



BRIEFING

EECA programmes review – next steps

Date:	10 January 2017	Priority:	Medium
Security classification:	In Confidence	Tracking number:	1353 16-17

Action sought		
	Action sought	Deadline
Hon Judith Collins Minister of Energy and Resources	Discuss the advice in this briefing with your officials.	End January 2017

Contact for telephone discussion (if required)				
Name	Position	Telephone		1st contact
Laurie Boyce	Acting Manager, Energy Markets Policy	04 470 2338	s 9(2)(a)	✓
Cara Palmer-Oldcorn	Senior Policy Advisor	04 498 7443		

The following departments/agencies have been consulted					
<input type="checkbox"/> Treasury	<input type="checkbox"/> MoJ	<input type="checkbox"/> NZTE	<input type="checkbox"/> MSD	<input type="checkbox"/> TEC	<input type="checkbox"/> MoE
<input type="checkbox"/> MFAT	<input type="checkbox"/> MPI	<input type="checkbox"/> MfE	<input type="checkbox"/> DIA	<input type="checkbox"/> NPK	<input type="checkbox"/> MoH
<input type="checkbox"/> Other:		N/A			

Minister's office to complete:

- | | |
|---|--|
| <input type="checkbox"/> Approved | <input type="checkbox"/> Declined |
| <input type="checkbox"/> Noted | <input type="checkbox"/> Needs change |
| <input type="checkbox"/> Seen | <input type="checkbox"/> Overtaken by Events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |

Comments:



BRIEFING

EECA programmes review – next steps

Date:	10 January 2017	Priority:	Medium
Security classification:	In Confidence	Tracking number:	1353 16-17

Purpose

To provide advice following a review of the Energy Efficiency and Conservation Authority's (EECA) programmes, including options and key decisions for taking the review findings forward.

Recommended action

The Ministry of Business, Innovation and Employment (MBIE) recommends that you:

- a **Note** that the previous Minister of Energy and Resources requested a review of EECA's programmes and was presented with a summary of findings in November 2016. *Noted*
- b **Note** that the findings of the programmes review identified a need for:
 - a greater alignment with proposed New Zealand Energy Efficiency and Conservation Strategy priorities
 - a more robust approach to business engagement and market analysis
 - an improved use of data and measurement of success, and
 - an assessment of whether EECA is the appropriate lead organisation. *Noted*
- c **Note** that there is a role for government to address market failures to increase investment in energy efficiency, to unlock both public and private value. *Noted*
- d s 9(2)(g)(i) *Noted*
- e **Note** officials' advice on the range of options for taking the review findings forward, including the minimum changes EECA must make to address the findings. *Noted*
- f **Agree** to meet with officials to discuss the advice in this briefing. *Agree / Disagree*

Laurie Boyce
Acting Manager, Energy Markets Policy
Ministry of Business, Innovation and Employment

Hon Judith Collins
Minister of Energy and Resources

10/01/17

The EECA programmes review – an overview

1. In 2016, the then Minister of Energy and Resources requested a review of EECA's programmes. A summary of the findings of that review was then provided to the Minister in November 2016, and is attached in Annex 1 for your reference.
2. From the programmes review, we have found that EECA's work is generally aligned with Government priorities, and designed to address identified problems, market failures and barriers. However, many of its programmes are delivering relatively low public value. Programme performance was mixed. Based on EECA's estimates, the three largest programmes delivered the highest return on investment, but even with two of these programmes it was difficult to measure the level of public benefit relative to private benefit. Annex 2 contains a summary assessment of the value of the programmes.
3. Acknowledging the difficulty and cost of measuring additionality, the findings indicate fundamental issues with programme design and supporting data. Specifically, the review identified a need for future programmes to have:
 - a. a greater alignment with proposed New Zealand Energy Efficiency and Conservation Strategy (NZECS) priorities
 - b. a more robust approach to business engagement and market analysis
 - c. an improved use of data and measurement of success, and
 - d. an assessment of whether EECA is the appropriate lead organisation.
4. The remainder of this briefing provides MBIE's advice on next steps following the review, including options for taking the review findings forward, and the minimum changes EECA must make to address the findings.
5. A central consideration for this advice is EECA's ability to continue to respond to current priorities, at the same time as investing in capability building and better programme design to support progress towards longer-term priorities.

Potential value from energy efficiency and renewables

6. The programmes review accepted the potential benefits of government working to achieve energy efficiency improvements and increase the use of renewable energy. We continue to believe that there is a role for government based on:
 - a. Market failures that lead to sub-optimal decisions by business and households.
 - b. Evidence (discussed below) that suggests these failures have implications for New Zealand's competitiveness and ability to reduce emissions.
7. It is believed that there is potential for New Zealand businesses to make more efficient use of energy, e.g. modelling by the BusinessNZ Energy Council shows energy efficiency improvements could be by as much as 11 to 14 per cent by 2030¹. Based on EECA's experience and international evidence, opportunities may not be taken up for a number of reasons, even though energy efficiency can benefit businesses and households in many ways – including lower costs.
8. This potential to improve energy productivity and renewable energy use is central to the draft NZECS for 2017 to 2022 (currently out for public consultation), recognising the value, both public and private, of New Zealand investing in this space.
9. We know that energy productivity is a critical factor in business competitiveness and innovation, and that New Zealand's energy productivity improvement is lagging behind other countries such as the United States, the United Kingdom and Australia.

