



Parliamentary Commissioner  
for the **Environment**  
Te Kaitiaki Taiao a Te Whare Pāremata

**Feedback to the  
Ministry for the Environment  
on the  
Development of  
Industrial Allocation Regulations  
under the New Zealand Emissions Trading  
Scheme**

## Summary of recommendations

Allocation is a key moderator in the effectiveness of the Emissions Trading Scheme in reducing New Zealand's greenhouse gas emissions. It is critical that allocation is fair and transparent. Here I seek to improve the proposed methodology of industrial allocation for electricity consumption.

### Recommendation 1:

**I recommend that the electricity allocative baseline rate is immediately reduced to a level that precludes any possibility of windfall profits by industry. I expect that this rate will be close to 0.2 credits per MWh. The electricity allocative baseline should only be revised upwards on the basis of new, transparent, and robust analysis identifying a rate that reflects the electricity price increases, due to carbon costs, faced by eligible companies specifically.**

### Recommendation 2:

**I recommend that the "electricity factor" used to test the emissions intensity eligibility of firms be set equal to the allocative baseline for electricity useage. This should be around 0.2 credits per MWh.**

## Introduction

Climate change is the biggest environmental challenge of our time. As the Parliamentary Commissioner for the Environment, much of my work relates to the need to make the transition to a low-carbon economy. This includes my previous involvement with the Emissions Trading Scheme (ETS).<sup>1,2,3,4,5</sup> As a continuation of that work, here I provide feedback on the Development of the Industrial Allocation Regulations.

Allocation refers to the Government giving carbon credits to ETS participants, in effect for free. The intent of allocation is to protect the competitiveness of big emitting firms. But allocation is costly. Not only does the taxpayer, in essence, subsidise firms, but also allocation lessens the incentive to invest in low-carbon technology and emissions reductions.

Allocation reduces the effectiveness of the ETS. In my submission to the Finance and Expenditure Select Committee on the Climate Change Response (Moderated Emissions Trading) Bill,<sup>5</sup> I made the points that allocation should be granted transparently, and that allocation can also introduce equity issues. The current allocation model places particular emphasis on support for big industrial emitters.

I appreciate the opportunity to give feedback on this very important issue. My focus in this feedback is problems with the proposed methods for allocation to emissions-intensive industry for carbon costs associated with electricity consumption.

## 1. The electricity allocative baseline is too high

Allocation for electricity use is intended to help firms cope with price increases in electricity due to carbon costs. The pertinent question, then, is how much electricity prices will increase as a result of carbon pricing. But electricity price increases are very hard to predict, due to the complexities of the New Zealand electricity market and the need to cater for rising electricity demand.

Despite the difficulty, it is imperative the number of credits given to industry to offset electricity price increases should be accurately - and transparently - determined. There is considerable taxpayer money involved. If, for example, industry receives 0.1 credit per MWh more than the actual cost they face, this would result in windfall profits for industry of up to \$42 million per year,<sup>6</sup> in effect paid for by taxpayers.

**The risk of big industrial emitters being allocated more than the costs they face is a serious equity concern.**

In the proposed regulations eligible industry will receive 0.52 credits for every MWh of electricity they consume. This rate was recommended by the Stationary Energy and Industrial Processes Technical Advisory Group (SEIP TAG) in 2008. This rate needs to be adjusted because it is based on assumptions that lead to inaccuracy.

The SEIP TAG based their recommendation on short run marginal costs predicted using economic modelling. But their model only considered the carbon costs for aggregate electricity usage. In other words, the 0.52 credits per MWh is the average carbon cost for New Zealand's total electricity consumption.

But industry won't be exposed to the average carbon cost. Rather, industry will face less than average carbon costs. This is because industry mostly consumes non-peak time electricity, when carbon costs are lower than at other times.

*The current electricity allocative baseline rate, of 0.52 credits per MWh, is too high, and will lead to windfall profits by industry.*

The price of electricity in any half hour period depends on the marginal production cost. Peak electricity use (e.g. winter) is mostly met by Huntly burning coal,<sup>7</sup> a very carbon intensive source of electricity. This means that the peak time electricity will have relatively high carbon costs.

