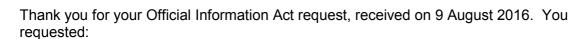
Reference: 20160305

6 September 2016



"advice, since January 2015, provided to the Minister of Transport/Minister of Energy and Resources, regarding the long-term, expected or possible impact of low-emissions vehicles (including hybrid, electric and hydrogen fuelled vehicles) on the transport system': "

As you know you widened your request to include advice provided to the Minister of Finance and whether a document previously released by the Treasury would be reconsidered <a href="http://www.treasury.govt.nz/downloads/pdfs/oia/oia-20150265.pdf">http://www.treasury.govt.nz/downloads/pdfs/oia/oia-20150265.pdf</a>

## **Information Being Released**

Please find enclosed the following documents:

Item	Date	Document Description	Decision
1.	10 February 2015	Climate Change: Time for a new direction?	Release in full
		Presentation to the Minister for Climate Change	
		Issues and the Minister of Transport	
2.	11 March 2015	Treasury Report: Briefing for Cabinet Economic	Release in part
		Growth and Infrastructure Committee,	
		Wednesday 16 March 2016	
3.	8 April 2016	Treasury Report: Briefing for Cabinet Economic	Release in part
		Growth and Infrastructure Committee,	
		Wednesday 13 April 2016	

I have decided to release the relevant parts of the documents listed above, subject to information being withheld under one or more of the following sections of the Official Information Act, as applicable:

- personal contact details of officials, under section 9(2)(a) to protect the privacy of natural persons, including deceased people, and
- names and contact details of junior officials and certain sensitive advice, under section 9(2)(g)(i) – to maintain the effective conduct of public affairs through the free and frank expression of opinions.

## **Information Publicly Available**

The following information is also covered by your request and is publicly available on the Ministry of Transport website:

Item	Date	Document Description	Website Address
4.	March 2016	Cabinet Paper: Electric Vehicles:	http://www.transport.govt.nz/assets/Uploads/
		Package of Measures to Encourage	Our-Work/Documents/Electric-Vehicles-
		Uptake	Package-of-Measures-to-Encourage-
			<u>Uptake.pdf</u>
5.	March 2016	Regulatory Impact Statement:	http://www.transport.govt.nz/assets/Uploads/
		Road user charges exemptions and	Our-Work/Documents/EV-RUC-RIS-2016.pdf
		discounts for electric vehicles	
6.	April 2016	Cabinet Paper: Promoting the Uptake	http://www.transport.govt.nz/assets/Uploads/
		of Electric and Other Low Emission	Our-Work/Documents/Promoting-the-Uptake-
		Vehicles	of-Electric-and-Other-Low-Emission-
			<u>Vehicles.pdf</u>

Accordingly, I have refused your request for the documents listed in the above table under section 18(d) of the Official Information Act – the information requested is or will soon be publicly available.

Some relevant information has been removed from documents listed in the above table and should continue to be withheld under the Official Information Act, on the grounds described in the documents.

In making my decision, I have considered the public interest considerations in section 9(1) of the Official Information Act.

Please note that this letter (with your personal details removed) and enclosed documents may be published on the Treasury website.

This fully covers the information you requested.

You have the right to ask the Ombudsman to investigate and review my decision.

Yours sincerely

James Haughton
Acting Manager, Natural Resources

# OIA 20160305 Information for Release

1.	Climate Change Presentation to Ministers Groser & Bridges 10 Feb 2015 PDF	1
2.	Briefing for Cabinet Economic Growth and Infrastructure Committee Wednesday,	13
	<u>16 March 2016</u>	
3.	Briefing for Cabinet Economic Growth and Infrastructure Committee Wednesday,	16
	13 April 2016	



## Climate Change: Time for a new direction?

- Resetting international targets to better reflect domestic circumstances
- Taking advantage of new technology to reduce NZ's emissions

Presentation to the Minister for Climate Change Issues and the Minister of Transport

10 February 2015

## **Executive summary**

- NZ's domestic circumstances are unique among developed countries and mean it is more expensive for us to reduce our emissions.
- International climate treaties have not adequately recognised these differences and continuing with the status quo will become **unsustainable** without major new technology breakthroughs.
- New technology is presenting opportunities to reduce emissions in the energy and transport sector, but solutions for agricultural emissions remain a long way off.
- Advances in electric vehicles, biofuels and renewable energy offer the most potential and there
  might be a role for government to help speed-up adoption.
- NZ should continue to invest in solutions for agricultural emissions and, until these are available, set emission reduction targets that manage long-term risk.
- We have an opportunity to take a post-2020 target that demonstrates progress from current targets, better reflects our national circumstances, and is more sustainable over the long-term.