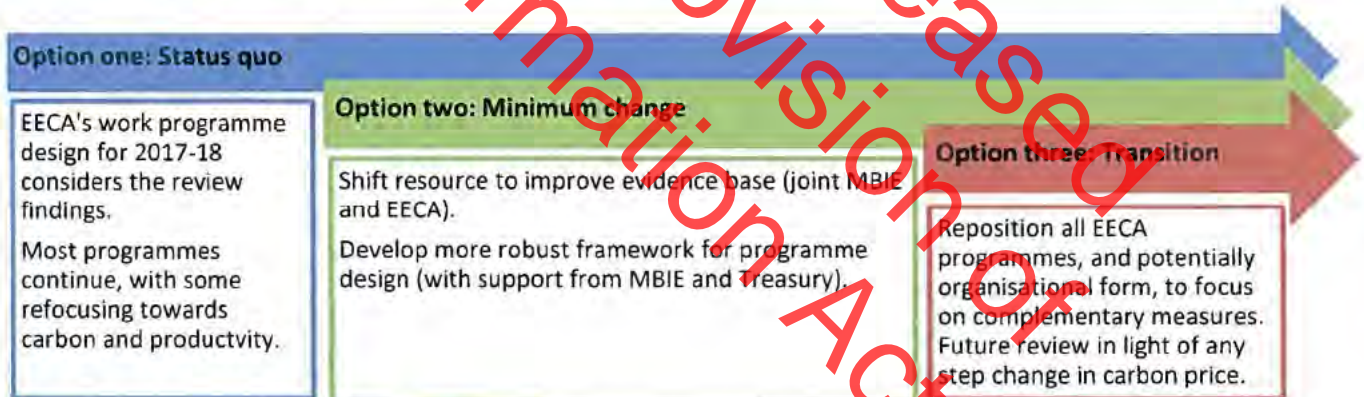
¹ BusinessNZ Energy Council (2016) 2050 Energy Scenarios www.bec.org.nz/projects/bec2050.

Potential contribution to the transition to a low emissions economy

10. Our view is that current settings will not deliver this potential and further work is needed to facilitate a more productive and lower emissions use of energy. In terms of the contribution of energy to a low emissions economy, Ministers can choose to use the New Zealand Emissions Trading Scheme (ETS) to deliver these outcomes, through a stronger carbon price, or use complementary measures, or use both. EECA's programmes fall within the scope of complementary measures and are therefore affected by choices around how New Zealand will transition over time.
11. The programmes review and the draft NZEECS have assumed that there is a need for complementary measures for at least the period of the new NZEECS (2017 to 2022). This view requires further analysis to better understand the specific role that energy efficiency and renewable energy can make to the transition to a low emissions economy. In particular, this requires an understanding of the amount of investment and behaviour change we expect to occur in response to the carbon price under the ETS, and the rationale for additional intervention.
12. The programmes review and the draft NZEECS have clarified the opportunities and problems (or gaps) in our current approach, but have not gone far enough to clearly identify the role for government in unlocking this energy sector potential. For example, we would expect that EECA's role and programmes will need to be reviewed in light of any step change in the carbon price under the ETS. Getting this right is important as the Government faces increasing pressure to articulate a plan for reducing emissions.

Options for unlocking energy efficiency and renewable energy potential

13. There is a range of ways the review findings can be taken forward to improve energy efficiency and renewable energy outcomes. These options span from lower risk, business-as-usual interventions through to a more fundamental review of how the government's investment in energy is supporting the transition to a lower emissions economy. The following diagram presents three options on this spectrum:



14. Under all options we would expect the following commitments to continue:
 - a. delivering the Government's Electric Vehicles Programme
 - b. the Warm Up New Zealand: Healthy Homes extension, and
 - c. EECA's statutory role around being the trusted authority for energy efficiency information.
15. The proposed changes relate to optional programmes already in place, the need to develop new interventions under the draft NZEECS priority areas, namely process heat, and decisions required to meet the levy funding changes. The replacement of the NZEECS provides a suitable framework for the proposed changes, by expressing strategic priorities and providing focus for EECA's programmes.

16. We recommend that, under all options, the implementation of the review recommendations is staged over the next 18 months. This will enable EECA's currently committed activities to continue, or stop, while more substantive programme redesign is undertaken in parallel.

Option one: Status quo – Led by EECA

17. This option would be led by EECA and we believe represents the lowest risk and s 9(2)(g)(i). It would involve the EECA Board and management considering the review findings as part of its planned work programme planning for 2017/18, with limited input from MBIE besides our existing monitoring role.
18. The immediate priority for EECA would be confirming a budget for the 2017/18 year (the levy portion is being consulted on now) and implementing any transitional measures, including any immediate improvements to programmes signalled by the programme reviews.
19. The focus in the next four months would be increasing the alignment of all programmes with the proposed NZEECS priorities (i.e. transport and process heat), factoring in the new levy funding arrangements. This option could be implemented immediately, and we would expect EECA to advise you on its intended work programme by April 2017.
20. Under options one and two, MBIE would work in parallel to improve supporting data and analysis, although this would be unlikely to be completed in time to influence the work programme reprioritisation. As a result, we anticipate minimal change to the overall value from EECA's work under this option, besides some shift towards the proposed NZEECS priorities.
21. To increase the value from this option, we would recommend making it clear to EECA that you expect it to advise you on which programmes it intends to retain, which programmes will be stopped, and how it will work with relevant agencies to identify areas where new programmes will need to be scoped and designed over time (e.g. longer-term implementation of actions under the NZEECS, in support of energy and climate targets).

Option two: Minimum change – Led by MBIE, working with EECA

22. Our view is that the refresh of the NZEECS and the programmes review provide a good opportunity to reassess EECA's role. In general terms, future programme design (or re-design) will need to continue to first assess whether there is a feasible role for government, and then whether EECA is the most appropriate lead agency for the intervention.
23. Where EECA has a supporting role, it needs to work with relevant agencies to ensure that opportunities to promote energy efficiency and uptake of renewables are identified and prioritised on the basis of clear and reasoned evidence.
24. The findings from the programme review show that we do not expect a 'business-as-usual' EECA to deliver real progress towards the current priorities for the energy sector, which are reflected in draft NZEECS and proposed 2030 energy targets, nor will it grow the contribution from the energy sector to meeting emissions reduction targets.
25. The clearer focus on carbon and productivity under the draft NZEECS means that almost all of EECA's programmes will need to be 'pivoted' or reprioritised towards opportunities in the process heat and transport sectors (i.e. away from electricity).
26. While EECA's work with businesses helped to identify the particular barriers New Zealand businesses face in improving their energy use, we do not believe it has addressed the issue of ensuring that any government support is delivering additional value (i.e. an assessment of what businesses would (or would not) have done anyway).
27. s 9(2)(g)(i). At a minimum, EECA would need to address the following issues to be in a position to design and deliver higher value programmes:
- Clarify investment priorities, including criteria for business support and intervention.