Unlike residential consumers, industry can opt into variable electricity price contracts with electricity suppliers.<sup>8</sup> So, industrial consumers can use the price difference between peak and non-peak electricity to reduce their electricity bills. Because non-peak electricity is cheaper, most industry electricity consumption occurs at non-peak times, when the carbon costs are relatively low.

In other words, since the electricity consumption peak is a peak (i.e. more electricity is used at peak hours than at other hours), it significantly skews the average carbon intensity. Given industry consumes mostly non-peak electricity, allocating based on the average carbon intensity of total electricity will lead to over-allocation.

So, what is the carbon intensity of the electricity consumed by industry?

The predominant cause of peak electricity demand is residential heating and lighting. A recent study of the carbon intensity of residential heating - a major part of residential electricity consumption - found it to be relatively high at 0.9 tCO<sub>2</sub>eq per MWh<sup>7</sup> (equating to 0.9 credits per MWh since 1 tCO<sub>2</sub>eq emitted = 1 credit).

Assuming 2006 electricity consumption rates,<sup>9</sup> that all residential electricity consumption has an intensity of 0.9 tCO<sub>2</sub>eq per MWh, and that the overall intensity is 0.52 credits per MWh (as recommended by the SEIP TAG), the carbon intensity of electricity used by - and the carbon cost imposed on - industrial consumers is about 0.21 credits per MWh.

The difference between the cost that industry is exposed to (0.21 credit per MWh), and the allocation industry will receive under the proposed regulations (0.52 credit per MWh), will result in windfall profits to industry. These windfall profits will be substantial, potentially greater than \$130 million per year.<sup>10</sup> This is only a rough estimate. But it does demonstrate that 0.52 credits per MWh allocation to industry for electricity used is almost certainly an over-estimate of the actual costs industry will face.

Recommendation 1:

**I recommend that the electricity allocative baseline rate is immediately reduced to a level that precludes any possibility of windfall profits by industry. I expect that this rate will be close to 0.2 credits per MWh. The electricity allocative baseline should only be revised upwards on the basis of new, transparent, and robust analysis identifying a rate that reflects the electricity price increases, due to carbon costs, faced by eligible companies specifically.**

## 2. The electricity factor should equal the allocative baseline

A general problem with the current allocation scheme is that it was designed to equate with allocation under the Australian Carbon Pollution Reduction Scheme (CPRS), and it now seems unlikely the CPRS will be passed into Australian law. The justification to match Australian rules and allocation rates no longer exists. The proposed “electricity factor” is a specific example of using an Australian rate (of 1 tonne per MWh) that is not appropriate to New Zealand’s specific circumstances.

The amount of allocation firms are eligible to receive is based on their emissions intensity. If a firm is deemed to be high intensity (i.e. they emit at least 1600 tonnes of CO<sub>2</sub>eq per \$1million revenue) they receive 90% of the allocative baseline. If they are deemed to be moderate intensity (i.e. they emit at least 800 tonnes of CO<sub>2</sub>eq per \$1 million revenue) they receive 60% of the allocative baseline. If a firm’s emission intensity does not reach the moderate intensity threshold, they are not eligible to receive any allocation.

The emissions intensity of any firm is measured against the intensity thresholds by considering its revenue and total emissions. Total emissions includes both direct emissions and emissions from electricity. The “electricity factor” prescribes the quantity of emissions that is associated with each MWh of electricity consumed.

*There is no good reason why the electricity factor should be any higher than the allocative baseline for electricity consumption.*

The electricity factor has been set to 1 tonne of CO<sub>2</sub>eq per MWh. This is approximately double the proposed allocative baseline for electricity consumption of 0.52 credits per MWh. Such an approach is flawed. Whether a firm reaches an intensity threshold should depend on actual emissions intensity, not an arbitrary inflated value.

An inflated electricity factor is not desirable. It will cause more firms to be deemed high or moderately intensive than otherwise, substantively increasing the total allocation cost to taxpayers, increasing inequity, and further undermining the drive to a low carbon economy.