NZ's post-2020 emissions reduction target needs to **demonstrate progress** from our current target, but we have **flexibility** to determine what "progress" means...

- Countries are free to nationally determine their targets and explain how they demonstrate progress.
- It is possible for NZ to set a target that **better reflects our national circumstances**, but still demonstrates progress from our current target.
- It may be NZ's last chance to secure more appropriate treatment of our agricultural emissions.

## THE CRITICAL QUESTION

Do you want to continue with the **status quo** and take increasingly stringent targets that require a total reduction in all emissions?

Or do you want to consider a **new approach** and treat agricultural emissions differently from carbon dioxide and other industrial emissions?

... and we may want to use this flexibility to take a target that better reflects our **national** circumstances



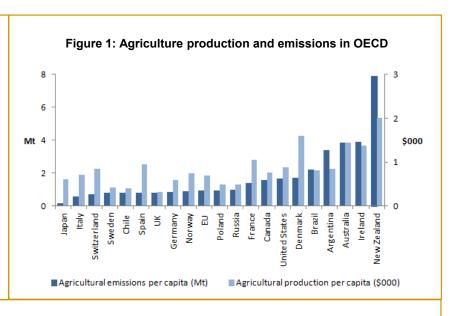
New Zealand has the **highest per capita** agricultural production and emissions in the world. Reducing production is currently the only way to significantly reduce these emissions.



New Zealand already produces 78% of its electricity from **renewable sources**. Other countries can often reduce emissions cheaply by switching from coal to gas generation.



New Zealand's **population** grew by 29% since 1990, compared to the OECD average of 18%.



## **Modelling Results for Cross-Country Abatement Potential**

- Early modelling shows that it is more expensive to reduce emissions in NZ than in comparable countries.
- For the same cost, NZ will achieve fewer emission reductions than Australia, the USA, and the European Union.

(exact figures are still subject to QA, but will be provided when available)

A status quo target that demonstrates even minimal progress is very expensive, and longer-term becomes increasingly expensive and unsustainable.

New Zealand's emissions and carbon prices are both forecast to rise.

Meeting future targets will therefore require more abatement at higher carbon prices.

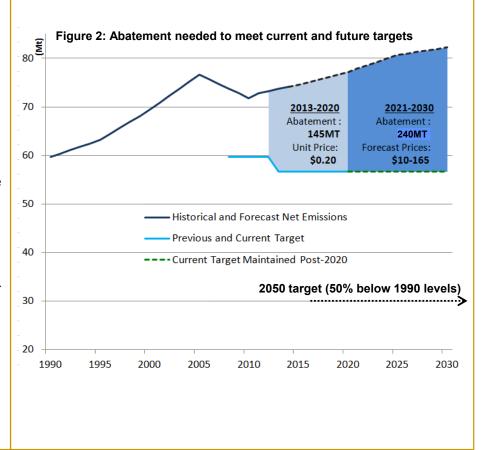
Continuing current targets over 2020-2030 could have an economic cost of around \$27 billion (1% of GDP) [Figures are from early modelling and still subject to QA

Most of these costs occur by increasing the costs of **fuel** and **electricity**, and reducing the competitiveness of firms.

Meeting targets will require firms to purchase large numbers of **international offsets**. This amounts to an **export of revenue** and could have very **high economic costs**.

If agriculture is not included in the ETS, the **fiscal cost** from purchasing international offsets to cover increasing agricultural emissions could be around **\$13 billion** over the 2020s. [**Figures subject to QA**.]

The estimates **assume favourable rules** that remove the liability from forestry harvesting over the 2020s.



The **alternative** is to mitigate agricultural emissions through improved efficiency instead of total reductions.

There is a **strong case** for treating agricultural emissions differently from carbon dioxide and other industrial emissions

Global food production needs to rise, but there are few opportunities to reduce total agricultural emissions without reducing production.

Significant global mitigation is possible by improving emissions intensity, while enabling agricultural production to increase.

