



То	Hon Grant Robertson MINISTER OF FINANCE Hon Dr Megan Woods MINISTER OF ENERGY AND RESOURCES			
Title	Clean Heavy Vehicles Grant - drawdown of funding from tagged contingency			
Date	8 August 2023			
EECA/MBIE reference number	EECA 2023 BRF 015 MBIE 2223-4281	Response required by:	14 August 2023	
EECA priority	Routine			
Consultation	Te Manatū Waka , Waka Kotahi, The Treasury			
Attachments	Appendix One: Complementary heavy freight programmes and policy measures			

Agency contacts

Position	Name	Mobile Number	Work Number	1st Contact
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Purpose

To provide further detail on the Clean Heavy Vehicles Grant (CHVG) design, abatement and incentives
and to seek your approval to draw down the funding from the Budget 2023 tagged contingency to
support the 1 October launch of the CHVG programme.

Key messages

- On 1 June 2023, the Energy Efficiency and Conservation Authority (EECA) and the Ministry of Business, Innovation and Employment (MBIE) provided a briefing to the Minister of Energy and Resources, seeking approval on the objectives, scope and funding criteria for the CHVG (refer EECA 2023 BRF 011, MBIE 2223-3959).
- In line with Budget initiative wording, officials proposed the CHVG scope be limited to funding for new zero on-road emissions heavy vehicles (ZEHVs) (battery electric vehicles and hydrogen fuel cell vehicles), at the point of first registration in New Zealand. Grants would only be for vehicles over 3.5 tonnes to ensure there are no gaps or overlaps with the Clean Car Discount (which supports vehicles below 3.5 tonnes). Funding for infrastructure costs for charging and hydrogen refuelling is excluded as there are other initiatives available to better support this infrastructure.
- 9(2)(f)(iv)
- Following Ministerial approval, EECA has progressed programme design for the CHVG, and has been engaging with a range of industry representatives. The parameters of the grant outlined in this briefing have received approval from the EECA Board. Subject to ministerial approval, EECA is tracking well towards launching the programme by 1 October 2023 at the latest.
- EECA estimates the CHVG will reduce carbon emissions across the heavy freight sector by around 190,000 tonnes CO2e over 21 years1, with a cumulative estimated marginal abatement cost (MAC – the cost to the Crown per tonne of CO2 abated) for the programme of around \$155.
- This briefing seeks your joint approval to drawdown on the tagged contingency. It also:
 - Provides detailed proposed settings for the grant scheme, including analysis of the marginal abatement cost and impact of incentives
 - ii. Analyses of how the proposed grant settings support the overarching objectives of the CHVG
 - iii. 9(2)(1)(1V

¹ This is an estimation based on an average 21 year lifetime of ZEHVs.

)(2)(f)(iv)		

Recommended actions

Background context

- a. Note that on 1 June 2023 we provided a briefing to the Minister of Energy and Resources seeking agreement to the objectives, scope and funding criteria for the Clean Heavy Vehicles Grant (CHVG), announced as part of Budget 2023 (refer EECA BRF 011, MBIE 2223-3959)
- b. **Note** that the proposed detailed grant settings reflect EECA's engagement with industry, and consultation with Te Manatū Waka | The Ministry of Transport and Waka Kotahi

Further details on the grant design

c. Agree to the parameters for the CHVG as currently developed and detailed in this paper. This includes:



• Cap mechanism: a cap on the total funding an individual recipient can receive in 9(2)(1)(1V) being:



Agree / Disagree

Disagree

Agree

- d. Grant EECA's CEO the authority to make minor adjustments to the design of the grant, including the incorporation of safety elements and to determine the scheme's procurement approach
- Note that based on the scheme settings outlined in recommendation (c) above, EECA considers the scheme meets the objectives established by Cabinet and can be available in market by 1 October 2023

9(2)(f)(iv)



- k. **Note** EECA will review the CHVG after six months to assess its performance against the fund objectives and make any recommendations, by 30 June 2024, if adjustments are required
- l. **Note** EECA will provide two monthly reporting on the CHVG through EECA's Fortnightly Report to the Minister of Energy and Resources