Recommendation 2:

**I recommend that the “electricity factor” used to test the emissions intensity eligibility of firms be set equal to the allocative baseline for electricity useage. This should be around 0.2 credits per MWh.**

## Endnotes

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- <sup>1</sup> Parliamentary Commissioner for the Environment. 2008. "Advice from Dr Jan Wright on the Climate Change (Emissions Trading and Renewable Preference) Bill". *Text of advice to the Finance and Expenditure Select Committee*. Wellington.  
[www.pce.parliament.nz/\\_\\_data/assets/pdf\\_file/0007/1699/ETS\\_Renewable\\_Pref\\_Bil.pdf](http://www.pce.parliament.nz/__data/assets/pdf_file/0007/1699/ETS_Renewable_Pref_Bil.pdf)
- <sup>2</sup> Parliamentary Commissioner for the Environment. 2009. "Advice to the Emissions Trading Scheme Review Select Committee: Recommendations" *Text of Advice given to the Emissions Trading Scheme Review Select Committee*. Wellington.  
[www.pce.parliament.nz/\\_\\_data/assets/pdf\\_file/0008/3995/PCE\\_ETS\\_Advice\\_Text.pdf](http://www.pce.parliament.nz/__data/assets/pdf_file/0008/3995/PCE_ETS_Advice_Text.pdf)
- <sup>3</sup> Parliamentary Commissioner for the Environment. 2009. "Report to Emissions Trading Scheme Review Select Committee: Impact of the ETS on Indigenous Land Cover" *Response to information request by the Emissions Trading Scheme Review Select Committee*. Wellington.  
[www.pce.parliament.nz/\\_\\_data/assets/pdf\\_file/0010/3997/PCE\\_Report\\_to\\_ETS\\_SC\\_on\\_indigenous\\_landcover.pdf](http://www.pce.parliament.nz/__data/assets/pdf_file/0010/3997/PCE_Report_to_ETS_SC_on_indigenous_landcover.pdf)
- <sup>4</sup> Parliamentary Commissioner for the Environment. 2009. "Impact of the ETS on Indigenous Land Cover". *Text of Advice given to the Emissions Trading Scheme Review Select Committee*. Wellington.  
[www.pce.parliament.nz/\\_\\_data/assets/pdf\\_file/0011/3998/PCE\\_Forestry\\_Advice\\_Text.pdf](http://www.pce.parliament.nz/__data/assets/pdf_file/0011/3998/PCE_Forestry_Advice_Text.pdf)
- <sup>5</sup> Parliamentary Commissioner for the Environment. 2009. "Submission to the Finance and Expenditure Select Committee on the Climate Change Response (Moderated Emissions Trading) Bill." *Text of Advice given to the Finance and Expenditure Select Committee*. Wellington.  
[www.pce.parliament.nz/\\_\\_data/assets/pdf\\_file/0016/4516/PCE\\_Submission\\_on\\_the\\_ETS\\_Mod\\_Bill.pdf](http://www.pce.parliament.nz/__data/assets/pdf_file/0016/4516/PCE_Submission_on_the_ETS_Mod_Bill.pdf)
- <sup>6</sup> Assuming 2006 levels of electricity consumption by industry, i.e. 16900GWh per year (Kema. 2007. *New Zealand Electric-Efficiency Potential Study*. September 2007. Wellington: Electricity Commission.)
- <sup>7</sup> Concept Consulting Group Limited. 2009. "Cost:benefit analysis for increasing the direct use of gas in New Zealand". *A report prepared for the Gas Industry*. December 2009.
- <sup>8</sup> Energy Link Ltd. 2008. "Introduction to the Electricity Market". A Training Course Prepared by Energy Link Limited for the Parliamentary Commissioner for the Environment.
- <sup>9</sup> Electricity consumers are commonly divided into three groups: residential, commercial and industrial. In 2006 annual electricity consumption was 12600 GWh for residential users, 16900 GWh for industry, and 8600 GWh for commercial users (Kema. 2007. *New Zealand Electric-Efficiency Potential Study*. September 2007. Wellington: Electricity Commission).
- <sup>10</sup> Assuming a carbon price of \$25/credit