



To Hon James Shaw, Minister for Climate Change			Tracking #: 18-B-04354
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## Accounting for the NZ ETS in the Crown's Accounts

### Purpose

1. This briefing responds to your request for more information about how the NZ ETS is accounted for in the Crown's accounts, following our briefing note 2018-B-04253 on the 2018 March Baseline Update (Climate Change Appropriations).

### Key Messages

2. When the Crown transfers New Zealand Units (NZUs) to NZ ETS participants at no charge, an expense is recorded on the operating statement with a liability on the balance sheet. This reflects that NZUs have a market value that is being given away for no consideration.
3. In contrast, if NZUs were to be auctioned at the market price, the sale transaction would not affect the operating balance. This is because both a liability (an NZU) and an asset (cash) would be created, with no gain or loss in value.
4. When NZUs are returned to the Crown through participants' surrenders, revenue is recognised and the NZ ETS liability is decreased. In the case of NZUs allocated at no charge, after both the allocation and surrender transactions have occurred the Crown is left in the same position in terms of net worth as before those transactions happened (all other things held equal). For auctioned NZUs, the Crown's net worth would be increased, due to the cash obtained through the initial sale.
5. For both the allocation and surrender of NZUs, the expense and revenue transactions are measured at the fair value of NZUs at the time of the transaction. In practice, an average or month-end market price is used as a reasonable proxy. The market price of NZUs is also used to revalue the NZ ETS liability at each balance date.
6. The NZ ETS liability reflects both the total number of NZUs allocated to the market and the NZU price. It is a necessary consequence of the NZ ETS policy, as the normal functioning of the scheme requires that a significant number of NZUs be held in private accounts at any time. The liability should therefore be seen in light of the overall reduction in the economic cost of meeting emission reduction targets that the NZ ETS is intended to deliver.
7. Currently there is a large amount of NZUs banked in private accounts. This accumulated over 2013-15 when NZ ETS participants surrendered high numbers of international units and banked NZUs allocated to them. The removal of the one-for-two surrender obligation means that this 'stockpile' is forecast to reduce to a more acceptable level by 2021, helping to mitigate the risk that it will undermine the effectiveness of the NZ ETS in the 2020s.
8. The NZ ETS liability is not taken into account in the Government's key fiscal indicator, net core Crown debt (borrowings less liquid financial assets). Therefore it does not negatively impact on the long-term debt objective outlined in the Government's fiscal strategy.
9. The fiscal impacts of the NZ ETS mean that it is important to manage the scheme carefully and avoid over-allocation of units. The planned improvements to the NZ ETS unit supply framework aims to give the Government more control over the amount of NZUs allocated, and will ensure better alignment with New Zealand's 2030 emission reduction target.

## Financial accounting treatment of NZU transactions

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10. Appendix 1 includes a table summarising the impacts on the Crown's accounts for various NZU transactions, including allocation at no charge; sale at the market price (auctioning); and surrenders by NZ ETS participants. An explanation is also provided below to give context to how these NZU transactions are accounted for by the Crown.
11. The NZUs that the Crown distributes as part of its operation of the NZ ETS can be considered as a medium of exchange backed by the Government, or alternatively as intangible assets at the time that they are distributed by the Government.
12. NZUs have a market value, derived from their value in meeting the surrender obligations that arise from emitting a tonne of CO<sub>2</sub>-equivalent that each NZU represents. There is an expectation that the Government will honour the rights or value that NZUs confer on those that hold them. For this reason, when the Government allocates an NZU to NZ ETS participants without charge, this transaction is recorded as an expense on the Crown's operating statement at that time, with a liability created on its balance sheet.
13. Conversely, when NZ ETS participants surrender NZUs to the Government to satisfy NZ ETS obligations, receipt of the NZUs is recognised as revenue. The Crown's NZ ETS liability is also reduced, as the surrenders reduce the total amount of NZUs in the market.
14. For both the allocation and surrender of NZUs, the expense and revenue are measured at the fair value of the NZUs at the time of the transaction. In practice, it is not practical to determine a fair value every day, so a monthly price is used as a reasonable proxy.
15. If the Government allocates NZUs to participants by selling them at the market price, as is expected when auctioning is introduced in future, the auction transaction would have no impact on the operating statement. This is because the Crown would be exchanging one asset (an NZU) for another (cash) with no gain or loss. As a result, no expense or revenue would be recorded in the operating statement. The increase in the NZU liability and in the cash asset net off against each other to create no overall impact on net worth in the balance sheet at that time. When the NZUs are surrendered, revenue is recognised, the NZ ETS liability decreases, and the Crown's net worth increases as it is then left with the cash obtained from the earlier sale by auction of those NZUs.
16. Under current fiscal policy practices, unless a policy decision is taken to use the cash obtained from auctioning NZUs for a specific purpose, it would be retained by the centre.
17. This description of Government accounting for the NZ ETS has been largely taken from "*The Emissions Trading Scheme - summary information for public entities and auditors*"<sup>1</sup>, a document published by the Auditor-General in 2011, with some updates to reflect current practice. The Auditor-General considers that this approach meets the requirements of the New Zealand equivalents to International Financial Reporting Standards (NZ IFRS).