Financial implications

- m. Note that on 11 April 2023, Cabinet [CAB-23-MIN-0139 refers]:
 - Agreed to establish a grant scheme for clean heavy vehicles to increase the adoption of zeroemissions trucks, non-public transport buses, and heavy vans (over 3.5 tons), and provide resources to set up, administer, and market the scheme, subject to further work on the

- appropriate settings for the grant scheme, including analysis of the marginal abatement cost and impact on incentives;
- ii) Agreed to establish a tagged operating contingency associated with the Energy and Resources portfolio of up to the following amount to provide for the CHVG:

	\$m - increase/(decrease)					
	2022/23	2023/24	2024/25	2025/26	2026/27 & Outyears	
Clean Heavy Vehicles Grant - Tagged Operating Contingency		10.000	15.000	5.000	ā	

- Directed the Ministry of Business, Innovation and Employment to report back to the Minister of Energy and Resources and the Minister of Finance on the outcome of the further work described in recommendation m(i) above;
- iv) Authorised the Minister of Energy and Resources and the Minister of Finance jointly to draw down the tagged operating contingency funding in recommendation m(ii) above (establishing any new appropriations as necessary), subject to their satisfaction with the further work described in recommendation m(i) above;
- Agree that, as the further work described in recommendation m(i) above has been satisfactorily completed, the CHVG can now proceed;
- o. **Agree** to establish the following new multi-year appropriation, to run from 1 September 2023 to 30 June 2028:

Vote	Appropriation Minister	Appropriation Administrator	Title	Туре	Scope
Business, Science and Innovation	Minister of Energy and Resources	Ministry of Business, Innovation and Employment	Energy and Resources: Clean Heavy Vehicles Grants 2023 – 2028 (M28) (A17)	Non- Departmental Other Expense	This appropriation is limited to providing grants to support organisations to purchase low emissions heavy vehicles or to convert heavy vehicles to low emissions technology

9(2)(f)(iv)

q. **Approve** the following changes to appropriations to give effect to the decision in recommendation n above, with a corresponding impact on the operating balance and net debt:

	\$m - increase/(decrease)			
	2023/24	2024/25	2025/26	2026/27 & Outyears
Vote Business, Science and				
Innovation				
Minister of Energy and Resources				
Non-Departmental Output Expense:	0.750	0.750	0.750	10
Energy and Resources: Energy	7,5	0.750	0.750	
Efficiency and Conservation			1	
Total Operating	0.750	0.750	0.750	

	\$m - increase/(decrease)			
	2023/24	2024/25	2025/26	2026/27 & Outyears
Vote Business, Science and		==== -//-		
Innovation				
Minister of Energy and Resources				
Non-Departmental Other Expense:	27.750		5	
Clean Heavy Vehicles Grants 2023 -				=
2028				
Total Operating		27.750		

r. **Note** that the indicative spending profile for the new multi-year appropriation described in recommendation (o) above is as follows:

	\$m - increase/(decrease)			
Indicative annual spending profile	2023/24	2024/25	2025/26	2026/27 & Outyears
	9.250	14.250	4.250	92

 Agree that the proposed changes to appropriations for 2023/24 above be included in the 2023/24 Supplementary Estimates and that, in the interim, the increases be met from Imprest Supply;

- t. **Agree** that the expenses incurred under recommendation q above be charged against the Clean Heavy Vehicles Grant Tagged Operating Contingency described in recommendation m(ii) above;
- Note that, following the adjustment detailed in recommendation (s) above, the tagged operating
 contingency described in recommendation (m) above is now exhausted and therefore closed.

Next steps

- v. Note should you wish to announce the launch of the CHVG, EECA will support your office(s)
- w. Agree to forward this briefing to the Minister of Transport for their information.