- b. Reset governance expectations for the new Chief Executive and the Board, in particular capability to support investment priorities.
- c. Improve data collection and analysis across all programmes, from the design stage through to implementation and evaluation.
28. At a minimum, this will require a review of EECA's operating model and reprioritisation of its work programme, including a potential restructuring away from the current 'Business, Residential, Transport' split towards the proposed NZEECS priority areas. Alongside this, EECA needs to improve its success measures and accountability (including how these feed into programme design), and review the robustness of the criteria for providing support (i.e. targeting carbon, requiring data collection, measuring impact of interventions).
29. This option will require EECA to shift resource to focus on building the evidence base (jointly working with MBIE) and to invest in capability to improve programme design (with support from MBIE and Treasury).
30. We would expect EECA (in consultation with MBIE) to advise you by April 2017 on what changes it will make to existing programmes to free up resources to deliver on these priorities. This includes how it intends to use its existing baseline and levy funding in 2017/18 to address the review findings, in particular ensuring it has the capability to develop better programmes and improve the use of data.
31. MBIE would need to provide resources to support implementation of this option, and remain very involved in the detailed design of EECA's programmes and use of data. The Letter of Expectations would be a useful tool to clarify your expectations about how EECA will work with MBIE.
32. To support this option, we will consider developing a data plan with EECA. Improved use of data will enable EECA to better measure the success of its interventions in the market and clearly determine, at the programme development stage, whether the desired outcome can be achieved cost-effectively.
33. A data plan could include:
- working to get more of EECA's existing data and modelling peer reviewed and published (led by MBIE's Energy and Building Trends team)
 - updating the electricity efficiency evidence base, with a focus on quantifying potential public benefits
 - shared expectations around monitoring and evaluation of programmes, and
 - undertaking analysis on the contribution of energy productivity to the economy.
34. s 9(2)(g)(i)
35. EECA's operating model and work programme has been the subject of a number of separate reviews since EECA's formation in 1999. The findings of this review are consistent with the previous reviews which questioned EECA's ability to develop high-value programmes, supported by evidence and a clear rationale for government intervention. However, previous reviews have not been able to overcome the challenge of translating the findings into change within EECA, due in part to staff changes, management decisions and shifting priorities. The implementation of this option is reliant on MBIE having a lead role in trying to drive change in EECA, to improve programme design and use of evidence.

Option three: Transition – Led by MBIE and MfE

36. This option goes to the choice for Ministers between using the carbon price under the ETS to drive the transition to a lower emissions economy versus using complementary measures.

37. Options one and two assume a continued need for complementary measures and a role for EECA beyond information provision. This option represents a more fundamental shift in how government thinks about the role of energy efficiency and renewable energy in the transition to a low emissions economy.
38. You have some choices about how far this change goes, including any organisational and legislative change for EECA.
39. With dedicated resources from MBIE and the Ministry for the Environment (MfE), we can review the policy framework for intervention in the energy sector, starting with understanding the impact of the carbon price under the ETS on investment.
40. Following this understanding, we would then work to identify the role for government (if any) in addressing market failures in order to reduce energy-related emissions (i.e. complementary measures). This is essentially a ground up look at how the energy sector is contributing to the transition to a low emissions economy on top of what the ETS is expected to achieve.
41. The intent of this option is to increase support for, and certainty around, the longer-term implementation of actions under the NZEECS, to support energy and climate targets. This could include substantive change for EECA; the replacement NZEECS (currently out for public consultation) is foreshadowing this shift anyway through the focus on transport and process heat.
42. There is always a tension between needing time to undertake analysis, while delivering results. We would expect EECA to continue to manage the delivery and exit of its existing programmes in the short-term, taking account of the review findings, including advice to you on how it is demonstrating value-for-money. MBIE would have a lead role in taking this option forward, including scoping the work required with MfE.

MBIE's role

43. Under all three options, MBIE has a role in supporting EECA to implement the review findings. In general, we have a role in owning the intersection between energy and climate change policy, including the data needed to support this.
44. More analysis is needed on the role for government in overcoming market barriers; this requires more resources on analysis, rather than just delivery, in the next 12 months. MBIE has a lead role in this.
45. Overall, we see MBIE having a much stronger leadership role in energy efficiency policy design, including options analysis, and therefore more direct impact on EECA's work in the electricity and process heat space. The Ministry of Transport would continue to lead any work on transport, with EECA and MBIE playing a supporting role (where appropriate).

Next steps

46. Under all options, there are opportunities coming up for you to set out your expectations for EECA's reprioritisation work, including messages for the new Chief Executive, Andrew Caseley, when he starts in late January. We recommend using the following tools to clarify your expectations for EECA:
- the Letter of Expectations (February 2017)
 - the Statement of Performance Expectations (which is updated annually), and s 9(2)(g)(i)

47. We recommend you discuss the advice in this briefing with your officials. Following this discussion, we can work with your office to put together subsequent guidance for EECA on your priorities and expectations.

Annexes

Annex 1: Copy of previous briefing summarising findings

Annex 2: Summary assessment of the value of the programmes

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under the provision of
the Official Information Act 1982



BRIEFING

EECA Programmes Review: Summary of Findings

Date:	7 November 2016	Priority:	Medium
Security classification:	In Confidence	Tracking number:	0952 16-17

Action sought		
	Action sought	Deadline
Hon Simon Bridges Minister of Energy and Resources	<p>Note the findings of the EECA programmes review.</p> <p>Note that MBIE will shortly provide further advice on next steps, which will include options for taking the review findings forward, and the minimum changes EECA must make to address the findings.</p>	21 November

Contact for telephone discussion (if required)				
Name	Position	Telephone		1st contact
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Amir Mehta	Policy Advisor	04 896 5745		

The following departments/agencies have been consulted						
<input type="checkbox"/> Treasury	<input type="checkbox"/> MoJ	<input type="checkbox"/> NZTE	<input type="checkbox"/> MSD	<input type="checkbox"/> TEC	<input type="checkbox"/> MoE	
<input type="checkbox"/> MFAT	<input type="checkbox"/> MPI	<input type="checkbox"/> MfE	<input type="checkbox"/> DIA	<input type="checkbox"/> TPK	<input type="checkbox"/> MoH	
<input checked="" type="checkbox"/> Other:			EECA			

Minister's office to complete:

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| <input type="checkbox"/> Approved | <input type="checkbox"/> Declined |
| <input type="checkbox"/> Noted | <input type="checkbox"/> Needs change |
| <input type="checkbox"/> Seen | <input type="checkbox"/> Overtaken by Events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |

