

Estimate of environmental expenditure 2022/23

Method and results

February 2023



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Parliamentary Commissioner for the Environment

Te Kaitiaki Taiao a Te Whare Pāremata

Acknowledgements

This technical note was prepared by Peter Lee and Luka Licul, supported by Dr Geoffroy Lamarche and Dr Edwin Sayes. Special thanks are due to Dr Robert Dykes and Megan Martin who assisted with the preparation of this note for publication.

The Parliamentary Commissioner for the Environment, Simon Upton, would like to acknowledge the following organisations for providing data and assistance for the preparation of this note. Any errors, or omissions are entirely his own.

- Department of Conservation
- Department of Internal Affairs
- Inland Revenue
- KiwiRail
- Land Information New Zealand
- Ministry for Primary Industries
- Ministry for the Environment
- Ministry of Business, Innovation and Employment
- Ministry of Justice
- Ministry of Transport
- New Zealand Defence Force
- Stats NZ
- Te Puni Kōkiri
- The Treasury
- Waka Kotahi NZ Transport Agency.

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Estimate of environmental expenditure 2022/23: Method and results

Introduction

In my recently released report, *Environmental reporting, research and investment: Do we know if we're making a difference?* I committed to producing regular estimates of central government environmental spending.¹ This commitment was made in response to the absence of comprehensive information on the magnitude of public spending on the environment and how these funds are allocated to address specific environmental issues.

Accessible information regarding environmental expenditure is critical to enable parliamentarians to arrive at an informed view on the Government's environmental spending decisions, including the:

- relative prioritisation of environmental challenges and outcomes as revealed through the allocation of fiscal resources
- general adequacy of our response to environmental issues in terms of whether the Government is spending too much or too little to achieve those outcomes
- effectiveness of that expenditure in terms of its impact on environmental outcomes.²

The lack of information regarding environmental expenditure significantly hinders the ability of parliamentarians to exercise an appropriate level of scrutiny over these decisions. This technical note aims to address this information deficiency.

As part of my previous report, I compiled and presented an estimate of environmental expenditure for the 2019/20 fiscal year. This technical note provides an estimate for the 2022/23 fiscal year and represents the first in a series of regular updates of expenditure incurred by central government.³ The contents of this note include an overview of the method used to compile the estimate, key results and accompanying limitations.⁴

¹ PCE, 2022a.

² For a more comprehensive discussion of these issues refer to chapter three of PCE, 2022a.

³ The 2022/23 fiscal year was selected as it represents the most recent year for which data are available.

⁴ This technical note does not reproduce the full analysis presented in PCE, 2022b. Instead, it provides an abbreviated analysis.

In the course of putting together this estimate, my office engaged directly with finance teams from a broad range of agencies across the public sector. Over time, the insights gleaned from this pilot update will be incorporated into future work to enable a more accurate assessment of whole of government environmental spending.

Method

The following provides an overview of the method used to derive this estimate of environmental expenditure. It includes a definition of environmental expenditure, the data collection process and quality assurance and analytical steps.

Defining environmental expenditure

The definition of environmental spending used by this analysis to guide the identification and classification of expenditure is derived from the System of Environmental-Economic Accounting (SEEA).

Under the SEEA framework, environmental activities are defined based on two categories:

- Environmental protection activities are those activities whose primary purpose is the prevention, reduction and elimination of pollution and other forms of degradation of the environment.
- Resource management activities are those activities whose primary purpose is preserving and maintaining the stock of natural resources and hence safeguarding against depletion.⁵

Data source

Data were obtained directly from those public sector agencies that have potentially significant environmental management functions and responsibilities. These included government departments, select Crown Entities and one state-owned enterprise. The request covered budgeted expenditure for the 2022/23 fiscal year. The decision to directly request these data from the respective agencies was made to avoid the limitations associated with using high-level appropriation data for this purpose.⁶

Identification and classification of data

Agencies were asked to identify expenditure consistent with the definition of either environmental protection or resource management activities. A guidance document was provided which included practical examples of activities consistent with the definition of environmental spending to assist agencies with identifying relevant expenditure. To minimise administrative burden, agencies were asked to identify only those items of expenditure that they considered to have a material and significant environmental purpose.

