in an office) are not included. Section 161E(2) of the Act defines the included, and excluded emissions sources.

[4] Resulting in a 40% and 10% exposure to emissions costs.

Table 1: Eligibility and threshold categories

	Not trade-exposed	Trade-exposed
Emissions intensity < 800 t CO_2-e/$1 million revenue	Ineligible	Ineligible
Emissions intensity >= 800 but < 1,600 t CO_2-e/$1 million revenue	Ineligible	Moderately emissions intensive and eligible to receive 60% of emissions costs
Emissions intensity >= 1,600 t CO_2-e/$1 million revenue	Ineligible	Highly emissions intensive and eligible to receive 90% of emissions costs

Allocation calculation

Allocative baselines

If an activity is classified as eligible, any firm carrying out that activity can receive an allocation of units. The basis for an allocation is an allocative baseline, which is the amount of emissions attributed to a unit of product.

For most activities there is only a single allocative baseline; however, some activities have two or more reflecting the fact that some activities have intermediate products. Allocative baselines are calculated using:

$$Allocative\ baseline = \frac{total\ specified\ emissions\ for\ particular\ product}{total\ specified\ production\ for\ particular\ product}$$

where

- *total specified emissions for particular product* is the combined emissions (of those specified in the Act) from all firms producing that product in New Zealand
- *total specified production for particular product* is the total production in New Zealand of a particular product.

Current legislation requires that only data from the financial years 2006/07, 2007/08, and 2008/09 can be used to calculate these baselines if the industry was present in New Zealand at that time. If the industry is new, then more recent data can be used.

Calculation of allocation

While the baseline for an activity is calculated as the average of all firms carrying out the activity in New Zealand – the units are allocated at the firm level. Allocation for a firm is calculated using the formula:

$$A = P * AB * LA$$

where

- *A* is the amount of allocation for a single product (NZUs)
- *P* is the total amount of production of the product (typically in tonnes)
- *AB* is the allocative baseline for the specific product (t CO_2-e/t product)

- *LA* is the level of assistance a particular activity receives (0.60 or 0.90 as based on the emissions intensity thresholds).

Recent changes to industrial allocation policy

The Climate Change Response (Emissions Trading Reform) Amendment Act 2020 (the ETR Act) introduced the phase out of the level of assistance, starting at a default rate of one per centage point each year (0.01) between 2021-2030, increasing to two per centage points (0.02) in 2031-2040, and then to three (0.03) in 2041-2050. The ETR Act also introduced the ability for the government to increase the phase-out rates for individual activities after 2025 and decrease them after 2030. One of the purposes of the phase-out is to ensure that allocation levels align with New Zealand's emissions budgets, which will be set in 2021 and decrease as New Zealand transitions towards net zero.

What is the problem?

Industrial allocation has not changed since 2010. Allocations are based on emissions, production, and revenue data from the financial years 2007-2009. These out-of-date settings combined with other factors (see below) are providing eligible firms with more support than required to achieve the objectives of industrial allocation policy. This over-allocation of units is providing windfall gains to some firms, reducing the effectiveness of the NZ ETS, and is a significant cost to the Crown.

There is a concern that consequently the current policy architecture may not do enough, quickly enough, to ensure that allocation rates will align with New Zealand's emissions reduction targets. The industrial allocation phase-out that has been legislated by the ETR Act will no allow any substantial reductions in allocation until at least 2026.

Circumstances that led to a review

s 9(2)(b)(ii)

On being advised of this over-allocation and t e fiscal nd policy problems it carries, in early 2020 Cabinet invited the Minister of Climat Change to tart a review of industrial allocation policy. To support the review, evidenc wa co ected by the Ministry to determine the extent of over-allocation. Recent producti n, r venue, and emissions data was collected from four existing EITE activities: the production of cementitious products, the production of cartonboard, the production of burnt lim and h production of fresh cucumbers. These activities are broadly representative o alloca ion recipients.

Analysis of the data ound that all four activities had some degree of over-allocation. The cause was attributed to c anges n market structure, changes in fuel profile, emissions efficiency improvemen s, a d in some cases exemptions of surrender obligations[5], combined with the requiremen to use istorical data to quantify allocations. At a $35 unit price it was estimated $8 mill o was bei g over-allocated annually to these four industries. At the same emissions price indust es' total 2019 allocation was valued at $37 million[6].

I dependent analysis of the data confirmed official's analysis that all four activities were over-allo ated to some degree (Denne, 2021). Table 2 shows estimated allocation compared to the level of assistance (LA) that the activity is intended to receive (not accounting for changes in an activity's level of assistance due to eligibility changes).

[5] Some firms have switched to using waste/used oil. Many of them are under the 1,500 tonne threshold as set out in the Climate Change (General Exemptions) Order 2009 and are therefore exempt from surrender obligations.

[6] To be clear – the over-allocation did not arise from the incorrect application of legislation. It stems from the out-of-date settings and misalignment of current industrial allocation policy.