## The Crown's NZ ETS liability

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18. The NZ ETS liability on the Crown's balance sheet reflects both the total number of NZUs allocated to the market and the NZU price. For the Crown's financial reporting, on each balance date the NZ ETS liability is revalued based on the current market price of NZUs.
19. The normal functioning of the NZ ETS requires that a significant number of NZUs be held in private accounts at any time. These banked NZUs are important for giving NZ ETS participants the ability to manage their NZ ETS liabilities and costs over time. For example, many non-forestry participants hold NZUs to hedge against NZU price movements, while many post-1989 foresters hold NZUs against future surrender obligations, potentially for long periods of time (even decades, given the length of forestry harvest cycles).

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<sup>1</sup> Retrieved from <http://www.oag.govt.nz/2011/emissions-trading-scheme>.

20. This means that while the NZ ETS is in place, there will always be a substantial NZ ETS liability recorded in the Crown's balance sheet. If the ETS is operating in a stable manner, however, the expenses and revenues from NZU flows should even out over time.
21. During the first commitment period of the Kyoto Protocol (KP CP1), New Zealand's emission reduction target was also recorded on the balance sheet, with Assigned Amount Units (AAUs, the carbon budget units allocated to New Zealand under the KP) held by the Crown accounted for as assets. The KP CP1 AAUs provided a counterbalance to the NZ ETS liability created by the Government's allocation of NZUs to participants, although they were not directly netted off against each other.
22. This situation no longer applies as New Zealand's emission reduction targets for the 2013-2020<sup>2</sup> and 2021-2030<sup>3</sup> periods are not accounted for on the Crown's balance sheet at this time. As with other government policy targets, these targets have been judged by MfE Finance, the Treasury and Audit NZ as not meeting Generally Accepted Accounting Practice requirements for a balance sheet liability, i.e. they do not result in a present obligation for an outflow of resources.
23. It is possible that this could change in future, particularly for the 2030 target in particular. For example, if international or domestic developments cause a clearer obligation on the Government to meet the target and allow the economic sacrifice involved to be estimated, accounting for the target in the Crown's accounts may become warranted.
24. The negative fiscal impact of the NZ ETS liability should nevertheless be seen in the context of the larger, overall reduction in economic costs from meeting New Zealand's emission reduction targets that the NZ ETS policy is intended to deliver.
25. As no cash has been involved, the NZ ETS liability is not taken into account in the Government's key fiscal indicator, net core Crown debt (borrowings less liquid financial assets). Therefore it does not have a negative impact on the achievement of the long-term debt objective outlined in the Government's fiscal strategy.

## Trends in the NZ ETS revenues, expenses and liability over time

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26. The significant fiscal impacts of the NZ ETS highlight the need to manage the scheme carefully, especially to avoid over-allocating units. Fiscal considerations have been an important factor in policy decisions about the NZ ETS, including those resulting from the recent NZ ETS review.
27. A key problem identified in the review was the misalignment of the NZ ETS with the 2030 target. One aspect of this was the large stockpile of NZUs that accumulated in private accounts over 2013-15, when participants used a very high level of international units to meet their NZ ETS obligations and banked NZUs allocated to them. By mid-2015 when use of international units in the NZ ETS was stopped, this stockpile had reached around 140 million NZUs.
28. This large bank of units, combined with exemptions from NZ ETS obligations for non-forestry emissions, was expected to cause an oversupply of NZUs over the 2030 target period. This oversupply would hinder the ability of the NZ ETS to help New Zealand meet the target, and shift costs from emitters onto the Government and taxpayers.
29. The decision in May 2016 to phase out the one-for-two surrender obligation<sup>4</sup> was partly driven by the need to reduce this stockpile to a more appropriate level by 2021. The phase-out has increased surrender obligations without a corresponding increase in NZU supply volumes, meaning that in the coming years NZU surrenders will exceed NZU allocations.

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<sup>2</sup> A target taken under the UN Framework Convention on Climate Change (UNFCCC) to reduce emissions to 5 per cent below 1990 levels by 2020.

<sup>3</sup> A target adopted as a Nationally Determined Contribution under the Paris Agreement to reduce emissions 30 per cent below 2005 levels by 2030.