⁵ United Nations et al., 2014, p.96.

⁶ For additional information regarding the limitations of using appropriation data to identify and classify environmental expenditure see PCE, 2022b, p.27.

Agencies were asked to categorise this expenditure according to a single classification framework. This framework consisted of a hierarchical schedule of enduring and specific environmental outcomes derived from state of the environment reporting.⁷

The guidance document requested that agencies attempt to identify and classify expenditure at a financial unit below that of appropriations to provide a more granular account of spending. However, agencies were given discretion to identify an appropriate financial unit based on considerations such as the:

- structure of their internal financial systems
- breadth and scope of their environmental protection and resource management activities
- administrative burden associated with the task.

Given this flexibility, the approach adopted by agencies varied. Some agencies were unable to analyse financial units at the sub-appropriation level due to technical limitations imposed by internal financial systems. In other cases, appropriations were deemed to provide a reasonably accurate assessment of both the fiscal magnitude and scope of environmental spending. Accordingly, these agencies opted to supply expenditure estimates sourced from publicly available appropriation data released by the Treasury.

Some agencies were able to provide a more refined estimate of spending using data housed in internal accounting systems. When financial units had multiple objectives (i.e. both environmental and non-environmental), agencies were asked to identify and classify only the portion of expenditure consistent with the definition of environmental spending based on their reasonable judgement.

Quality assurance

Once received, datasets were subject to a quality assurance process. This involved an inspection of each dataset to confirm the identified expenditure was consistent with the definition of environmental spending. The assigned outcomes were also reviewed to ensure the classification hierarchy of enduring and specific outcomes had been correctly applied. Any issues relating to the identification and classification of data were resolved with the respective agency.

Analysis

Following quality assurance, datasets were prepared for analysis. This involved tidying the data to ensure a consistent format to facilitate further analysis. Data were analysed to derive a total estimate of environmental spending and an estimate disaggregated by administering agency and environmental outcome.

⁷ For the full list of enduring and specific outcomes, see PCE, 2022a, p.67.

Results

The results showed that for the 2022/23 fiscal year, agencies had budgeted about \$3.5 billion of environmental expenditure. Within the context of total government expenditure for the year, this was equivalent to about 2.2% of budgeted expenditure.⁸ Table 1 shows this figure disaggregated by enduring and specific environmental outcomes.