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Table 2: Estimated allocation percentage using updated data

Activity	Intended allocation percentage	Estimated average actual allocation percentage
s 9(2)(b)(ii)	s 9(2	105%
s 9(2)(b)(ii)	s 9(2	98%
s 9(2)(b)(ii)	s 9(2	124%
s 9(2)(b)(ii)	s 9(2	305%

The analysis also found approximate emissions prices at which the four activities would be expected to wind down, or halt completely (table 3) if they faced 100 per cent of their emissions costs.

Table 3: Approximate NZU price at which different industry specific thresholds would be met

Criterion	s 9(2)(b)(ii)	s 9(2)(b)(ii)	s 9(2)(b)(ii)	s 9(2)(b)(ii)
EBIT falls to zero: activity expected to wind down	$35/t	$20/t	$30 - $80	$265 - $595
EBITDA falls to zero: activity expected to stop	$50/t	$30/t	$130/t	$430 - $760

Possible ideas and solutions

The purpose of the review is to reduce over-allocation and realign industrial allocation policy with the objective of reducing the risk of emissions leakage, while ensuring that industrial allocation volumes align with emissions budgets. The review's scope has been set out in two tiers to differentiate between considerations that could lead to legislative changes to industrial allocation policy in the short term, and longer-term changes such as alternative mechanisms to industrial allocation, and broader considerations other than emissions leakage.

The review is also an opportunity to discuss higher-level concepts that are currently poorly defined, such as what is over-allocation, what emissions costs are considered 'material' to a firm's profit, and what defines the ability to pass on an emissions price? Coming to a consensus on these will help firm up the trajectory of the review and the form of future policy changes.

The following two sets of questions follow what is defined in the terms of reference of the review (Appendix 1). They are intended as an initial brainstorm of ideas and each will need further discussion and analysis of the benefits and impacts if proposed as possible solutions.

Primary scope

The primary scope of the review addresses considerations within the bounds of current industrial allocation policy. It is intended that policy proposals that are recommended as an output of the review could be put forward in a legislative amendment in 2022.

Emissions intensity eligibility criteria

Should emissions intensity be tied to revenue or some other metric such as profit, or value added?

The current emissions intensity metric is defined as activity emissions per million dollars of revenue generated from the sale of the activity's output. Each activity's emissions intensity is compared with the eligibility thresholds to determine the level of assistance it should receive. Parameterising activity emissions generated with respect to revenue quantifies (to some degree) the effect of a emissions price on an activity's profitability.

However, an eligible activity is typically only a part of the value chain that produces a product. Using revenue means that activities with greater input costs may be disadvantaged, because the eligible activity contributes a smaller fraction of the value of the product and associated profit. However, it is much easier to determine revenue (and often less variable) than other alternatives such as value-added, and profit, which makes it more consistent across industry.

Redefining the emissions intensity metric could better identify firms that are materially impacted by an emissions price. This could reduce over-allocation by only targeting firms who have significant emissions costs relative to profitability.

Both the European Union Emissions Trading Scheme (EU ETS) and the California Cap-and-Trade Programme (CCTP) use a value-added metric to determine an emissions intensity. A disadvantage of using value-added is the considerable variability that could be exhibited between industries due to different business cycles and economic performance. The

determination of what costs (output levels and prices, input costs, wages, etc) can be attributed to an activity could also complicate the way it is applied across industries. The proposed Australian CPRS allowed either the use of value-added or revenue to determine an activities emissions intensity (although revenue was the primary measure and would have been used for nearly all activities) and this could be a potential option to allow flexibility to industry.

Alternatively, a metric that addresses profitability, such as earnings before interest and tax (EBIT), or earnings before interest, tax, and amortization (EBITDA) could be more suitable (Denne, 2021). A disadvantage of this approach would be that it might favour firms th t ar marginal or unprofitable for reasons unrelated to climate change policy.

Some jurisdictions also allow for qualitative eligibility assessments for individual act i es if hey do not meet the criteria of a quantitative assessment. This is more reso rce inte i e but provides flexibility where a quantitative approach might not approp ate y address the uniqueness of a particular industry or business model.

Should industrial allocation policy have emissions intensity hresholds specific to New Zealand? If so, what should they be to appropriate y quantify the materiality of an emissions price on profitability?

The current thresholds of 800 and 1,600 t CO_2-e/$1 million revenue were derived from the thresholds proposed in the Australian CPRS. This was to align the eligibility of Australian and New Zealand activities; however, the Australian scheme was never legislated. The thresholds were developed from the assessmen of t e eff ct of an emissions price on the profitability of Australian industry. Developing thresholds for domestic EITE industry could better align eligibility classifications with the risk of emissions leakage in New Zealand and reduce over-allocation.

How to go about assessing New Zealand specific thresholds is an open question. What is considered a 'material' effe t o profitability is inherently subjective and could depend on a multitude of facto s It could be useful to define a method or set of principles to determine what materiality is and ho to qu ntify it across a broad range of industries. Other price fluctuations make determ ning the m teriality of an emissions price on profitability very difficult. Exchange rates, intern tional ommodity prices, inputs costs, and market competition also have a signific nt ffect financial viability, and it is likely these would need to be accounted for to const uct a tr e measure of the materiality of an emissions price on profitability. The viability of c struc ing such a measure would need to be traded-off against its complexity and effect veness over a more general approach which could be just as suitable.