<sup>4</sup> The one-for-two surrender obligation allowed non-forestry NZ ETS participants to surrender one NZU for every two tonnes of emissions. It is now being phased out, with all NZ ETS sectors scheduled to face a 100 per cent obligation in 2019.

30. This can be seen in increasing NZ ETS net revenue in the 2018 March Baseline Update (MBU) forecast (see table 1 below). Please note that the relatively high level of NZU allocation in the 2017/18 year, resulting in a net expense, is due to the end of the 2013-17 five-year mandatory reporting period for post-1989 forestry registered in NZ ETS. This means that NZU allocations for forestry are higher in 2017/18 than in other years.

**Table 1: Forecast NZ ETS net revenue from MBU 2018**

	<b>\$million (NZUs at \$21.32 per unit)</b>				
<b>Forecast</b>	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>
Revenue from NZU surrenders	650.708	793.872	885.803	942.429	976.861
Expenses from NZU allocation	795.684	527.777	552.231	554.917	554.661
<b>Net revenue</b>	<b>(144.976)</b>	<b>266.095</b>	<b>333.572</b>	<b>387.512</b>	<b>422.200</b>

31. The MBU 2018 forecast of the NZ ETS liability (see table 2), also shows a declining trend. This is because the number of NZUs held in private accounts is expected to reduce, and the MBU forecast is calculated using a constant price for all years (the January 2018 month-end NZU spot price of \$21.32).

**Table 2: NZ ETS liability forecast from MBU 2018**

	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>
Forecast ETS liability at 30 June NZ\$, million	-2666.481	-2400.386	-2066.814	-1679.302	-1257.102
Forecast banked NZUs, million	125.07	112.59	96.94	78.77	58.96

32. In reality, if the NZU price increases sufficiently the NZ ETS liability could still increase, even when the number of privately held units stays the same or decreases. For example, in MBU 2018 an NZU price increase from \$18.95 at end October 2017 to \$21.32 as at 31 January 2018 translated to a \$493m increase in the NZ ETS liability, despite no change in the units forecast.
33. The \$25 fixed price option (FPO) that currently provides a price ceiling in the NZ ETS acts as a brake on NZU price rises. As outlined in the briefing on the NZ ETS price ceiling (2018-B-0440), the \$25 FPO creates some risks for the Government. These include the risk that extensive use could prevent the stockpile from depleting or even cause it to increase.
34. As part of the package of NZ ETS review decisions made in mid-2017 [CAB-17-MIN-0369 refers], we are investigating a different price ceiling to replace the \$25 FPO. Other elements of this package included decisions to implement auctioning, to limit the use of international units when the NZ ETS reopens to international markets, and to use a rolling five-year period for capping unit supply. When implemented, this package is intended to give the Government more control over the amount of NZUs provided to the NZ ETS, and bring the scheme into greater alignment with the 2030 target.
35. These policy changes, as well as potential changes to forestry accounting and a possible phase down of free allocation, will impact NZ ETS revenue, expenses and liability by altering both NZU flows and prices. Estimated fiscal impacts of policy options will be an important part of advice to be provided to Ministers on these issues over the next year.

## **Consultation and Collaboration**

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36. This briefing note has been reviewed by the Treasury.

## Recommendations

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37. We recommend that you:

- a. **Note** that allocating NZUs to NZ ETS participants at no charge results in an expense on the Crown's operating statement and a liability on the balance sheet, and that when NZUs are surrendered back to the Crown revenue is recognised and the NZ ETS liability decreases
- b. **Note** that the benefit the Crown would receive from auctioning NZUs rather than giving them away for free is cash, rather than revenue
- c. **Note** that in MBU 2018 the NZ ETS liability is forecast to decrease over the next five years due to increasing unit surrenders, although in reality it could increase if the NZU price rises sufficiently or the \$25 fixed price option is used extensively
- d. **Note** that planned improvements to the NZ ETS framework for unit supply are intended to give the Government more control over the amount of NZUs allocated, to better align the NZ ETS with New Zealand's 2030 emission reduction target

## Signature

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**Date**

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## Appendix 1: Summary of the Crown's accounting for NZU transactions