Comments:

the Official Information Act 1982



BRIEFING

EECA Programmes Review: Summary of Findings

Date:	7 November 2016	Priority:	Medium
Security classification:	In Confidence	Tracking number:	0952 16-17

Purpose

To provide you with the findings from the review of the Energy Efficiency and Conservation Authority's (EECA) programmes, and proposed next steps, for your consideration. ✓

Executive Summary

1. At your request, the Ministry of Business, Innovation and Employment (MBIE) has completed a review of 12 EECA programmes. The review assessed whether EECA's programmes remain fit-for-purpose and consistent with emerging Government priorities.
2. The review was timed to support a wide range of complementary activity, including the replacement of the New Zealand Energy Efficiency and Conservation Strategy (NZECS), levy funding options for the Electric Vehicles (EV) Programme, and the development of new energy targets.
3. This briefing contains a summary of the review findings. The following general observations can be made about EECA's overall performance:
 - All current programmes align with Government priorities, and were designed to address identified problems, market failures, and barriers.
 - However, programme performance, and in particular whether programmes achieved value-for-money, was mixed. The three large-scale, high-impact programmes delivered the highest return on investment, but delivery of public benefit was unclear for two of them. In particular, we note that the Top 200/Next 1000 programme generated a good return on investment, but the additionality and public benefit were unclear.
 - In total, we were unable to demonstrate value-for-money to Government for about half of the 12 programmes. While acknowledging the difficulty and cost in measuring additionality, this finding indicates:
 - i. a need to improve data collection and use, and
 - ii. a more fundamental challenge around improving programme design to target specific barriers.
4. The review findings can be organised according to the following four themes:
 - *Greater alignment with proposed NZECS priorities* – EECA will need to align its existing and future programmes with the proposed NZECS priorities for industrial heat (and potentially) in the transport sector.
 - *More robust approach to business engagement and market analysis* – EECA must ensure that its business programmes represent highest value-for-money for Government, particularly in creating public benefit. A well-targeted, well-evidenced intervention will move beyond technical potential to focus on what public benefits can realistically be achieved in a cost-effective manner. Stronger market analysis, in which EECA tests industry's stated enthusiasm for intervention, and pilot programmes will support this process.

- *Improve the use of data and measurement of success* – across all programmes, there is room to improve data collection and analysis – from programme design through to implementation and evaluation. The improved use of data will enable EECA to better measure the success of its interventions in the market, encourage the diffusion of energy efficiency practices throughout the market, and clearly determine, at the programme development stage, whether the desired outcome can be achieved cost-effectively.
 - *Is EECA the appropriate lead organisation?* – although EECA generally has the tools to lead in many instances, it may not be the appropriate lead agency in the transport sector. EECA must assess whether it is the appropriate lead organisation when designing (or re-designing) its interventions and, to the extent it has unique capability, whether it should play a supporting role.
5. We will shortly provide further advice on next steps. This advice will contain options for taking the review findings forward, and will include the minimum changes EECA must make to address the findings.


Recommended action

The Ministry of Business, Innovation and Employment recommends that you:

- a **Note** that MBIE and EECA have concluded a review of 12 EECA programmes, and the summary of findings is presented in this briefing. (Noted)
- b **Note** that the findings of the EECA programmes review have identified a need for:
- a greater alignment with proposed NZEES priorities
 - a more robust approach to business engagement and market analysis
 - an improved use of data and measurement of success, and
 - an assessment of whether EECA is the appropriate lead organisation for future market interventions
- c **Note** that MBIE will shortly provide further advice on next steps, which will include options for taking the review findings forward, and the minimum changes EECA must make to address the findings. (Noted)


 Jamie Kerr
 Manager, Energy Markets Policy
 Ministry of Business, Innovation and Employment

7 / 11 / 16
 / /


 Hon Simon Bridges
 Minister of Energy and Resources

9 / 11 / 16
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Background to the review

1. In December 2015, MBIE completed a preliminary review of 14 EECA programmes [briefing 1720 15-16 refers]. Based on the findings of that review, you directed "EECA to work closely with MBIE to review all of EECA's programmes in the 2016/17 financial year", including strategic priorities¹.
2. As the Crown entity that encourages, promotes, and supports energy efficiency and conservation and the use of renewable sources of energy, the purpose of the review was to ensure EECA's programmes remain fit-for-purpose and in line with changing government objectives.
3. This briefing provides:
 - the overall review findings
 - an assessment of the overall performance of EECA's programmes², and
 - a summary of the conclusions and recommendations on each of the 12 programmes we reviewed.

Methodology of the EECA programmes review

4. The review examined EECA's current activities to assess whether its programmes remain fit-for-purpose and reflect changing Government priorities.
5. The review was governed by a steering group of MBIE and EECA officials, which prioritised the following 12 programmes for review:

Residential	Transport	Business
<ul style="list-style-type: none">• Equipment Energy Efficiency (E3)• ENERGYWISE (including The Energy Spot)• ENERGY STAR• Warm Up New Zealand: Healthy Homes	<ul style="list-style-type: none">• Fuel Efficient Tyres• Vehicle Fuel Economy Labelling• Heavy Vehicle Fleet Efficiency	<ul style="list-style-type: none">• Top 200/Next 1000 Business Programmes• Crown Loans• Lower Carbon Meat and Dairy• Wood Energy South• Commercial Buildings (NABERSNZ and Commercial Building Performance Advice)

Note: the E3 and ENERGY STAR programmes can also be listed under the Business programme stream.

6. The programmes were prioritised for review based on three criteria: the extent to which the programme aligns with Government priorities or meets a statutory requirement, the size of the programme (in terms of dollars spent), and the programme's impact in terms of EECA's estimate of public benefit.
7. The total expenditure for these 12 programmes in 2015/16 was \$47.6m; the 2016/17 budget for these programmes is \$38.3m.
8. Annex 1 contains a table summarising the overall assessment of EECA's programmes, and includes each programme's expenditure for the previous financial year and the budget for the current financial year. Annex 2 contains a summary of the conclusions and recommendations for each programme.

¹ Refer EECA 2016/17 Annual Letter of Expectations and briefing 1720 15-16.