Andrew Caseley

CHIEF EXECUTIVE, EECA

08 / 08 / 2023

Daniel Brown

MANAGER, ENERGY USE, MBIE

08 / 08 / 2023

Hon Grant Robertson

MINISTER OF FINANCE

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Hon Fr Megan Woods

MINISTER OF ENERGY AND RESOURCES

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Background

- 2. On 1 June 2023, EECA/MBIE provided a briefing to the Minister of Energy and Resources (the Minister), seeking approval on the objectives, scope and funding criteria for the Clean Heavy Vehicles Grant (refer EECA 2023 BRF 011, MBIE 2223-3959).
- 3. The CHVG is one of a suite of measures to support decarbonisation across the heavy transport sector. Other initiatives include support for electric vehicle charging infrastructure and hydrogen refuelling (refer Appendix One).
- 4. The 1 June 2023 paper set the following objectives for the CHVG:
 - Continue to build the transport sector's confidence to invest in the adoption of zero-emission trucks, non-public transport buses and heavy vans beyond demonstration, by supporting integration of zero emissions vehicles into their fleets;
 - Gather insights into other operational barriers to widespread uptake and commercialisation, such
 as charging and refuelling requirements and behaviour change amongst operators;
 - Provide market signals to international original equipment manufacturers (OEMs), with the intent
 of encouraging supply of ZEHVs to New Zealand.
- 5. Table 1 below sets out the proposed scope of the CHVG, (2)(f)(iv)

 The grant will fund new zero on-road emissions heavy vehicles (i.e. battery electric vehicles and hydrogen fuel cell vehicles), at the point of first registration in New Zealand. Grants will be available only to vehicles over 3.5 tonnes to ensure there are no gaps or overlaps with the Clean Car Discount (which supports vehicles below 3.5 tonnes).

Table 1: Agreed scope of the Clean Heavy Vehicles Grant

In scope	Out of Scope	
 Zero on-road emissions trucks, non-public transport buses and heavy vans (over 3.5 tonnes) Both battery-electric (BEV) and FCEV heavy vehicles New import retrofitted heavy vehicles 9(2)(f)(iv) 	 Vehicles eligible for the Clean Car Discount Vehicles intended to use biofuel Second hand vehicles Charging or hydrogen refuelling infrastructure Public transport buses 	

- EECA has progressed the programme design for the CHVG, including engagement with a range of industry representatives to ensure the scheme design supports the overarching grant objectives and aligns with industry expectations.
- 7. This briefing seeks your joint approval to drawdown on the tagged contingency. In addition, it:
 - Provides detailed proposed settings for the grant scheme, including analysis of the marginal abatement cost and impact of incentives
 - Analyses of how the proposed grant settings support the overarching objectives of the CHVG



8. Subject to your consideration of the decisions sought through this briefing, EECA is tracking well towards the proposed 1 October 2023 launch of the scheme.

Further details on the CHVG design

The final proposed settings have been informed by industry engagement

- EECA has engaged with industry representatives (vehicle manufacturers and fleet operators) to ensure aspects of the scheme's design align with industry expectations and support the overarching grant objectives.
- 10. Key messages from stakeholders included:
 - Consensus that the upfront capital cost of ZEHVs compared to ICE models is the primary barrier to sales with an expectation that targeting support to address the upfront capital cost for ZEHVs will increase customer demand.
 - Variability in timing for the supply of ZEHVs, with an approximate 6 12 month lead time on
 international orders. There is also additional time required for any modifications vehicles need to
 support their specific use once they arrive in New Zealand, and international shipments of ZEHVs
 are often exposed to supply chain delays.
 - Differing minimum factory orders required to support dedicated construction of right-hand drive vehicles and delivery to New Zealand, ranging from single units to 20 vehicles. This clarified the need for grants to be issued at a vehicle importer level and supported our consideration of the appropriate caps on total funding available to manufacturers.
 - Different business models/operational considerations:
 - Some manufacturers distribute directly to the NZ market, others have nominated vehicle retailers. The proposed funding model should therefore accommodate a variety of business models.
 - Businesses operating with fleet leasing or rental arrangements provided assurances that
 the proposed high-level approach to administering the grant aligns with leasing
 arrangements.
 - Comfort with the proposed data sharing requirements to access grant funding. Industry
 stakeholders were comfortable to share commercially sensitive information (including vehicle

pricing) to verify that the scheme's benefits are passed on to end-customers and not absorbed at the manufacturer or importers level.