Another consideration could be to incorporate more than two thresholds to assign a more refined level of assistance to an activity. For example, an activity that has an emissions intensity of 1,590 t CO_2-e/$1 million revenue would currently be classified as moderately emissions intensive despite being very close to the highly emissions intensive threshold. This small discrepancy in emissions intensity causes a significant step change in support. A framework could be developed which provides 'higher resolution' coverage resulting in a level of assistance that appropriately supports each activity. An alternative and more flexible approach could be to qualitatively analyse activities that fall within a certain percentage of a threshold. For example – if an activity were within 15 per cent either side of a threshold then it would require further analysis before eligibility is granted.

Should an electricity allocation factor specific to New Zealand be used when determining eligibility?

Another artefact of the Australian CPRS is the legislated requirement to use an electricity allocation factor (EAF) of 1 t CO_2-e/MWh when determining the eligibility status of a New Zealand activity. This was the EAF applicable to the Australian generation fleet which at the time reflected its reliance on fossil fuels to meet electricity needs. Conversely, New Zealand's EAF which is used to calculate the allocative baselines is considerably lower at 0.537 t CO_2-e/MWh due to the country's large amount of renewable generation. Changing legislation to use the New Zealand EAF for eligibility purposes could ensure that the emissions intensity eligibility test does not favour electricity emissions and over emphasise the materiality of an emissions price on their electricity use. Eligibility could also be better targeted to New Zealand industry and reduce the risk of over-allocation.

Consideration would also need to be given to a possible change in the EAF calculati method which is currently being consulted on[7]. It is possible that it could change to a backwar -l oking approach with the implication that the EAF would always be out of date and either un er o over allocating industry to some degree.

Trade exposure eligibility criteria

Is there a better way to measure trade exposure rather than sing the current "eligible by default" criterion, or could there be a better way to uantify the ability to pass on costs rather than using trade exposure as a proxy?

The criterion that determines if an activity is rad expo ed is all inclusive by default unless there is no international trade of the activity's outp t or it is not viable to import or export it. This means that if the product of any dome tic ndustri l activity is traded overseas, it is automatically considered to have met t e t ade exposure test.

While this is simple, administrative y efficient, and wide ranging enough to capture most activities, it may over-prescribe some activities as trade-exposed. The relevant question is, can firms carrying out indust ial act vities pass on increased costs to consumers? If costs such as an increasing emissions price anno be passed on, then these costs would either need to be absorbed in the firm s profit m rgins, or the firm would need to find ways to reduce the effect of an increasing em sions rice, either through emissions efficiency improvements (the intent of the NZ ETS) or y mo ing to jurisdictions that have a weaker emissions price. The inability to pass on NZ ETS cos is the policy rationale and basis for considering some firms at risk of emissio leak ge (assuming an emissions price has a material effect on their profitability).

S me other trading schemes use a quantitative metric to determine the extent of trade posure of an activity – usually by finding the percentage of international imports and exports wit respect to the total supply of a commodity into the local market (imports + domestic production). Utilising something like this could be better at determining trade exposure, and updating it regularly could account for changing international trade economics. A new metric could also better define differing levels of trade exposure between activities, something the current criteria doesn't do. This would be cumbersome and complicated but provide better categorisation of at risk activities.

[7] https://environment.govt.nz/publications/proposed-changes-nzets-sgg-levy-consultation-document/

Such measures of trade exposure are only proxies for a producer's direct exposure to international competition and extent to which it is a price taker. The government could investigate alternative, and potentially more accurate ways to measure the ability of firms carrying out industrial activities to pass on their NZ ETS costs to customers. Where firms are able to pass on all or some of their NZ ETS costs through higher product prices, they would be at less risk of emissions leakage and have less need of free allocation. The most promising method appears to be an individual economic assessment of the international market for each eligible product.

Should international climate policy and emissions pricing, and overseas production be considered when determining eligibility for New Zealand's industrial activi ies (while ensuring there is consistency of any allocation model with New Zealand's ntern tional trade commitments)?

The risk of emissions leakage is partly driven by the stringency and mpa t of climate policy in overseas jurisdictions that are competitors to New Zealand's emissio s nten ive industries. The trade exposure test could include consideration of the production, clima policy, and emissions pricing in these competing countries to better reflect le kage risk of domestic industry. An activity would only be considered trade-exposed when tra ed with jurisdictions that are known to compete with New Zealand production and lack some form of quivalent emissions pricing or regulation. Alternatively, a metric could be developed whereby the emissions cost in competing countries (weighted with-respect to their emis ions) relat e to New Zealand's emissions costs, scales the amount of support domestic industry is eligible to receive.

Considerations of other climate policy i competing jurisdictions could also be assessed. For example, production moving offshor to jurisdi tions with a weaker emissions price or regulation but a cap on emission would ot cause emissions leakage (Rontard & Leining, 2020) – emissions would just move between sectors within the recipient jurisdiction. It would be difficult to develop a ge eral metric to account for this information. Accounting for it would likely need to be done n an ind idual basis due to the complexity involved.