² As signalled in aide-memoire 0100 16-17.

9. All reviews were undertaken by EECA and MBIE, overseen by the steering group, and conclusions and recommendations were developed through joint workshops. To manage any risks around the integrity of the review, PwC was contracted to provide an external and independent view. Cardno, an infrastructure and environmental consultancy firm, was also involved in the workshop stage.
10. Each programme was assessed using a process co-designed by EECA and MBIE, with final approval from MBIE. Each programme was reviewed according to an assessment framework (reviewed by Treasury) and cost-benefit analysis methodology. The assessment framework is attached as Annex 3.
11. The assessment framework applied high-level criteria to each programme, which looked at the:
 - problem identification
 - strategic fit with Government and EECA objectives³
 - role for government (e.g. identifying market failures⁴ and barriers)
 - intervention in the market (e.g. assessing the intervention logic and any risks), and
 - performance (e.g. achieved benefits and value-for-money).
12. These criteria were used to assess EECA's suitability as the lead organisation, draw conclusions about each programme, and make recommendations for each programme's future. Individual reports have been produced for each review.

Summary of findings

General observations on EECA's overall performance

13. We can first make some general observations on EECA's overall performance from the findings of the review:
 - a. All programmes align with current government priorities (e.g. the Business Growth Agenda and the NZEECS 2011-2016). However, this strategic context has shifted and all programmes need to be reworked to reflect this.
 - b. All programmes were designed to address identified problems, market failures, and barriers, and most had the potential for significant public benefits (e.g. reduced carbon emissions).
 - c. However, programme performance, and in particular whether programmes achieved value-for-money, was mixed. The three large-scale, high-impact programmes (Warm Up New Zealand, Top 200/Next 1000, and E3) delivered the highest return-on-investment. These three programmes accounted for just over 70 percent of EECA's expenditure in 2015/16 for the 12 programmes reviewed. Although Warm Up New Zealand delivered clear public benefit, this is less clear for the Top 200/Next 1000 and E3 programmes. In particular, we note that the Top 200/Next 1000 programme generated a good return-on-investment, but the additionality and public benefit were unclear.

³ The *Energy Efficiency and Conservation Act 2000* requires EECA to perform a number of roles related to energy efficiency and renewable energy. This includes advising the Minister, researching and monitoring, promoting public awareness, promoting practices and technologies and publishing research, information and other material.

⁴ We considered a market failure to be an: information gap, coordination problem, pricing inefficiency, lack of capital, or quality uncertainty.

- d. In total, we were unable to demonstrate value-for money to government for about half of the 12 programmes. While acknowledging the difficulty and cost in measuring additionality, this finding indicates:
- i. a need to improve data collection and use, and
 - ii. a more fundamental challenge around improving programme design to target specific barriers.
- e. Some problems being targeted through EECA intervention (such as in the transport sector) would have benefited from broader cross agency analysis of potential intervention options, and the related design of monitoring and evaluation to demonstrate additionality and value-for-money.
- f. Across all programmes there is room to improve data collection and analysis at all stages of the lifecycle – from design through to implementation and evaluation. This is essential if EECA is to be able to demonstrate that there is a clear role for government, and that its interventions are targeted towards identified and realisable value, based on deep market understanding.

14. The following four high-level themes can be drawn out from the programme review findings.

Greater alignment with the proposed NZEECS priorities

15. The review showed that all EECA programmes were aligned with Government priorities (e.g. the Business Growth Agenda or the NZEECS 2011-2016) when developed. While the previous NZEECS was broad in its priorities, the new draft NZEECS is much more targeted to the greatest public benefit (i.e. the industrial and transport sectors).
16. Therefore, EECA needs to realign its work programme with these proposed NZEECS priorities. The proposed changes to EECA's levy funding will enable its resources to be redeployed to support this, subject to due diligence around building a robust case and consulting with stakeholders.
17. The proposed NZEECS also sees the public sector playing a leadership role by reducing energy use and emissions, and incentivising wider action. In support of this, the review identified multiple opportunities for government leadership to realise energy efficiency and renewable energy potential (e.g. through the use of Crown Loans).

More robust approach to business engagement and market analysis

18. EECA's engagement with market participants ranges from direct, one-on-one engagement to indirect engagement through the provision of online information to businesses (and also households). The review showed that EECA needs to improve the connections between business programmes and move beyond technical potential to focus on what public benefits can be realised in a cost-effective manner.
19. The Top 200/Next 1000 programme is EECA's key programme for working with businesses. It is both a discrete programme, as well as being a means for engaging businesses in other initiatives (e.g. Lower Carbon Meat and Dairy, Crown Loans).
20. As the overarching business programme, the Top 200/Next 1000 has demonstrated value through targeting the largest energy-users. However, it is not clear whether these benefits (including public benefits) would not have been realised without EECA's intervention.
21. It is not sufficient to merely partner with businesses because they are a large energy user. EECA needs to take a staged approach to identifying potential benefits – shifting from identifying technical energy potential to analysing the specific costs and benefits of intervention, having regard to business and market characteristics.

22. The review showed that EECA must take a more robust approach to market analysis. It must take a more objective view of the motivation of consumers and supply chain actors when designing a market intervention. For example, an industry's stated willingness to engage at the design stage of programme development does not always translate into an effective market intervention.
23. This 'participant bias' was shown in the Fuel Efficient Tyres Programme, where EECA and tyre distributors over-estimated the latter's influence over tyre retailers to promote fuel efficient tyres.
24. Understanding market structure prior to intervention would enable a more perceptive assessment of the likelihood of success for the intervention and whether the potential difficulty (and thus costs) of achieving change outweighs the potential public benefits. MBIE can support EECA in this process.
25. Pilot programmes can play a role here, allowing EECA to better understand market structure through small-scale interventions. EECA's four carbon pilot programmes were part of this review, and the lessons from these form part of the review findings and should be applied to future interventions where relevant⁵.
26. In general, the potential for public benefits from EECA's interventions are likely to be higher where it is working in markets with the potential for 'spillover benefits' to occur, as lessons can directly (or indirectly) be shared with businesses who have similar business processes or patterns of energy use (see paragraphs 31-32).
27. The review of business programmes also found that there is room to make stronger connections across all of EECA's programmes in order to assess, and leverage where it makes sense to do so, related interventions.