NZ is a **very efficient** producer. Reducing NZ's production would shift production to less efficient producers and increase global emissions.

Scientific evidence is that **reducing carbon dioxide** is the priority.

Reducing methane and nitrous oxide still helps to address climate change, but cost-effective options only exist for **industrial sources** of these gases.

**IPCC** scenarios that limit global warming to 2°C involve reductions in carbon dioxide and industrial methane and nitrous oxide, but very little reduction in agricultural methane and nitrous oxide.

This approach is consistent with the **global transition** to a low carbon economy.

International attention is shifting towards options that improve emissions intensity (i.e. emissions per unit of product)

"more attention has recently been paid to options that reduce emissions intensity...even though per area emissions could increase, there is a net benefit since less land is required for production of the same quantity of product." – IPCC (2014)

"reducing global emissions by reducing OECD agricultural production is not a viable option. However, there are opportunities to reduce the emissions intensity...of OECD agriculture whilst simultaneously improving productivity." – OECD (2014)

"A 30% reduction of [global] emissions would be possible...if producers in a given system, region and climate adopted the technologies and practice currently used by the 10% of producers with the lowest emission intensity." – FAO (2013)

"Reducing the emissions of short-lived climate forcing agents [including methane]...will have only a limited effect on long-term warming, which is driven mainly by carbon dioxide" – IPCC (2014)

"[there are] low cost emissions options for some sources [of methane] (e.g. from energy production and transport) and a limited reduction for others (e.g. from livestock)." – IPCC (2014)

The alternative could **demonstrate progress** beyond existing targets by requiring new measures that reduce agricultural emissions below business-as-usual...

## Progress on agricultural emissions

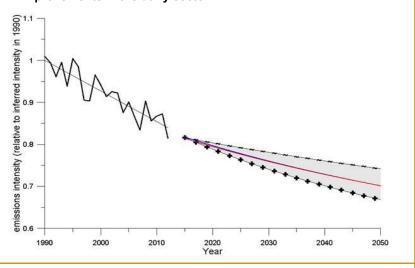
Improving sector efficiency and productivity reduces its emissions intensity.

Agricultural emissions would continue to rise, but by less than business-as-usual.

Targets could require **faster intensity improvements**, for which additional measures may be needed (e.g. industry accords, regulation, R&D).

This demonstrates progress from current targets because it requires real action to mitigate agricultural emissions.

Figure 3: Historical and forecast emissions intensity improvements in the dairy sector



### **Progress on Industrial emissions**

NZ should make the **same effort** as other developed countries to reduce its industrial emissions.

We are likely to be able to reduce our industrial emissions by a **similar amount** as other countries for a more manageable cost.

Figure 4: Indicative target for industrial emissions: 2021-2030\*

Target	Emission reductions (Mt)	Cost at \$25/t (\$b)	Cost (% of GDP)
10% below 1990	148	3.70	0.29
20% below 2005	82	2.05	0.16

<sup>\*</sup> Target levels and costs are indicative only and subject to QA.

... and may be more sustainable over the long-term.

## Continuing with the status quo?

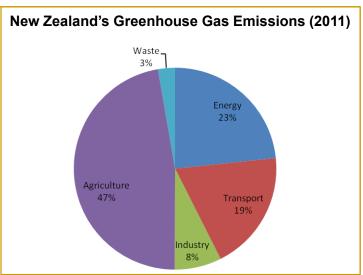
- Will only demonstrate minimal progress from current targets as greater progress is too expensive.
- Will **be criticised** for lacking ambition because our national circumstances mean our targets will always be much lower than the targets of other developed countries.
- Will either reduce the competiveness of the agriculture sector if it is required to purchase **international offsets** to cover its emissions, or impose very high fiscal costs if the sector is protected.
- **Longer-term**, these increasing and unsustainable costs may force us to change our target or walk away from it, which could be more damaging to our national interest.