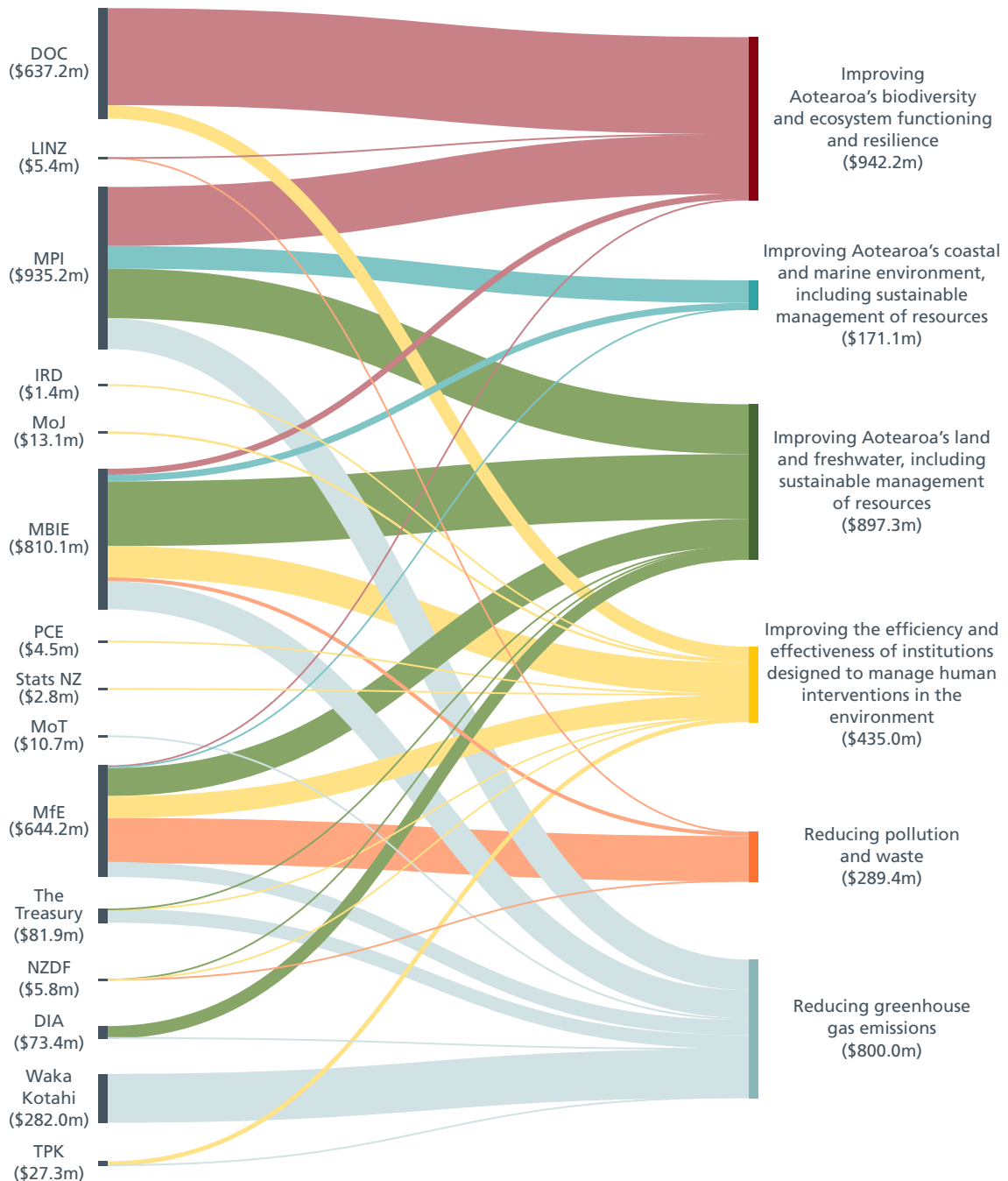
Table 1: Disaggregation of environmental expenditure by enduring and specific outcomes.

Environmental expenditure 2022/23	Sum of amount \$(000)
Disaggregated by enduring and specific outcomes	
Improving Aotearoa's biodiversity and ecosystem functioning and resilience	\$942,245
Our native plants, animals and ecosystems are thriving	\$942,245
Improving Aotearoa's land and freshwater, including sustainable management of resources	\$897,318
Land management is improved to enhance soil and water quality	\$326,512
Mineral and energy resources are managed sustainably	\$286,305
Management of water takes is improved to ensure sustainability of our freshwater ecosystems	\$151,879
Urban growth is managed without affecting versatile land and native biodiversity	\$6,899
Indeterminate	\$125,724
Reducing greenhouse gas emissions	\$800,018
New Zealand's per person emissions are declining	\$702,696
New Zealand is effectively adapting to the impacts of climate change	\$42,025
Indeterminate	\$55,297
Improving the efficiency and effectiveness of institutions designed to manage human interventions in the environment	\$434,969
–	\$434,969
Reducing pollution and waste	\$289,424
Waste and pollution in urban areas is reduced	\$264,453
Pollution in farming areas is reduced and waterways in farming areas are cleaned up	\$2,909
Indeterminate	\$22,062
Improving Aotearoa's coastal and marine environment, including sustainable management of resources	\$171,083
Fish stocks are managed sustainably to improve the health of our oceans	\$150,451
Indeterminate	\$20,632
Total	\$3,535,057