Improve the use of data and measurement of success

28. The effectiveness of EECA's use of data is crucial as under the *Energy Efficiency and Conservation Act 2000*, there is a clear role for EECA to act as the authority on energy efficiency through the provision of trusted, independent information to market participants.
29. The review found that EECA's programme design, and target-setting as part of this, was generally too optimistic or aspirational about the likelihood of success. For many programmes, EECA found that the achievement of investment objectives was difficult to accurately measure, and was sometimes not supported by a contractual commitment for businesses to provide data (e.g. in the Heavy Vehicles Programme). This makes the measurement of programme success difficult.
30. The review identified gaps with data collection and analysis for about half the programmes. Acknowledging that it is difficult to consistently measure energy efficiency and to collect the supporting information, these difficulties make future programme design challenging.
31. An important aspect of the use of data and market analysis is EECA's ability to encourage diffusion of energy efficiency practices throughout the market. It is not cost-effective for EECA to replicate the direct engagement model of, for example, the Top 200 or Lower Carbon Meat and Dairy interventions across the rest of the market. Ideally, EECA would leverage benefits achieved within its programmes through increasing the levels of proactive diffusion across markets. However achieving diffusion is difficult and requires sustained effort over time.
32. To this end, EECA could use case studies and the demonstration effect, leverage existing partnerships with business, or think about how a business can increase the internal visibility of energy efficiency (e.g. through a dedicated board member).

⁵ The four carbon pilot programmes are Lower Carbon Meat and Dairy, Wood Energy South, Fuel Efficient Tyres, and Heavy Vehicles. See Annex 2 for a summary of each programme's conclusions and recommendations.

33. Even where there is a clear role for EECA, the nature of some of the markets in which it intervenes means that it will need to continue to have a role to achieve any benefits. Getting the level of uptake to a point where it is self-sustaining may not be achieved without additional policy interventions (e.g. regulation or better price signals) and must be a consideration in deciding whether to intervene.
34. Overall, the improved use of data would enable EECA to better measure the success of its interventions in the market. This would need to be a particular focus of any reprioritisation of EECA's programmes as an inability to measure success effects its ability to incentivise wider uptake and investment, or attribute public benefits to the specific programmes.
35. Greater collection and analysis of market data at the programme development stage will also allow EECA to more clearly determine whether the desired outcome can be achieved in a cost-effective way. Achieving this would require a greater investment of time and resources during programme design and implementation.

Is EECA the appropriate lead organisation?

36. Energy efficiency can contribute to multiple and diverse outcomes (e.g. air quality improvements, energy security, job creation, health). The review shows that EECA generally has the tools to lead in many instances; however, where a programme intervenes in the transport sector, EECA may not be the most appropriate lead organisation. Effecting change in the transport sector is difficult because prices do not reflect wider costs, and there is an extremely large number of actors in the market. The appropriate lead organisation will also need to be considered for any programmes that follow from Warm Up New Zealand, the benefits of which are primarily to public health.
37. Where EECA's programmes cut across multiple portfolios, it should work with relevant agencies to develop these programmes. MBIE has a role in supporting or facilitating this cross-agency action. Further, as one of the three priorities in the proposed NZEECS is transport, EECA's future work in this space will need to be developed working closely with the Ministry of Transport and the New Zealand Transport Authority.
38. In general terms, future programme design (or re-design) will need to continue to first assess whether there is a feasible role for government, and then whether EECA is the most appropriate lead agency for the intervention. Where EECA may not be the lead, it should assess whether it has the unique capability to work with relevant agencies to ensure that opportunities to promote energy efficiency and uptake of renewables are identified and prioritised on the basis of clear and reasoned evidence.

Wider context

39. The review was timed to support a wide range of complementary activity, including the replacement of the NZEECS, levy funding options for the EV Programme, and the development of new energy targets.

New energy targets and NZEECS

40. The introduction of energy targets will signal New Zealand's commitment towards the transition to a more productive, lower emissions economy. Achieving these targets will require ongoing effort to make more efficient use of our abundant energy resources, and increase the use of renewable energy in the industrial and transport sectors.
41. The replacement NZEECS will complement these targets and also shape EECA's activities. The draft proposes three priority areas:
 - renewable and efficient use of process heat
 - efficient and low emissions transport, and
 - innovative and efficient use of electricity.

42. These proposed priorities reflect the shift towards opportunities in the carbon-intensive industrial heat and transport sectors, alongside existing electricity efficiency measures.

EECA levy funding

43. Electricity efficiency has been a major focus of EECA's activities; this reflects the current funding arrangement where approximately half of EECA's costs are recovered from a levy on electricity industry participants.
44. The proposed levy changes that are now being progressed will allow the cost of EECA's activities to be spread across transport fuels and gas, as well as electricity. The intention is that the changes will be in place for the 2017/18 financial year⁶. EECA's programmes therefore need to be designed to take into account these changes from the 2017/18 financial year. EECA will be required to consult on all its levy funded activities.

Next steps

45. We will shortly provide further advice on next steps. This advice will contain options for taking the review findings forward, and will include the minimum changes which EECA must make to address the findings.
46. We are currently preparing this advice and expect to provide it to you by 14 November.

Implications for EECA's work – reprioritisation and programme design

Immediate priorities for 2017/18

47. EECA will have a new Chief Executive (James Hay) in mid-January 2017 who will want to discuss this work with you as a matter of urgency.
48. The immediate priority is confirming a budget for the 2017/18 year (work is underway on this) and implementing any transitional measures (including any immediate improvements to programmes signalled by the programme reviews).
49. EECA's immediate priority in the next four months is addressing the review findings. As directed by you, "EECA should be able to demonstrate the difference it is making to increase business productivity and household energy efficiency – over and above business as usual – through its programmes."⁷
50. This will include factoring in the new levy funding arrangements, implementing plans to exit programmes efficiently, and identification of areas where new programmes will need to be scoped and designed (or re-designed) over time. Here, EECA must consider whether it is the appropriate lead organisation for the intervention and the agencies with which it will need to closely work to achieve outcomes (as per the review findings). Taken together, this reflects the need for longer-term implementation of actions under the NZEECS, in support of energy and climate targets.