Eligibility

- 11. EECA will develop a 'whitelist' of vehicles that are eligible for the grant. The list will represent vehicle technologies and applications that are available, or manufacturers will make available, to the New Zealand market. EECA will publish the 'whitelist' on its website and update it as more qualifying vehicles enter the New Zealand market. This will provide certainty for vehicle purchasers on which vehicles are covered by the CHVG.
- 12. Vehicle importers/suppliers³ will receive grant funding at the point of first vehicle registration in New Zealand (or re-registration as a ZEHV for eligible conversion projects). In recognition of the long lead times and supply chain impacts on ZEHV deliveries, EECA will issue purchase orders to vehicle importers/suppliers at the point of factory orders being placed with funding set aside accordingly. This will provide the funding certainty required to support international orders and will be subject to agreed delivery timelines.

Safety Considerations

13. During engagement with the wider interagency group, both Te Manatū Waka | Ministry of Transport and Waka Kotahi expressed the view that additional safety features (beyond the minimum requirements for heavy vehicles set out in the Land Transport Rules) should be a condition for ZEHVs to receive CHVG support. The rationale for this is that the CHVG could present an interim measure to send signals to the market, with work underway to consider when the Government should legislate improved safety regulations for all imported heavy vehicles.



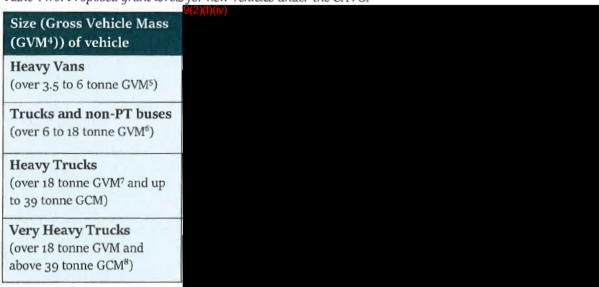
15. EECA is currently engaging with industry and other agencies to understand how the inclusion of these safety features could impact delivery of the scheme. We will provide an update to Ministers on the approach to incorporating safety features prior to market launch.

Grant levels

16. Table Two below sets out the proposed CHVG grant levels for different heavy vehicle categories. The 9(2)(f)(iv)

³ Vehicle importers/suppliers includes OEMs, nominated New Zealand based vehicle distributors and qualifying New Zealand based zero-emission vehicle convertors

Table Two: Proposed grant levels for new vehicles under the CHVG.



17. The approach to the grant's funding levels is based on advice provided to the Minister of Transport from Te Manatū Waka in August 2022, informed through workshops, review of product pricing and literature review of international programmes. The (2000) is intended to prevent oversubsidisation if vehicle purchase prices drops significantly. However, due to the high-upfront purchase price of ZEHVs, officials expect that in the near term, most vehicles eligible for the grant will receive the full rebate offered for each category.



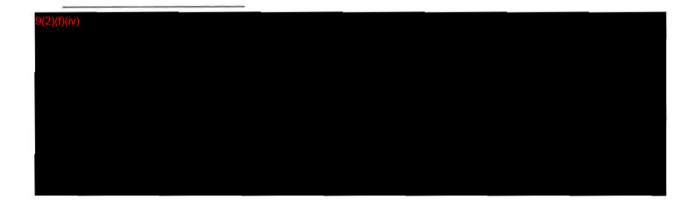




Table Three: Proposed grant levels for retrofitted vehicles under the CHVG.