Incorporating interna ional emissions pricing and climate policy of some form into New Zealand's tra e exposure eligibility test would be more comprehensive and ensure that relative to competing urisdic ions, our industry is adequately protected from emissions leakage while minim sing possible over-allocation. Careful consideration would need to be given to the interaction be ween new trade exposure classifications and international trade commitments.

Eligibility for new activities or firms

Should new activities be able to seek eligibility, and should new entrants of an existing eligible activity be able to receive an allocation?

The Act currently allows the inclusion of new activities to seek eligibility; however, the process involved is very opaque. Clarifying these provisions could support the development of new industries in New Zealand. However, the risk of encouraging high emitting activities into New Zealand, as well as the fiscal costs of granting additional allocations would need to be considered. It would also be very important to consider the effects of additional allocations on New Zealand's emissions budgets.

New entrants of an eligible activity can also currently receive allocation provided they fit the activity description. New entrants who are more emissions efficient than their peers have an advantage as they reap the benefits of higher allocation (based on national average) compared to their own emissions costs. This is a good outcome as it favours firms with lower emissions within an industry, but over time is what contributes to the issues of over-allocation where historical baselines are used. Consideration would need to be given to the risk of increasing allocations with respect to New Zealand's emissions budgets.

Mechanics and settings of calculating allocation

Should allocation be output based, allocated via grandparenting, or administered another way?

New Zealand's allocation is proportional to annual production and uses baselines that are tied to emissions and production data from the financial years 2007-2009. This method of allocation is known as 'output-based with frequent updating' (Rontard & Leining, 2020). Allocation defined this way exposes firms to a fraction of the emissions price per unit of production (price exposure being defined by the level of assistance and industries' emissions costs relative to the national average allocative baseline).

Because the allocative baselines are based on unchanging historic data, increases in an individual firms' emissions efficiency reduces their compliance costs while maintaining a constant level of support per unit of production. This method does not incentivise absolute emissions reductions but does incentivise improvements in emissions intensity.

Some jurisdictions have used a grandparenting methodology, which allocates a constant number of units based on a portion of historical emissions or production. This approach exposes firms to the full price of emissions for marginal increases in production. This method makes future allocations more predictable, which could be good for ensuring New Zealand is on track to meet emissions targets. Another positive is that it does not disincentivise emissions reductions as the volume of allocation is fixed to historical benchmarks. An issue with this method is industry could still be entitled to a constant portion of allocation even if they reduced production or moved offshore. This could be countered with closure provisions (Rontard & Leining, 2020).

Another alternative could be to administer allocation based on actual emissions. Firms would receive an allocation proportional to their annual direct emissions. This would remove any possibility of over-allocation but could be administratively complex and disincentivise emissions reductions. Consideration would also need to be given to how electricity emissions are accounted for.

Readdressing the methodology and basis of allocation could introduce more effective ways to ensure over-allocation and leakage risk is minimised, while also ensuring allocations do not undermine New Zealand's emissions targets. Thought could also be given to how the methodology could incentivise industry to improve their emissions efficiency.

Should allocative baselines be updated to reflect actual emissions, and if so, how regularly?

Allocations dependent on unchanging historical data gives industry greater certainty around future allocations, and investments in emissions efficiency improvements are viewed more favourably. Historical baselines can however lead to firms receiving significant windfall gains as

emissions efficiency improvements and other industry changes are made over long durations. One solution could be to update allocative baselines using recent data. This could either be done as a one-off to realign allocations to reflect emissions efficiency improvements over the last decade, or at regular intervals to ensure allocations are always aligned with actual annual emissions. Updating the baseline years would be one of the simplest and effective means of reducing over-allocation at present – however, thought would need to be given to how this would prevent future leakage risk (if updates were a one off) and that investments in emissions efficiency improvements are not disincentivised.

Should allocative baselines be calculated at the national or at the firm level and should some form of benchmarking be incorporated?

Calculating allocative baselines using a national average method provides a inc n ive for firms to continually improve their emissions efficiency relative to their peers. In achieving an emissions intensity lower than a product's national allocative bas line a fir can reap the benefits of receiving a higher level of support than needed to meet h ir own emissions costs. Consideration would need to be given to the consistency of firm rec i ing allocations above their actual NZ ETS costs with the objective of reducing over-a ocat on. This is where a sound definition of what constitutes over-allocation could be useful.

An alternative could be to calculate allocative baseline at the firm level to better target support to at risk firms. This could potentially be more resource in nsive and would give firms that were more emission-intensive – and perhaps less e ficient – in the recent past an advantage over competitors who may be more effici nt.

Incorporating some form of benchm king nto the alculation of allocative baselines could help to further drive best in class low mission production past what the national average approach achieves. A domestic version of th is used in the EU ETS which targets assistance to the average emissions intensity of the 10% most efficient installations. Two problems with this are that many of New Zealand's EITE indust ies are the only producer in their particular industry and many of them are markedl differ nt from their overseas peers. Another option could be to incorporate a set annual improvement f ctor into the allocative baseline or allocation calculation to reflect sector efficiency impro ements under business-as-usual. How this would interact with the phase-out would nee to be considered.

Other llocation considerations

Are the provision of NZUs the best method to support at risk firms, or would cash or exemption be more appropriate?