Developing a programme of work under the NZEECS

51. Over the medium-term, the replacement of the NZEECS is an opportunity to express new strategic priorities and will influence whether EECA's programmes remain fit-for-purpose.
52. Given that the replacement NZEECS is being developed in parallel to this review, and public consultation is expected to take place this year, we recommend that the implementation of the review recommendations is staged over the next 18 months.
53. This approach will enable EECA's currently committed activities to continue, or stop, while more substantive programme redesign is undertaken in parallel. This is a necessary step

⁶ The levy changes are part of the *Energy Innovation Bill* which has been introduced into the House. In anticipation of the levy changes, changes to the 2017/18 Estimates of Appropriations will be progressed to align the Estimates with the new levy funding arrangements. Officials will ensure this is factored into the submissions to the Crown's Financial and Information System in December.

⁷ EECA 2016-17 Annual Letter of Expectations.

particularly where the review findings indicate that the role for government, or for EECA to lead the work, is unclear.

Annexes

Annex 1: Summary of overall assessment of programmes

Annex 2: Summary of programme conclusions and recommendations

Annex 3: Assessment framework for programme reviews

Proactively released
under the provision of
the Official Information Act 1982

Annex 1: Summary of overall assessment of programmes

Programme	Problem identified	Strategic fit (government)	Potential public benefits in sector	Market failures identified	Market barriers identified	Value-for-money	Scale of benefits ⁸	EECA lead?	Expenditure 2015/16 ⁹	Budget 2016/17
Warm Up New Zealand		✓	High	✓	✓	✓	High	MoH?	\$22.93m	\$15.00m
Top 200/Next 1000/SMEs	✓	✓	High	✓	✓	✓	Medium/High	✓	\$9.57m	\$8.85m
ENERGYWISE	✓	✓	Medium	✓	✓	✓	Low ¹⁰	✓	\$5.11m ¹¹	\$5.11m
Commercial Buildings ¹²	✓	✓	Low	✓	✓	Too early	Too early	Private Sector?	\$1.57m	\$1.70m
ENERGY STAR	✓	✓	Low	✓	✓	×	×	✓	\$1.19m	\$1.19m
Equipment Energy Efficiency	✓	✓	Medium	✓	✓	✓	High	✓	\$1.13m	\$1.50m
Heavy Vehicles	✓	✓	High	✓	✓	×	×	MoT?	\$1.04m	\$0.74m
Wood Energy South	✓	✓	High	✓	✓	×	×	✓	\$0.96m	\$0.98m
Fuel Efficient Tyres	✓	✓	High	✓	✓	×	×	MoT?	\$0.92m	\$0.22m
Crown Loans	✓	✓	Medium	✓	✓	✓	Low	✓	\$2.09m ¹⁴	\$2.09m
Vehicle Fuel Economy Labelling	✓	✓	High	✓	✓	×	×	MoT?	\$0.81m	\$0.92m
Lower Carbon Meat and Dairy	✓	✓	High	✓	✓	✓	Low	✓	\$0.32m	\$0m ¹⁶

⁸ The scale of benefits is determined based on the programme's net present value.

⁹ The costs are marginal costs of the programmes (i.e. costs that would be avoided if the programme ceased). Corporate overheads are not included. Rightlight, Residential Retrofit, and the Electric Vehicles Programme (not reviewed) incur the balance of EECA expenditure for 2015/16.

¹⁰ A break-even analysis was conducted as it is difficult to attribute behaviour changes and public benefits to ENERGYWISE.

¹¹ This includes \$2m for The Energy Spot.

¹² Includes NABERSNZ and Commercial Building Performance Advice programmes.

¹³ The net present value of the programme is -\$2 million based on the completed and committed projects to date. This would improve to \$13 million if s 9(2)(b)(ii) to wood fuel.

¹⁴ This comprises loans worth \$2m and then additional overheads.

¹⁵ Although the programme provides net benefits, this is highly sensitive to the key inputs of fuel savings and the marginal costs of more efficient vehicles. It is difficult to attribute fuel savings (and hence a reduction in carbon emissions) to the programme.

¹⁶ This pilot programme has concluded, and the lessons are being incorporated into Top 200/Next 1000.

Annex 2: Summary of programme conclusions and recommendations

Programme	Purpose	Conclusions	Recommendations for improvement should the programme continue
Warm Up New Zealand	Subsidises the retrofit of ceiling and underfloor insulation in homes. The latest programme targets low-income rental households, including those with health needs related to cold, damp housing.	<ul style="list-style-type: none"> • Successful and high value-for-money • Significant public health benefits from insulating nearly 300,000 houses • Has built industry capability and increased the importance of insulated homes 	<ul style="list-style-type: none"> • EECA's exit strategy should support industry to maintain its capability • Consider future options with MBIE and the Ministry of Health
Top 200/Next 1000/Small-to-Medium Enterprises	<p>The Top 200 Programme aims to form long-term partnerships with the 200 largest energy users (generally industrial businesses using process heat) to embed energy management practices.</p> <p>The Next 1000 Programme targets the next tier of energy users (mainly commercial) on a project-by-project basis. Engagement is led by service providers accredited by the Energy Management Association of New Zealand.</p> <p>For the remaining small-to-medium enterprises, EECA provides online information and tools.</p>	<ul style="list-style-type: none"> • Direct engagement with the Top 200 has been successful and has exceeded investment objectives • The role for government would be strengthened if it targeted the greatest public benefit (e.g. carbon and productivity) • The impact of Next 1000 is more difficult to measure as engagement with EECA is indirect • Low-cost, "broadcast" information (e.g. online resources) is the most appropriate means of engaging with small-to-medium enterprises • It is early in the programme's lifecycle and there is additional potential available to EECA 	<ul style="list-style-type: none"> • Refocus the Top 200/Next 1000 to the current context – carbon reduction and productivity • Consider how existing partnerships with business can leveraged to motivate other businesses to act • Identify opportunities across government to enhance the value of the programme • Analyse value of developing longer-term relationships with the Next 1000 • Consider a carbon perspective on information to small-to-medium enterprises
Equipment Energy Efficiency (E3)	<p>Minimum Energy Performance Standards – ensure that only energy efficient products are available for sale. Products must meet a minimum standard for energy efficiency before they can be legally sold.</p> <p>Mandatory Energy Performance Labelling – provides information on how much energy an appliance uses in a year, plus a star rating to show its energy efficiency. The label helps the buyer compare models.</p>	<ul style="list-style-type: none"> • Strong role for government • Programme is sound and has proven effective and efficient • Electricity generation in Australia is carbon-intensive and its priorities in E3 tend to favour electricity efficiency • Our highly renewable electricity means that the cost-benefit assessment of gains from electricity efficiency is not always as clear • Decisions on the programme must be considered in the context of the Trans-Tasman Mutual Recognition Agreement and the international development of standards 	<ul style="list-style-type: none"> • EECA must ensure that future E3 projects are prioritised based on their benefit to New Zealand • Consider how E3 can remain relevant by looking at new, emerging, or disruptive technology
ENERGYWISE	A website containing practical information, advice, and tools to help consumers make energy efficient choices at home and related to personal transport.	<ul style="list-style-type: none"> • Is an established and trusted brand and has successfully raised public awareness about energy efficiency • Some success in translating awareness into action • Supports other EECA programmes (e.g. Warm Up NZ) 	<ul style="list-style-type: none"> • Clarify objectives and intervention logic • Evaluate effectiveness of engagement model, specifically for The Energy Spot • Seek greater alignment with government departments with a shared interest
Heavy Vehicles	Aims to improve the fuel efficiency of the heavy vehicle fleet. Registered fuel management advisors are trained to work one-on-one with larger fleet operators and also conduct workshops with multiple smaller operators. EECA fully funded or co-funded benchmarking, planning, and implementation activities.	<ul style="list-style-type: none"> • The programme did not meet its targets or deliver its intended outputs • Strong role for government given potential public benefits • Strong alignment with proposed NZEECS • There were inadequate monitoring systems – the necessary data collection and analysis wasn't achieved 	<ul style="list-style-type: none"> • Investigate the freight system across the entire supply chain • Work with relevant government agencies to determine appropriate intervention • Ensure a workable plan for the collection and analysis of data, and ensure this is understood and agreed by participants