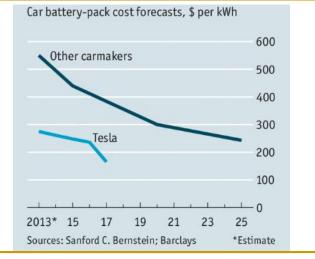
### The alternative approach:

- Could demonstrate progress from current targets by reducing agricultural emissions below business-asusual and reducing industrial emissions by similar amounts to other countries.
- Will **also be criticised** because our overall emission reductions would be less than current targets. Making the case for the approach may help to mitigate the impact internationally and domestically.
- Is likely to be **more sustainable** over the long-term as it helps to manage costs and the impact on our export competiveness, while being consistent with the **global transition** to a lower carbon economy.
- Offers NZ the chance to have a significant impact on lowering global emissions if we are able to discover and export new technologies and practices that improve emissions intensity.

While there are limited abatement opportunities for agriculture, **new technology is emerging** that will help us reduce our energy and industrial emissions more cheaply

- 42% of NZ's emissions are from the energy and transport sectors:
  - 23% from electricity generation and industrial heat
  - 19% from transport
  - 8% from direct industrial emissions
- Advances in electric vehicles, renewable energy and biofuels offer the most potential to contribute significantly to reducing NZ's emissions in the future.
- New Zealand is generally well placed to take up EVs.
   Over 80% of our electricity is renewably generated, and
   New Zealand uses high voltage power supply that can
   charge EVs quickly.
- There is already enough electricity generation capacity to meet the extra energy demand from changing the whole light vehicle fleet to EVs.
- New Zealand needs to ensure that we can take advantage of this technology as it develops.





We should consider **additional policies** to the ETS to encourage EVs, but only where they address barriers *other* than the cost of carbon emissions

- The **Emissions Trading Scheme** (ETS) incentivises consumers to switch to new technology when it becomes a cost-effective way of reducing carbon emissions.
- Additional policies may also be needed if there are other barriers to adoption.

## Types of market failures that could justify additional policies

### Information Barriers

Information may be under-provided by the market, if firms don't capture all the benefits of providing info

People may **under-invest** in learning about new technology if they are too focused on short-term costs.

There could be **learning effects**, where there are public benefits from testing new technology in real NZ conditions.

This may justify public information campaigns, or test cases.

## Ways to identify this problem:

- Is there are a lack of clear information available on EVs?

## **Coordination Problems**

Firms may not invest in infrastructure for EVs until there is sufficient **uptake**, but uptake of EVs might not happen until this infrastructure exists.

These coordination problems may justify public support for EV charging infrastructure.

## Ways to identify this problem:

- Is a lack of infrastructure identified as a key constraint?

### Other Externalities

There may be **other** negative externalities from traditional vehicles, in addition to costs of carbon emissions.

For instance, **air pollution** than can damage health. Policies to address these issues should target the specific regions with air quality problems, and incentivise more efficient *petrol* vehicles as well as EVs.

Policies supporting **innovation** can also have externalities, justifying public support.

However, because New Zealand is small, it is unlikely that research here would lead to significant developments in EV technology.

## Ways to identify this problem:

- Would an increase in EVs cause other significant benefits, e.g. in air quality?

## There are four types of policies that could encourage or remove barriers to EVs

## Information and Promotion



A **promotion campaign** could provide information about EVs to fleet buyers or consumers, or highlight businesses or Government entitles that take leadership with EVs.

An information campaign by EECA could cost around \$400,000 per year, and be funded from reprioritisation.

**Online tools** could help calculate the total cost of EV ownership, or provide information about EV costs in real-world business examples.

Government could fund Businesses to run **test cases**, to demonstrate the financial viability of EVs in New Zealand conditions.

*Initial Evidence:* There may be a role for Government in information provision around EVs. These policies would be relatively low cost.

## **Financial Incentives**



The Government currently exempts EVs from **Road User Charges** until 2020, which costs \$400 -\$700 per year per vehicle.

There may also be small **financial disincentives** to EVs that could be removed, such as unnecessary import duties.

**Direct subsidies** could be also be used. However, this is likely to be **less efficient** than reducing emissions through the ETS, which ensures that the cheapest abatement options are taken up first.

Although a number of **other countries** have large subsidies on EVs, none of these countries have achieved significant EV penetration.

**Initial Evidence:** Financial incentives do not address any of the market failures described above. Large subsidies would be needed to significantly change EV uptake.

## There are four types of policies that could encourage or remove barriers to EVs

## Infrastructure

Charging infrastructure will be important, although most people will probably charge at home.

There could be a **coordination problem**, where consumers don't buy EVs because there aren't enough charging points, and firms don't install charging points because there aren't enough EVs.