Many EITE activities do not have direct surrender obligations in the NZ ETS. Firms carrying out these activities receive an allocation due to the increased cost of fossil fuels and electricity due to surrender obligations further upstream. A consequence of the current policy is that these allocated units have no direct benefit to these firms until they have been traded for cash. A second issue is that allocation is not tied to any emissions reductions or removals – they are emissions that the government allows without limit (although now constrained within the ETS cap). Support in the form of cash or tax credits could uncouple financial support from directly providing emissions-intensive industry the right to emit.

The EU ETS provides cash-based support for indirect emissions attributed to electricity use. Something like this but extended to all indirect emissions (and possibly direct emissions) could be a more effective way of targeting support to reduce the risk of emissions leakage.

Another consideration could be 'consignment', which is a mix of free allocation and auctioning to provide targeted assistance. A portion of a firm's eligible units are put up for auction with the proceeds earmarked to be used only for projects or initiatives that produce emissions reductions for the recipient firm. This encourages firms to find ways to improve their emissions efficiency to access these funds. For industries where there is little room for emissions reductions this could be more complicated.

Exemption – where a portion of direct surrender obligations are removed – is another method of support that could be investigated. As only a small portion of EITE industry have direct surrender obligations, this has the potential to be very complex to administer. Including indi ect emissions would require extensive record keeping of all production inputs that ave an embedded emissions price and exempting surrender obligations higher up stream. This ould be administratively burdensome, and in many cases impossible. However, fo ctivit es such as the manufacture of steel and aluminium that have some direct surrender obliga ions, this could be an administratively efficient way of targeting assistance.

Should there be a limit on the annual support given to EITE firms (individually, for an activity, or collectively), and if not, what measures should e put in place, if any, in case emissions budgets are breached?

There is no limit on the amount of allocation that firm can theoretically receive, and the Crown has an obligation to provide allocation in l ne w th elig ble production. If production increased above typical levels, industry would be eligib to rece e it. Unconstrained allocation poses a risk to the emissions budgets set in 2021, which will reduce over-time in line with emissions reduction targets.

One solution to this issue could be o introduce a cap adjustment factor into the allocation calculation. This is a factor that adj sts allocations to ensure they decline in line with emissions budgets. The EU ETS an the C lifornia scheme use allocation adjustment factors.

The NZ ETS has incorporated a phase-out of the level of assistance to ensure that industrial allocation reduces n line w th increasing ambition. However, it is not closely linked with New Zealand's decli g emissions cap[8]. A cap adjustment factor that is tied to the rate at which the budgets de eas c uld be a more suitable solution.

A se ond r aso to limit allocation could be to reduce the growth of emissions-intensive indus ry. Con ideration would need to be given to ensuring that lower emissions industry is not sincen i sed.

Should assistance be time bound as a form of transitional investment (eg, allocation completely stopped by 2050)?

When industrial allocation policy was first implemented in 2010 it was always intended to be a transitional policy. It incorporated a phase-out rate of 1.3 per cent annually starting in 2012;

[8] Although, if the phase-out rate is changed, the Minister must be satisfied that it is consistent with meeting emissions budgets.

however, this was delayed and eventually indefinitely removed in 2019. The 2020 amendments to the CCRA reintroduced a phase-out that ramps up over the next three decades. By 2050 moderately emissions-intensive activities will have a level of assistance of zero per cent and highly emissions-intensive activities will have a level of assistance of 30 per cent (only using the default phase-out). The new provisions also provide the Minister the ability to increase or decrease the phase-out depending on a range of factors. The phase-out is out-of-scope of the review however there could be other options to set further time limits on allocation such as a legislated deadline after which allocations would cease.

Should the 'bringing forward' of allocations be allowed, and how would this change the eligibility status of such EITE recipients?

A barrier EITE industry is faced with is that emissions efficiency improvements o t n have high capital cost. Because allocation is provided annually as emissions occur, the benefit of those units is spread over time. For some industries, this accrual of units has litt e us when it comes to big ticket items such as retro fitting a plant or changing proc sses if they wanted to use their allocation to drive emissions efficiency investments rather th n of t increased fuel and electricity prices). Bringing forward allocations would allow firm to r ceive future allocations in bulk and use this to invest in emissions efficiency impro ements which would otherwise be prohibitively costly. Firms would need to demonstrate tha the investment made measurable emissions reductions.

Disadvantages of 'binging forward' is that it is difficult to match up future entitlement with the allocation of units that would be pr vided up-f ont because future production volumes and changes to phase-out provisions are unknown. his provision would also provide units for a purpose other than reducing the sk f le kage. T is opens the broader question of whether industrial allocation should be used to in entivise emissions reductions or should only be used to offset emissions costs.

Should annual missi ns, production, and revenue data of allocation recipients be mandatorily repor ed to the government to better monitor the risk of emissions leakage?