Size (GVM) of retrofitted vehicle	9(2)(f)(iv)
Heavy Vans	
(over 3.5 to 6 tonne GVM)	
Trucks and non-PT buses (over 6 to 18 tonne GVM)	
Heavy Trucks (over 18 tonne GVM and up to 39 tonne GCM)	
Very Heavy Trucks	
(over 18 tonne GVM and above 39	
tonne GCM)	

Cap on total funding able to be received by an individual recipient

19. To ensure equitable access to the initiative and accommodate future vehicle entry, EECA will introduce caps on the total amount of grant funding available for recipients, irrespective of vehicle type/classification. 9(2)(f)(v)

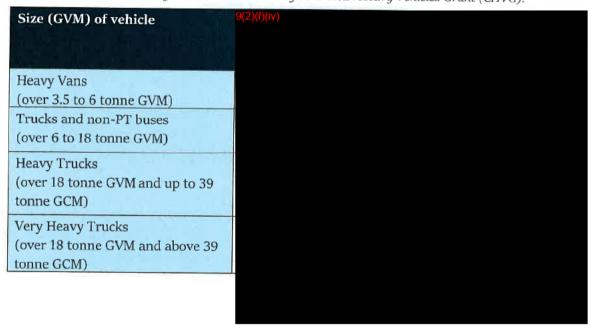


20. These caps were developed following engagement with key industry stakeholders, with the maximum cap for vehicle importers/suppliers set at a level that is expected to enable the minimum viable factory order size required to support supply of ZEHVs to New Zealand.

Estimated impact of the CHVG programme

- 21. Based on the above design settings, and subject to Ministerial decisions sought through this briefing, officials have analysed the estimated impact of the CHVG.
- 22. To support market flexibility, rather than capping the amount of grant funding available to each vehicle classification we have developed a targeted scenario which is set out in table four below. The target approach reflects uncertainty in how the ZEHV market will evolve over the next three years and allows flexibility to support the deployment of funding across available technologies.
- 23. This would result in approximately 615 heavy vehicles being funded through the CHVG, across a range of vehicle sizes⁹. 9(2)(f)(v)
 9(2)(f)(v)

Table Four: EECA's targeted investment through the Clean Heavy Vehicles Grant (CHVG).



24. Based on 615 ZEHVs entering the market, we estimate that the total emissions reductions achieved through the CHVG will be approximately 190,000 tonnes CO2e over 21 years¹⁰, with a cumulative estimated marginal abatement cost (MAC – the cost to the Crown per tonne of CO2 abated) for the programme of around \$155.

9(2)(f)(iv)		
3(2)(1)(14)		

- 25. For context, there are currently just 543 ZEHVs in New Zealand's fleet of around 185,000 heavy vehicles in 2022, 226 ZEHVs entered the fleet, of which 111 were buses.¹¹
- 26. This marginal abatement cost aligns with what would be expected for switching to zero emission heavy vehicles, noting that switching from ICE to zero emission technologies for heavy transport would generally have materially higher costs than for light and medium transport¹². This MAC is substantially higher than more mature decarbonisation technologies (such as industrial process heat fuel switching projects under GIDI, ranging from \$12 in the first round of GIDI to \$41 in the most recent fifth round). This is to be expected due to the relatively new nature of zero emission heavy vehicles in the New Zealand market and their currently high up-front costs. This is why one of the key objectives of the CHVG is to encourage an increased supply of these vehicles into New Zealand, with the expectation that this will bring with it increased competition and reduced prices (as has been seen in the light vehicle market following the introduction of the Clean Car Discount). We would expect MAC figure to improve in future with reduced purchase prices for these vehicles.
- 27. It is difficult to compare this MAC to the original MAC calculated for the Clean Car Discount (about \$150 to -\$200) as the Clean Car Discount was designed to be revenue neutral, with the cost of the rebate to the Government to be offset by the revenue from the fees. The calculation of the MAC for the Clean Car Discount also included wider costs (or cost savings) beyond the cost of the grant to government. The Clean Car Discount MAC also includes significant cost savings for electric vehicles related to lower ongoing operating costs and reduced social costs associated with harmful emissions compared to ICE vehicles. These cost savings are not included in the CHVG MAC.
- 28. The programme's actual emissions reductions will deviate from estimates based on the exact make up of end customers who access the grants, changes in transport route and behavioural patterns and the realised proportion of vehicles funded from each vehicle category.