The **Government** could address this by subsidising or providing more charging points.

There are currently **47** public charging points in New Zealand. It would be worth monitoring how this network develops.

*Initial evidence:* Investment in charging points is happening without Government investment. Lack of charging points does not seem to be a key current barrier

## Regulations



**Government procurement** rules could be changed to favour EVs. However, this would conflict with the procurement principle of sourcing lowest-cost products.

**Fuel economy targets** could be introduced for vehicles imported into New Zealand. This would encourage more fuel efficient vehicles in general, not just EVs. It may also increase the cost of vehicle imports.

**Other policies** that improve transport efficiency, such as congestion charging, may also reduce transport emissions.

**Initial evidence:** Government procurement rules favouring EVs would be a subsidy. Not clear that this financial incentive would address a market failure.



# **Treasury Report:** Briefing for Cabinet Economic Growth and Infrastructure Committee, Wednesday 16 March 2016

Date:	11 March 2016	Report No:	T2016/421
		File Number:	MS-9-1

## **Action Sought**

	Action Sought	Deadline
Minister of Finance	Read prior to EGI meeting	10.30am, Wednesday, 16
(Hon Bill English)		March 2016
Associate Minister of Finance	Read prior to EGI meeting	10.30am, Wednesday, 16
(Hon Steven Joyce)		March 2016
Associate Minister of Finance	Read prior to EGI meeting	10.30am, Wednesday, 16
(Hon Paula Bennett)		March 2016

Contact for Telephone Discussion (if required)

Name	Position	Telep	hone	1st Contact
Matthew Gilbert	Team Leader, Economic	04 917 6048 (wk)	s9(2)(a)	
,	Performance & Strategy			

## Actions for the Minister's Office Staff (if required)

No

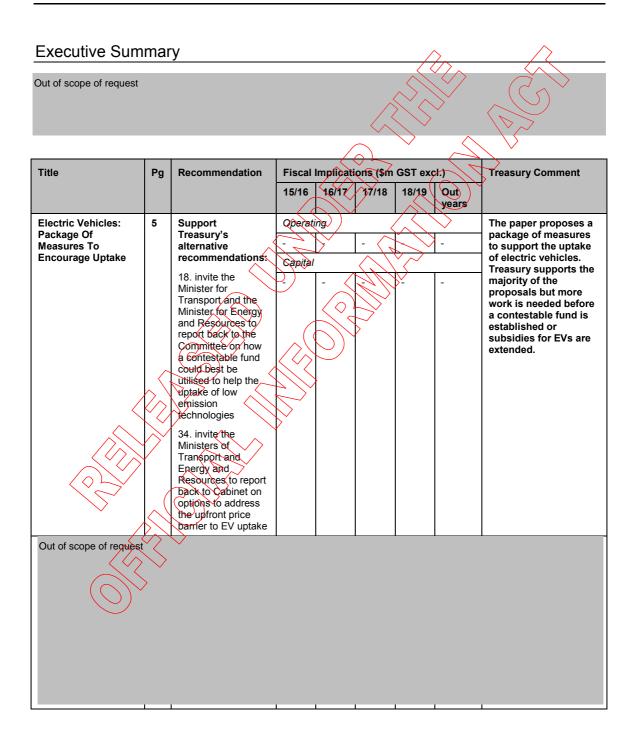
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Return the signed report to Treasury.
Note any feedback on the quality of the report
feedback on
the quality of
the report

Enclosure:

**Treasury Report:** Briefing for Cabinet Economic Growth and

Infrastructure Committee, Wednesday 16 March

2016



## **Electric Vehicles: Package of Measures to Encourage Uptake**

Responsible Person: Libby Masterton, 04 917 6221

First Contact Person: s9(2)(g)(i)

### **Purpose**

1. This paper Cabinet seeks agreement to a package of measures designed to support the uptake of electric vehicles (EVs) in New Zealand.