There is limited data available to the government to monitor the risk of emissions leakage. Becau e glo al climate policy is continually evolving as well as the markets of international trade, the ris of emissions leakage changes with time. Currently, firms with direct surrender oblig tio are required to submit an emissions return, and production data is collected for allocat on applications, however, most of it is protected under confidentiality provisions[9]. I dir ct emissions data[10] and revenue generated from the sale of EITE products isn't gathered annually. The Ministry could better regulate and understand the risk of leakage if recipients were required to submit their annual production, emissions, and revenue data. Doing so would allow better oversight and ensure that industrial allocation policy, or any alternative, is meeting its objectives and not providing windfall gains to firms.

[9] Emissions data from emissions returns submitted after 1 January 2021 will be published by the EPA.

[10] In most cases, indirect emissions make up the majority of an activity's baseline.

Is the current five-year stand down period for revoking or amending eligibility appropriate?

Under current legislation, any change in an activity's eligibility status takes five years to come into effect. For example, if it were found that the production of protein meal had moved from moderately emissions-intensive, to ineligible, this industry would still receive an allocation for five years from the point of gazettal of their change in eligibility status. Similarly, if an activity moves from highly to moderately emissions-intensive, their allocation is kept at the higher rate for five years.

Given the evidence of over-allocation already occurring, this lag time could significantly undermine New Zealand's progress towards emissions targets – particularly the short term 2030 target.

Secondary scope

The review's secondary scope looks outside the bounds of current allocation pol y a d asks if it should be broadened to address climate issues other than leakag It al o a ks alternative mechanisms to current industrial allocation policy might better addre s le kage risk in a low carbon future and fast changing international context.

Should industrial allocation or any alternative mech nism provide an incentive for, and support investment in, emissions reductions, and how?

Current industrial allocation policy has been developed with a focus to prevent emissions leakage. It was and is, intended to suppor at ri k firms from competitiveness disadvantage posed by asymmetrical climate policy in over eas juris ictions. Despite the opinion of some industries, the protection was never intend d to be a subsidy to aid investment in emissions reductions.

An unfortunate side effect of the p licy is that firms are disincentivised from investing in emissions efficiency improvements f t ey result in decreases to their allocation. This risk was mitigated by tying alloca ve bas lines to data from the financial years 2007-2009. This however has led to another perverse utcome – over-allocation.

The review provide an op ortunity to question whether industrial allocation should protect firms from emis ions akage (with-out over-allocating) while also incentivising emissions reductions. How th would be achieved is uncertain and it would require significant policy develo ent nd esourcing to make such a change. Based on the current architecture, it appears tha these outcomes are incompatible and would be better served with their own i divi ual po icy.

Should industrial allocation or any alternative mechanism consider economic, social, cultural, and environmental factors when determining the support provided to industry and how would this be incorporated?

There is also an open question as to whether the wider benefits of industrial allocation, or any alternative mechanism should be considered when determining the support provided to industry. The movement of EITE industry offshore could have negative effects other than just emissions leakage, such as, loss of economic benefits to local communities, loss of economic benefits to government, loss of direct and indirect employment, and loss of social structure in

regional communities. There could also be positive effects of EITE industry moving offshore such as making space in the market for low carbon industry, cost savings for the government, additional auction volume, and lowering New Zealand's gross emissions.

Extending allocation policy to incorporate a wider range of issues would be complicated and difficult to manage and decision makers would need to be certain that they would not undermine the key objective of preventing emissions leakage. It would be important that the benefits of these additional considerations are quantified and weighed against each other to determine the net benefit of providing support to EITE industry.

What alternative mechanisms to the current industrial allocation regime better address the risk of emissions leakage, and support domestic and international emissions reduction targets, and when would it make sense to transition from one regime to another, and how?

The government has been clear that climate change is a priority. Increasing climate ambition will put more pressure on New Zealand's ability to effectively reduce greenhouse gas emissions, and to meet our domestic and international targets. Additionally supporting EITE industry is a significant cost to the government and if misaligned, supports emitting industries beyond what is required to offset leakage. There is interest in whether there are more effective ways to protect EITE industry from emissions leakage, while also supporting emissions reductions.

Interest in Carbon Border Adjustment Mechanisms (CBAM) is on the rise internationally. A CBAM is a tariff/rebate system which applies an emissions price on emissions-intensive imports to a level comparable to a domestic emissions price and gives a rebate to domestic emissions-intensive exports entering jurisdiction subject to a weaker emissions price. This mechanism would ensure equitable emissions pricing is applied to all international goods across participating jurisdictions. A benefit of a CBAM is that it levels the domestic and international commodity price so that the NZ ETS's price signal is reflected in the domestic economy. Industrial allocation on the other hand compensates domestic industry so they can compete with cheaper offshore production with the side effect of keeping domestic prices low. This distorts the NZ ETS price signal and disincentivises the local use of lower emissions products like timber.

Up until recently, CBAMs have been dismissed as unachievable due to the international cooperation required to implement one, and because of the complexity of designing a system that is compliant with World Trade Organisation rules.

The development of a CBAM would be complex and lengthy. A possible starting point could be the incorporation of the most at-risk firms that are affected by an emissions price and global trade such as steel, aluminium, cement, and petroleum products. This could be a complementary approach where a CBAM works alongside the current industrial allocation framework.