Of the \$3.5 billion identified, about \$942 million was allocated towards improving Aotearoa's biodiversity and ecosystem functioning and resilience. A further \$897 million was directed towards improving Aotearoa's land and freshwater, including the sustainable management of resources. In terms of climate-related outcomes, \$800 million was allocated towards either mitigation or adaptation activities.

⁸ See <https://www.treasury.govt.nz/publications/budgets/budget-2022>.

Figure 1 links environmental expenditure to the agencies that administer it. This provides an indication of the magnitude of spending across various agencies and the outcome this spending is being directed towards.



Note: DOC = Department of Conservation; DIA = Department of Internal Affairs; IRD = Inland Revenue; LINZ = Land Information New Zealand; MBIE = Ministry of Business, Innovation and Employment; MfE = Ministry for the Environment; MoJ = Ministry of Justice; MoT = Ministry of Transport; MPI = Ministry for Primary Industries; NZDF = New Zealand Defence Force; PCE = Parliamentary Commissioner for the Environment; TPK = Te Puni Kōkiri; Waka Kotahi = Waka Kotahi NZ Transport Agency.

Figure 1: Environmental expenditure by government agencies attributed to enduring environmental outcomes. The left side of the figure provides a sense of total environmental spending; the right side provides a sense of where that spending is focused. Flows capture the contribution of individual agencies.

Note that the estimate of environmental spending excludes non-cash items administered by the Ministry for the Environment related to the operation of the New Zealand Emissions Trading Scheme (NZ ETS). These non-cash expenses are significant and represent \$3.6 billion of expenditure for the 2022/23 fiscal year. These non-cash expenses consist of:

- The allocation of New Zealand Units (NZUs) to eligible sectors of the economy to address cost pressures and associated competitiveness issues arising from the NZ ETS.
- Loss on the sale of NZUs resulting from variance between the market price of NZUs and the fixed price option.
- Impairment of debt relating to climate change activities which reflects the risk arising from participant liquidation and the non-recovery of NZUs.⁹

These non-cash expenses are included in the Ministry for the Environment's financial schedules as an accounting provision to allow for the recognition of a liability incurred by the Crown. They result from measures intended to contain costs for NZ ETS participants or recognise a fiscal risk to the Crown. Accordingly, these items do not represent tangible expenditure directed towards activities or programmes intended to reduce greenhouse gas emissions. Consequently, these expenses have been excluded from our estimate on the basis that they are inconsistent with the definition of environmental protection expenditure.

Consistency

The above results update the previous appropriation-based estimate of environmental expenditure presented in *Environmental reporting, research and investment*. This previous estimate showed that the Government spent about \$2.6 billion on environmental protection and resource management activities for the 2019/20 fiscal year. This was equivalent to about 2% of expenditure authorised for that year.

When comparing these estimates, any discrepancy will reflect both real world changes in environmental spending and differences in methodological compilation. While the definition of environmental spending remains unchanged and continues to be based on the SEEA framework, the 2022/23 estimate was derived using different data collection procedures.

The appropriation-based attempt for 2019/20 was compiled using generic and unclear scope statements to guide the identification and classification of appropriations. The limited and general nature of the information contained in the scope statements resulted in an inherent degree of imprecision in the results of the analysis.

The assessment of expenditure for the 2022/23 fiscal year provides a more comprehensive, refined and accurate measure of environmental spending. Engaging with agencies directly provided an opportunity to leverage internal knowledge and expertise regarding the scope of their environmental protection and resource management activities. In several cases, agencies were able to draw on their accounting systems to assist with the identification and classification of expenditure. This approach resulted in a level of detail that could not have been gleaned from appropriation-level data.