#### Comment

- 2. The paper proposes a package of measures to support the uptake of electric vehicles. Treasury supports the majority of the proposals but more work is needed before a contestable fund is established or subsidies for EVs are extended.
- 3. **Subsidy for EVs** The case for a public subsidy for EVs has not yet been established, in particular clarity is needed on the public benefits of EVs, which would justify such a subsidy. Given that the Emissions Trading Scheme (ETS) is intended to internalize the costs of greenhouse gas (GHG) emissions, the main public benefits which EVs might deliver are likely to be from a reduced requirement on Government to purchase international credits to help meet its climate change targets, if the ETS is reformed in such a way that these purchases are necessary. Even so, reducing emissions through EV uptake would need to be more cost effective than purchase of these credits to justify the subsidy. There may be other public costs and benefits (around electricity demand management for example) but these require further exploration.
- 4. Exemption from Road User Charges (RUC) If a subsidy is to be given it is unlikely that a RUC exemption is the most effective approach. EVs use the roads in the same way as other cars so should be exposed to RUC. An expanded RUC exemption would also increase expectations about support of this form, which could drive inefficient long-term decisions on whether to purchase EVs. Explicit subsidies focused on purchase costs would be less likely to drive perverse outcomes and would target the apparent issue of up-front costs. The fiscal costs of a RUC exemption are also less certain than an explicit time or cost-limited subsidy scheme could be.
- 5. **Contestable fund** The Minister is proposing that a contestable fund be established to support initiatives which will increase the uptake of electric cars. However very little detail is available on how this fund would operate in practice and it is not clear that good value for money projects are available.

### Treasury Recommendation

6. We recommend that you **support** the paper but **support** Treasury's alternative recommendations within it:

### replace recommendations 14, 15, 16, 17 and 21 with:

 18 invite the Minister for Transport and the Minister for Energy and Resources to report back to the Committee on how a contestable fund could best be utilised to help the uptake of low emission technologies

### replace recommendations 26-33 with:

• 34. **invite** the Ministers of Transport and Energy and Resources to report back to Cabinet on options to address the upfront price barrier to EV uptake

T2016/421: Briefing for Cabinet Economic Growth and Infrastructure Committee, Wednesday 16 March 2016



# **Treasury Report:** Briefing for Cabinet Economic Growth and Infrastructure Committee, Wednesday 13 April 2016

Date:	8 April 2016	Report No:	T2016/637
		File Number:	MS-9-1

**Action Sought** 

	Action Sought	Deadline
Minister of Finance	Read prior to EGI meeting	10.30am, Wednesday, 13 April
(Hon Bill English)		2016
Associate Minister of Finance	Read prior to EGI meeting	10.30am, Wednesday, 13 April
(Hon Steven Joyce)		2016
Associate Minister of Finance	Read prior to EGI meeting	10.30am, Wednesday, 13 April
(Hon Paula Bennett)		2016

Contact for Telephone Discussion (if required)

Name	Position	Telep	hone	1st Contact
Matthew Gilbert	Team Leader, Economic	04 917 6048 (wk)	s9(2)(a)	✓
	Performance & Strategy	, ,		

## Actions for the Minister's Office Staff (if required)

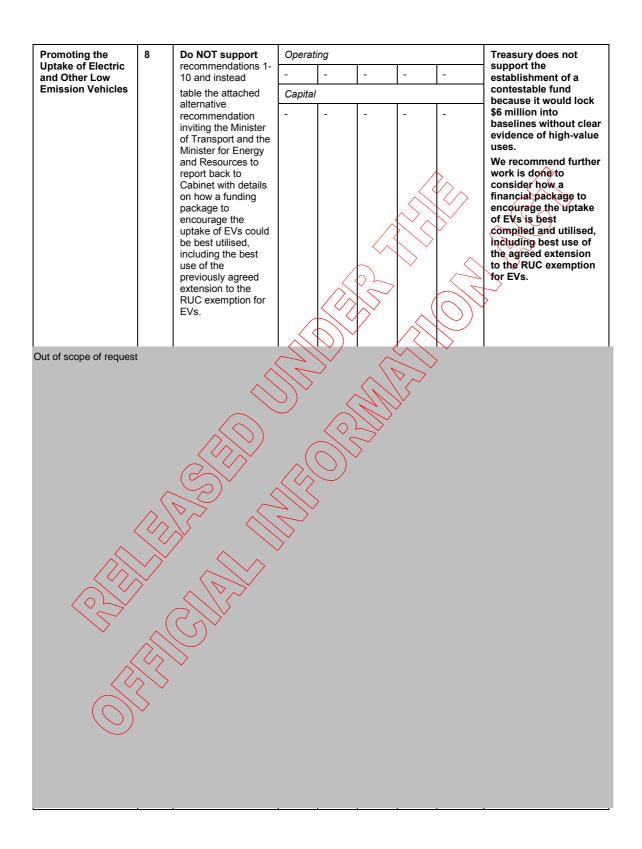
Return the signed report to Treasury.
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Enclosure: No