## Financial accounting for NZU transactions in the Crown's accounts

<i>Unit Type</i>	<b>NZUs allocated at no charge</b> (i.e. NZUs given out for post-1989 forestry entitlements, free allocation, other removal activities)		<b>Selling NZUs at the market price</b> (i.e. the Crown sells NZUs by auction)	
Part of the Crown's accounts:	Operating statement / Financial performance <i>Expenses &amp; revenues, impacts net profit / fiscal position</i>	Balance sheet / Financial position <i>Assets &amp; liabilities, impacts net worth / equity</i>	Operating statement / Financial performance <i>Expenses &amp; revenues, impacts net profit / fiscal position</i>	Balance sheet / Financial position <i>Assets &amp; liabilities, impacts net worth / equity</i>
<i>Transaction Type</i>				
Unit issuance	Issuance transactions are not recorded in the financial accounting and have no impact on the Crown's accounts - units are not accounted for until they are transferred out from the Crown.			
Unit allocation (i.e. distribution / transfer of NZUs from the Government to NZ ETS participants)	<p><b>EXPENSE INCURRED</b> at market value of NZUs.</p> <p>Allocation transaction has a negative fiscal impact.</p> <p><b>Operating balance decreases</b></p>	<p><b>LIABILITY INCREASE</b> - liability to Crown created (equal to expense) at current market value.</p> <p>Liability revalued each month using the month end market price</p> <p>Recorded in "ETS liability" part of balance sheet.</p> <p><b>Net worth decreases</b></p>	<p><b>FISCALLY NEUTRAL</b> transaction - no expense incurred or revenue recognised, as this is a balance-sheet only transaction where a liability (the NZU) and an asset (cash from the sale) of equal value are created.</p> <p><b>Operating balance does not change</b></p>	<p><b>LIABILITY INCREASE</b> equal to <b>sale price</b> of unit (then revalued each month using month end market price).</p> <p><b>ASSET INCREASE</b> - cash received from sale of unit increases Crown's asset position (but this is balanced out by the increase to ETS liability).</p> <p><b>Net debt reduced</b> due to cash received.</p> <p><b>Net worth does not change</b></p>
Unit surrender (i.e. NZ ETS participants return NZUs to the Crown, to fulfil their NZ ETS obligations)	<p><b>REVENUE RECOGNISED</b> valued at current market price of NZUs.</p> <p>Surrender transaction has a positive fiscal impact.</p> <p><b>Operating balance increases</b></p>	<p><b>LIABILITY DECREASE</b> - liability created at allocation cancelled out when unit surrendered, due to revenue recognition. As the liability is revalued each month, the surrender revenue always 'cancels out' the initial liability even though the NZU price has changed.</p> <p><b>Net worth increases</b></p>	<p><b>REVENUE RECOGNISED</b> at current market price of NZUs.</p> <p>Surrender transaction has a positive fiscal impact.</p> <p><b>Operating balance increases</b></p>	<p><b>LIABILITY DECREASE</b> - liability created when unit auctioned cancelled out when unit surrendered, due to revenue recognition.</p> <p>The Crown is left with increased cash assets, as the liability that previously offset the cash obtained from the sale transaction is now gone.</p> <p><b>Net worth increases</b></p>
Unit cancellation	Accounted for in the same way as unit surrender transactions.			
Overall effect over time on Crown's accounts of unit allocations and surrenders.	<p>The overall fiscal impact recorded in the Crown's operating statement for any given year depends on the relative number of NZUs allocated vs surrendered over that time period, as well as the market price. If more units are allocated than surrendered in a year, there will be a net expense. If more units are surrendered than allocated, there will be net revenue. The scale of the net revenue or expense depends on the difference between allocations and surrenders, multiplied by the market price of NZUs.</p>	<p>When a NZU allocated at no charge is surrendered, the Crown is left in the same position in terms of net worth as before those transactions occurred (all other things held equal).</p> <p>The size of the Crown's ETS liability is affected both by the number of units currently in the market, and the NZU price. This means that although the large number of NZUs currently banked in the market is expected to decrease in coming years while the one-for-two surrender obligation is phased out and no international or auctioned units are available (meaning NZU surrenders are expected to be greater than allocations), the ETS liability could still increase due to price increases.</p>	<p>While auction sale transactions are fiscally neutral, the introduction of an auctioning function into the NZ ETS is expected to have a positive fiscal impact / positive impact on the operating statement over time. However, this will only occur when the units are surrendered.</p> <p>Fiscal benefits resulting from the sale and surrender of NZUs will depend on both the number of units sold and surrendered, and market prices.</p>	<p>Both the sale and surrender transactions benefit the Crown. Although the sale transaction does not increase the Crown's net worth, the cash received reduces net debt (as net debt takes into account cash assets but not the ETS liability). When the units are surrendered, net worth increases.</p>
Impact on <b>forecast</b> financial position	<p>The Crown's forecast financial position is affected by the impact of any policy changes. For example, if NZUs are auctioned in addition to current NZU allocations, the revenue and expense forecast should not change as auctioned units are not an expense, and revenue (i.e. unit surrenders) stays the same, but net debt will be lower due to increased cash. Both the operating balance and net debt forecast will change if auctioned units replace units that would otherwise have been allocated for free. This would happen if a decision is made in future to phase down free allocation – in this case there would be a positive impact on the forecast financial position.</p>			