¹¹ See https://www.transport.govt.nz/statistics-and-insights/fleet-statistics/monthly-mv-fleet/

¹² https://environment.govt.nz/assets/Publications/Files/marginal-abatement-cost-curves-analysis 0.pdf

Analysis on how the scheme will achieve objectives

29. Table Five below provides further analysis of how the programme's key parameters are expected to support the objectives.

 ${\it Table Five: Analysis of how the programme settings for the CHVG will support objectives}$

Objective	Support
Objective 1: Continue to build the transport sector's confidence to invest in the adoption of zero-emission	Programme parameters as set out above have been set at a level that officials consider will build the freight sector's confidence to invest in ZEHVs, based on our direct engagement with operators/suppliers. The impact of the scheme will be closely monitored via EECA's account
trucks, non-public transport buses and heavy vans beyond demonstration, by supporting integration of zero emissions vehicles into their fleets;	management function with individual clients. This will support greater insight to how fleets are progressing with their decarbonisation, and identify further opportunities for accelerating fleet operators transition to ZEHVs (and increasing uptake of the initiative).
Objective 2: Gather insights	Data insights/reporting requirements
into other operational barriers to widespread uptake and commercialisation, such as charging and refuelling requirements and behaviour change amongst operators;	Prior to receiving grant funding, customers will be requested to provide data on a range of operational factors, such as refuelling processes, key transport routes and estimated kilometres travelled. Once vehicles are operational, we will also request data on the vehicle usage and performance. This real-world data will support valuable insights into the ZEHV market, including ongoing non-price barriers.
Objective 3: Provide market	Rebate levels
signals to international original equipment manufacturers (OEMs), with	EECA is confident the vehicle categories and associated funding tiers reflect the current ZEHV market and international policy settings.
the intent of encouraging supply of ZEHVs to New Zealand.	In addition to tiers developed by Te Manatu Waka, EECA added a fourth grant tier for 'very heavy vehicles' to further encourage the supply of the largest ZEHVs into New Zealand. Through industry engagement, EECA sought views on required levels of funding to support ZEHV uptake, and took account of these persepetives in setting and balancing proposed tiers.
	Cap mechanism
	The introduction of caps limiting the total amount of grant funding both end customers (fleet operator) and

Objective	Support
	manufacturer/operators/importers can receive is expected to support equitable access to the grant and accommodate future vehicle entry.
	This will ensure that funding is not fully allocated to vehicles currently available, and supports growth in diversity of the domestic market of ZEHVs. The issuing of purchase orders will further support future entry of larger ZEHVs where there is currently a proportionately smaller supply internationally.

EECA will review the CHVG programme settings after six months

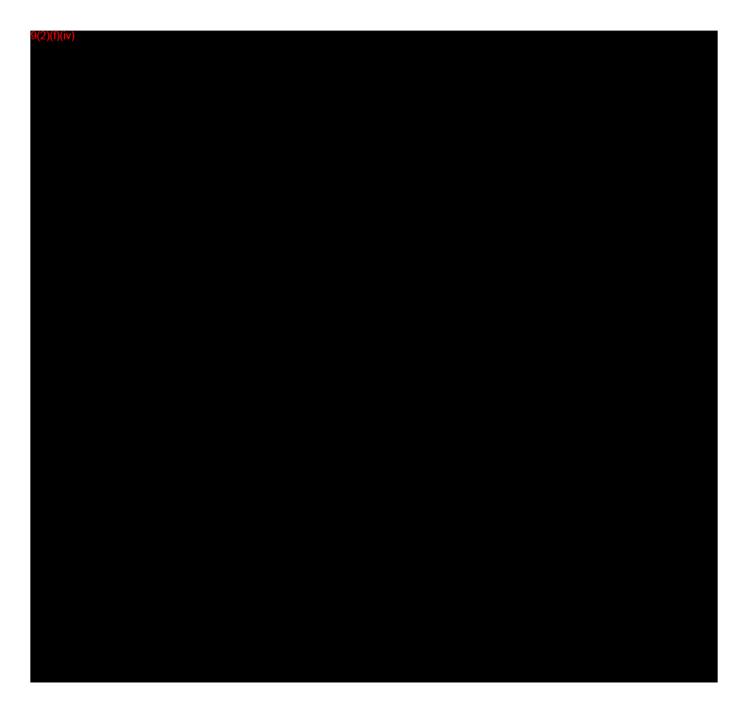
- 30. It is likely that in implementation we will encounter unforeseen scenarios which reveal potential unintended consequences. Whilst we do not anticipate any of these situations will present significant risk to the programme, minor adjustments or situation-specific clarifications may be required. We are confident that adjustments can be managed whilst the scheme is operational.
- 31. A six-monthly full programme review will assess whether the current settings are supporting the Fund's objectives and targeted uptake. If necessary, we will adjust parameters of the Fund and ensure that any changes are adequately communicated with industry and Ministers.
- 32. EECA will provide the Minister of Energy and Resources with two monthly updates on the spend profile and funding commitments of the CHVG through EECA's routine fortnightly reporting. Additional reporting can be provided upon request.