Appendix 1

Terms of Reference for the Industrial Allocation Policy Review

1. These terms of reference define the scope and procedure of the review of industrial allocation policy within the New Zealand Emissions Trading Scheme (NZ ETS).

2. In March 2020, Cabinet invited the Minister of Climate Change to provide a terms of reference for a review of industrial allocation [CAB-20-MIN-0102 refers].

Context

3. The Government has declared a Climate Change Emergency and committed Aotearoa New Zealand to a path of transition towards net zero carbon emissions by 2050. This will require significant changes to parts of our economy, and the Government has a responsib lity to work alongside affected communities and businesses

4. Industrial allocation is the provision of free New Zealand Units (NZUs) to firms that are emissions-intensive[11] and trad -exposed[12] (EITE). Its purpose is to reduce the risk of emissions leakage by protecting the competitiveness of firms that face increased costs as a result of the NZ ETS, while maintaining an incentive for hese firms to make investments that reduce emissions.

5. Emissions leakage is whe e differing climate policies between countries could result in the displacement of New Zealand production, the loss of market share, or the disp acement of investment to higher emissions alternatives overseas with the intent to reduce NZ ETS compliance costs.

6. The Climate Change Response (Emissions Trading Reform) Amendment Act 2020 has initiat d a gradual phase-out of industrial allocation, and created a provis on for activity specific phase-outs from 2025. However, this pro ess will take time to address the problems described below.

7. Current industrial allocation outcomes result from legislation requiring tha data from the financial years between 2007-09 be used for the purpose of determining eligibility and allocative baselines. This legislation was strongly influenced at the time by an intention to align NZ ETS settings with those in the proposed Australian Carbon Pollution Reduction Scheme. The Australian scheme never eventuated.

[11] An activity is moderately emissions-intensive if its emissions intensity is between 800-1,600 t CO_2-e/$1 mill revenue, and highly emissions-intensive if its emissions intensity is greater than 1,600 t CO_2-e/$1 mill revenue.

[12] An activity by default is considered trade-exposed unless there is no international trade of the activity's output across oceans, or it is not economically viable to import or export.

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8. It is now clear some EITE firms are over-allocated and that the economic and fiscal outcomes are not aligned with the policy intent of reducing the risk of emissions leakage. Evidence to support this is:

   a. a data collection from a subset of EITE industries showing that emissions efficiency improvements, fuel switching, changes in industry structure, and surrender exemptions have caused significant changes in allocative baselines and in some cases changes in eligibility

   b. a report that found for some industries in the same subset, there is little risk of emissions leakage at current emissions prices

9. Over-allocation increases the difficulty of meeting New Zealand's emissions reduction targets under the Climate Change Response Act 2002 by taking up a larger portion of emissions budgets. It has distributional impacts, is a windfall gain for firms, reduces the incentive for abatement across the economy, reduces the effectiveness of the NZ ETS' price signal, and creates fiscal costs for the Crown by reducing the amount of NZUs the government can sell through auctioning.

Objective of the review

10. The review will assess the effectiveness of industrial allocation policy and its current settings. Its primary objectives are to ensure the outcomes of industrial allocation policy are aligned with:

    a. the policy objective of minimising the risk of emissions leakage

    b. New Zealand's domestic and international emissions reduction targets.

11. In the long term, systemic issues with industrial allocation policy will need to be addressed to ensure support provided to EITE firms is appropriate to offset the risk of emissions leakage in a low carbon New Zealand. This would primarily look at alternative measures that could more effectively reduce the risk of emissions leakage, while achieving better environmental and economic outcomes than the status-quo. However, development of this will be a longer-term process and take considerable time and development but the conversation regarding options for this can begin here.

12. In the interim, and in light of the evidence of over-allocations, this review will consider the options for realigning the parameters of the existing industrial allocation framework. Adjustment to the current industrial allocation framework is necessary as discussion and analysis of alternatives will take several years to conclude and be implemented.

Scope

The review will have two sets of considerations to be discussed in parallel.

Primary Scope

13. The primary scope will have a focus within the bounds of current industrial allocation policy and must consider (but not limited to):

    a. the emissions-intensity eligibility criteria

    b. the trade-exposure eligibility criteria

    c. the current mechanism and settings for calculating allocation

14. Specific considerations that could be addressed within the primary scope are whether:

    a. whether current industrial allocation policy supports emissions reductions to occur, with urgency, in economically efficient ways that are consistent with a just transition for affected communit es

    b. emissions intensities should be tied to revenue o some other metric such as profit, or value-added

    c. emissions intensity thresholds should be spec fic t New Zealand industry, and if so, what should they be (nd the associated levels of assistance) to appropriately quanti y the materiality of an emissions price on profitability

    d. should an electricity factor specific to New Zealand be used when determining eligibility

    e. there is a better way to measure trade-exposure rather than using the current 'eligible by def ult' criteria

    f. there is a better w y to quantify the ability to pass on price rather than using trade exposure as a proxy

    g. internatio al climate policy and emissions pricing, and overseas production should be considered when determining eligibility in the New Zealand context (while ensuring there is consistency of any allocation model with New Zealand's international trade ommitments)

    h. new activities should be able to seek eligibility and how they might be treated