⁹ For a more detailed explanation regarding operation of the NZ ETS refer to <https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/ets/>.

Another difference relates to the nature of the financial information used to compile the respective estimates. The appropriation-based estimate used audited figures for actual government spending for the 2019/20 fiscal year. This updated estimate adopts a forward-looking approach that uses budgeted expenditure for the current fiscal year.

In terms of differences relating to specific items of expenditure by agency:

- Non-cash expenses incurred by the Ministry for the Environment related to the operation of the NZ ETS were excluded from this estimate as these items were deemed inconsistent with the definition of environmental protection expenditure. This represents a departure from the previous appropriation-based estimate which included these items.
- The discrepancy related to environmental spending incurred by the Ministry of Justice reflects the different method used to compile this estimate. The previous appropriation-based attempt estimated environmental expenditure at \$78.1 million for the 2019/20 fiscal year. This estimate was derived from appropriations related to the operation of the District Court and included expenditure associated with the Environment Court. The updated estimate, \$13.1 million for the 2022/23 fiscal year, reflects appropriated expenditure attributable to the operation of the Environment Court only.

Limitations and data quality

Despite applying a method that provides a more accurate assessment of environmental expenditure, the results should be interpreted in the context of the following limitations and data quality considerations. These issues ensure that there remains an unquantified degree of uncertainty associated with the accuracy of the 2022/23 estimate.

While agencies adhered to a consistent definition of environmental expenditure, they adopted a more flexible approach regarding the selection of a financial unit to identify and classify spending. This inconsistent approach will result in a variable level of accuracy and detail across agencies with respect to the identification and classification of expenditure.

Another limitation stems from the use of forward-looking financial information. This analysis is based on budgeted expenditure for the 2022/23 fiscal year. Accordingly, these figures may change as expenditure is incurred throughout the year and is subject to a formal audit process.

In addition to these more general considerations, there are also issues related to specific datasets supplied by agencies that are noted below:

- Expenditure administered by the Ministry of Business, Innovation and Employment for research, science and innovation relates to the 2021/22 fiscal year. Funding for the 2022/23 fiscal year was still in the process of being allocated to specific projects at the time this estimate was compiled. Accordingly, a decision was made to use financial information from the previous fiscal year to enable mapping of environmentally related research, science and innovation expenditure to outcome categories. However, all other financial data supplied by the Ministry of Business, Innovation and Employment relating to the management of tourism impacts and mineral and energy resources relate to the 2022/23 fiscal year.
- Expenditure administered by the Ministry of Business, Innovation and Employment relating to renewable energy resources was classified against the outcome relating to the sustainable management of resources (Improving Aotearoa's land and freshwater, including sustainable management of resources). However, such expenditure often has additional objectives in the form of emissions reductions and decarbonisation. A decision was made to classify this spending under one outcome to avoid issues associated with double counting.
- With respect to expenditure incurred by the Department of Internal Affairs, most of this spending relates to the Three Waters Reform Programme. The programme aims to achieve a range of environmental objectives relating to the management of drinking water, wastewater and stormwater. This expenditure could potentially be classified under several different environmental outcomes. However, to avoid issues such as double counting, three waters expenditure was classified under a single outcome that may not fully reflect the scope of environmental outcomes associated with this programme.
- Financial data supplied by the New Zealand Defence Force were provided for the 2021/22 fiscal year.

It is important to acknowledge the limitations and various data quality issues associated with this updated estimate of environmental spending. While this updated analysis addresses some of the limitations that plagued the previous appropriation-based estimate, there are still significant data quality issues relating to the underlying dataset. Accordingly, the results presented in this technical note should be regarded as experimental. Further work is required to improve the consistency and coverage of the data to provide a more robust basis for the compilation of future estimates of environmental spending.

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February 2023

ISSN 2816-069X (print)
ISSN 2816-0703 (online)



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