9(2)(f)(iv)	

9(2)(f)(iv)	

9(2)(f)(iv)	



Next steps

56. EECA will support your office(s) to announce the launch of the CHVG. We recommend you forward this briefing to the Minister of Transport for their information.

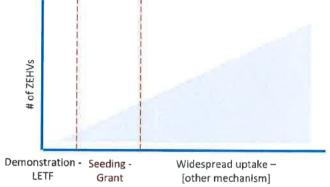
Appendix One: Complementary heavy freight programmes and policy measures

- There are a range of other policy measures and programmes which are expected to work in parallel with the CHVG in support of the uptake of ZEHVs in New Zealand. In addition, the government must adopt a second Emission Reduction Plan by the end of next year (2024), and this may outline additional or stronger policies to reduce heavy vehicle CO2 emissions.
- A single entity receiving co-funding through the Grant could be eligible for co-funding through all of the programmes below as they target different aspects of the freight decarbonisation journey. The complementing initiatives include:

EECA's Low Emissions Transport Fund (LETF)

- In June we sought your approval of the objectives of the grant and provided context on how the different mechanisms of the LETF and CHVG will operate in parallel to support heavy freight sector decarbonisation (refer EECA BRF 011, MBIE 2223-3959). Where the LETF supports early adopters to overcome the price and availability barriers associated with a new technology's demonstration phase, eligibility through the grant will be limited to ZEHVs with technology that has been comprehensively proven. The CHVG will offer the next phase of support for vehicles which have surpassed this demonstration and are likely ineligible for further LETF support, despite still having significant upfront costs.
- Many of the companies EECA has worked with through the LETF have advised that they are willing to add additional vehicles into their fleets but are unable to make the business case stack up due to the upfront capital cost. Vehicle manufacturers have also advised that they are willing to provide more zero emission trucks to New Zealand but require larger orders of vehicles to justify supplying right hand drive vehicles to New Zealand.
- As shown in the diagram below, the grant will support seeding of ZEHVs in the market while the uptake is relatively low and before we see widespread uptake.





*Note this diagram is for illustrative purposes only and provides a high-level visual representation of the positioning of a Clean Heavy Vehicles Grant. It is not intended to provide a quantitative analysis.

EECA's Freight Decarbonisation Round

Through Budget 2022, EECA received \$15 million to provide co-funding for freight decarbonisation
projects. This will be administered through one or more dedicated contestable rounds of the
existing Low Emission Transport Fund. Market analysis is underway with the first tranche of
reports to be available from October 2023 and market engagement ongoing, aiming to prepare a
programme for early 2024.

MBIE's Regional Hydrogen Transition initiative

• The \$100m Regional Hydrogen Transition initiative, announced at Budget 23, will fund long-term contracts (10 years) with consumers, supporting firms engaged in the productive use of green hydrogen for either chemical synthesis or as a fuel to bridge the price gap between fossil fuels. Examples of consumers may include trucking companies (9(2)(f)) chemical producers, airlines or shipping companies. MBIE anticipates conducting a competitive auction for participants in early 2024.