**Treasury Report:** Briefing for Cabinet Economic Growth and Infrastructure Committee, Wednesday 13 April 2016

**Executive Summary** 





## **Promoting the Uptake of Electric and Other Low Emissions Vehicles**

Responsible Person: Libby Masterton s9(2)(a)

First Contact Person: s9(2)(g)(i)

### **Purpose**

- 1. The paper is a report back on how a contestable fund could be best utilised to help promote the uptake of low emissions vehicles, as requested by Cabinet [CAB-16-MIN-0108.01 refers].
- 2. The paper seeks agreement to establish a contestable fund of up to \$6 million per year to promote the uptake of electric and other low emissions vehicles.
- 3. The paper also seeks to rescind the previous Cabinet request for a report back on the costs of an agreed demonstration of electric vehicles (EVs) across Government fleets [CAB-16-MIN-0108.01 refers] and notes the Minister of Transport and the Minister for Energy and Resources' decision not to progress this initiative at this stage.

### Comment

- 4. If Cabinet agrees to the proposal in this paper, it will have approved a range of measures to encourage the uptake of EVs, including the extension to the Road User Charge (RUC) exemption for EVs [Cab-16-MN-0-108.01 refers]. This would cost the Government approximately \$40 million in foregone revenue by 2021 from the Land Transport Fund and \$6 million a year for a contestable fund. Treasury's view is that is package will not be effective at encouraging the uptake of EVs, representing low-value spending and a missed opportunity to prepare New Zealand for wide-spread uptake of low emissions vehicles.
- 5. Instead of agreeing to the recommendations in this paper, we recommend that the Minister of Transport and the Minister for Energy and Resources is invited to report back to Cabinet with details on how the complete package to encourage the uptake of EVs could be best utilised.

Risk of locking low-value \$6 million fund into baselines

- 6. Treasury does not support the establishment of a contestable fund for two key reasons:
  - it is not clear that there will be high-value investment ready projects to fund, especially in out-years, and
  - the funding mechanism for out-years has not been established.
- 7. Some of the proposals in this paper may be investment ready over the next year, however the majority are largely speculative. There is inadequate assessment of the value of the projects proposed.
- 8. If Cabinet establishes the contestable fund, it would lock \$6 million into baseline spending for out-years without clear evidence that this would be spent on high-value initiatives or deciding where the funding will come from.

- 9. If the government wanted to fund initiatives that may become investment ready over the next year, for example demonstrations of electric buses in Wellington, funding that has already been reallocated within EECA's baseline could be used. This would also allow time for further policy work to be carried out to establish:
  - the level of demand for any future contestable fund
  - appropriate uses for the fund
  - application criteria to determine suitability for funded projects, and
  - different funding options for out-years.

Road User Charge Exemption for Low Emissions Vehicles

- 10. Cabinet's previous decision to extend the exemption of EVs from RUC will result in \$40 million in foregone revenue from the Land Transport Fund by 2021
- Treasury did not support this decision because it will not be effective at addressing the identified barrier to EVs uptake of a higher upfront purchase price, and will result in other perverse outcomes.
- 12. The extension of the RUC exemption for EVs is effectively a subsidy of \$40 million out to 2021. Now that Cabinet has decided to subsidise EVs, Treasury's view is that this money would be better spent directly subsidising the upfront purchase price of EVs and keeping the RUC in place for all. This would be more effective at addressing the identified barrier to the uptake of EVs of a higher purchase price and would avoid the perverse outcomes of extending the RUC exemption for EVs.
- 13. We therefore recommend that further work is done to consider how a financial package to encourage the uptake of EVs is best compiled and utilised, including best use of the agreed extension to the RUC exemption for EVs.

### Treasury Recommendation

- 14. We recommend that you do not support recommendations 1-10 in this paper; and
- 15. Table the attached alternative recommendation inviting the Minister of Transport and the Minister for Energy and Resources to report back to Cabinet with details on how a funding package to subsidise the uptake of EVs could be best utilised.