    i. new entrants of an existing eligible activity should be able to receive allocations

    j. the current method for calculating allocation remains appropriate and if not, what changes would be advised. Sub considerations could be whether:

        i. allocation should be output based, allocated via grandparenting, or administered another way

ii. allocative baselines should be updated regularly to reflect actual emissions

iii. allocative baselines should be calculated at the national activity level, or at the firm level, and if some form of benchmarking should be incorporated

k. the provision of NZUs is the best method to support at risk firms or whether cash or exemption might be more appropriate

l. there should be a limit on the annual support given to EITE firms (individually, for an activity, or collectively), and if not, what measures should be put in place, if any, in case emissions budgets are breached

m. assistance should be time bound as a form of transitional investment (eg, allocation completely stopped by 2050)

n. the 'bringing forward' of allocations should be allowed to aid investment in low emissions alternatives, and how this would change the eligibility status of such EITE recipients[13]

o. annual emissions, production, and revenue data of allocation recipients should be provided to the government to better monitor the risk of emissions leakage

p. the process for updating allocative baselines resulting from the annual recalculation of the electricity allocation factor, or the revision of other emissions factors, needs to be revised

q. the current five year stand down period for revoking or amending eligibility is appropriate.

Secondary Scope

15. To open discussions on longer term changes to industrial allocation, a secondary set of considerations are to be assessed in parallel. These considerations are:

a. should industrial allocation or any alternative mechanism provide an incentive for, and support investment in, emission reductions, and how

b. should industrial allocation or any alternative mechanism consider economic, social, cultural, and environmental factors when determining the support provided to industry and how would this be incorporated

[13] Bringing forward is the possible ability to borrow future allocations in bulk instead of receiving them over time as emissions and surrender obligations occur.

c. what alternative mechanisms to the current industrial allocation regime would better address the risk of emissions leakage and support New Zealand meeting its domestic and international emission reduction targets – and when would it make sense to transition from one regime to the other, and how.

16. Considerations identified in this secondary scope are intended only to begin the discussions around transitioning to alternatives measures. No legislative changes to secondary scope considerations are intended to result from the outcomes of this review in the near-term.

Out of scope

17. The following matters are outside the scope of the review:

    a. the legislated phase-out of industrial allocation's levels of assistance. This policy parameter was recently reviewed, decided and implemented

    b. the Electricity Allocation Factor (EAF). A review of the EAF is already underway and is a separate part of the industrial allocation review

    c. agricultural free allocation. The review will not consider matters related to assistance for the agricultural sector if it enters the NZ ETS under the backstop provision

    d. how industrial allocation is accounted for in the methodology for NZ ETS unit supply settings. These settings only need forecast industrial allocation volumes and are not strongly tied to the industrial allocation methodology.

Procedure of the review

18. The Ministry for the Environment (the Ministry) will lead the review.

19. A small group of specialists with economic and climate policy expertise will be invited to participate in a technical advisory group (TAG) to help assess options for proposed changes to the existing industrial allocation framework. Because the TAG will be focussed on technical options analysis, stakeholders will not be invited to participate or observe. Full consultation with stakeholders will occur in the consultation phase. The Climate Change Commission and the Parliamentary Commissioner for the Environment will also be invited to participate or observe. A terms of reference will be developed for the TAG, defining its purpose, membership, roles and expectations, conflicts of interest and confidentiality.

20. The TAG will provide:

    a. recommendations on specific areas of industrial allocation policy to focus commissioned research on

    b. expert opinion and scrutiny of the research

c. comment on policy options and impacts to inform a consultation document.

21. Government agencies will provide input into these proposals and the consultation document, including: The Treasury; the Ministry of Foreign Affairs and Trade; and the Ministry of Business, Innovation and Employment, and the Ministry for Primary Industries (and Te Uru Rākau).

22. Findings from the public consultation will be reported to the Minister of Climate Change by the end of 2021.

Timing of the review

23. The review will begin following the announcement of these terms of reference.

24. The Ministry will set up the TAG as soon as possible by invitation.

25. Research within the scope of the review will be commissioned by the end of May with a deadline of mid-2021.

26. Public consultation incorporating: research findings, analysis and comments from the Ministry and the TAG, and the resulting policy proposals will begin in the second half of 2021, dependent on approval from the Minister of Climate Change, and Cabinet.

27. Subsequent to the findings of the consultation, advice will be provided to the Minister of Climate Change by the end of 2021.

Responsibilities of the Ministry for the Environment

28. The Ministry is responsible for:

a. leading the review and steering its overall direction

b. producing analysis and recommendations to include in the final discussion document

c. providing support to the TAG

d. all deliverables in the review process

e. reporting regularly to the Minister on the review's progress.

Consultation

29. The input of stakeholders is important for the review's success. Public consultation will occur over the second half of 2021 to assess stakeholder's appetite for changes to industrial allocation policy. Officials will ensure our partners iwi/Māori are given the opportunity to be involved in the development of proposals.

Alignment with other Government work

30. The review will be aligned with other government work programmes on climate change, particularly the work on market governance in the NZ ETS, the Emissions Reduction Plan, and future work on linking the NZ ETS to international carbon markets.

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