Programme	Purpose	Conclusions	Recommendations for improvement should the programme continue
Commercial Buildings	<p>Aims to promote efficient, long-term energy usage decisions amongst owners and developers of commercial buildings through:</p> <p>National Australian Building Environmental Rating System New Zealand (NABERSNZ) – measures and rates the energy performance of commercial buildings.</p> <p>Commercial Building Performance Advice (CBPA) – funds approved programme partners who advise owners and developers of new commercial buildings on energy efficient options at the design and fit-out stage.</p>	<ul style="list-style-type: none"> Mandate for Government intervention is unclear, given relatively low public benefit from electricity efficiency Stronger case for CBPA intervention, as energy efficiency opportunities can be implemented during the design and construction stages NABERSNZ uptake is similar to that in Australia in the first four years Collection and analysis of energy efficiency data is difficult NABERSNZ and CBPA provide an opportunity for initial engagement with business 	<ul style="list-style-type: none"> Conduct a wider discussion of potential intervention options for CBPA, across government and with private actors Consider targeting NABERSNZ to government tenants and public buildings to realise public benefits, and build further evidence for any productivity benefits and the usefulness of making NABERSNZ mandatory
Wood Energy South	<p>Aims to reduce carbon dioxide emissions and facilitate the development of a sustainable wood energy supply chain in Southland by facilitating the switch in heating fuel sources from coal to wood.</p>	<ul style="list-style-type: none"> Direct engagement aspects were sound Supply chain development aspects need to be better understood before attempting replication Strong role for government Strong alignment with proposed NZECS priorities More analysis required on private sector boiler switching 	<ul style="list-style-type: none"> Consider opportunities around potential large clients Establish whether there are sufficient benefits and willingness related to switching government boilers Consider any lessons when refocusing business programmes
Vehicle Fuel Economy Labelling	<p>Allows buyers to compare the fuel economy of one vehicle against another. Registered motor vehicle traders are required by regulation to print labels to display on vehicles for sale and provide fuel economy information on websites offering vehicles for sale.</p>	<ul style="list-style-type: none"> Clear role for government based on identified problem Difficult to attribute public benefits to the programme Programme demonstrates role for a trusted, authoritative source of information Level of investment for the future and for what purpose needs to be determined The associated data infrastructure is highly valuable 	<ul style="list-style-type: none"> Consider how data can be used (e.g. support the EV Programme) Review in light of other light transport initiatives Consider investigating fuel efficiency standards and addressing behaviour change in vehicle purchasing with the Ministry of Transport Recognise context of the proposed NZECS priorities
Fuel Efficient Tyres	<p>Aims to reduce greenhouse gas emissions from the light vehicle fleet by improving uptake of fuel efficient tyres (i.e. tyres with lower rolling resistance). It endorses tyres that qualify as fuel efficient using an EECA-branded label and establishes partnerships with tyre distributors to encourage tyre buyers to purchase fuel efficient tyres.</p>	<ul style="list-style-type: none"> Programme was too narrowly focused Structure of the tyre market meant programme was ineffective EECA and tyre distributors over-estimated the latter's influence on tyre retailers Targeting of the programme was not appropriate Programme does not represent value-for-money and is currently not cost-effective 	<ul style="list-style-type: none"> Better detect participation bias in programme participants Better use market research to target appropriate segments of the market Adopt an exit strategy which involves minimal investment and market engagement and monitor programme Exit market if programme continues to not be cost-effective
ENERGY STAR	<p>A voluntary programme for which industry partners identify and promote superior energy efficient products (generally the top 25 percent).</p>	<ul style="list-style-type: none"> Does not appear to provide value additional to E3 Programme It is difficult to measure its effectiveness and impact given other EECA interventions (e.g. E3 Programme) It provides a high standard to signal to industry the future direction of energy efficiency standards 	<ul style="list-style-type: none"> Narrow the focus to the best opportunities for energy efficiency Consider setting it as a criterion in government procurement Consider alternative, industry-led standards Consider getting industry to contribute financially to EECA's administration costs

Programme	Purpose	Conclusions	Recommendations for improvement should the programme continue
Lower Carbon Meat and Dairy	Aims to maximise energy efficiency and reduce carbon emissions in the meat, dairy, and seafood sectors. Energy consultants were contracted to identify energy efficiency opportunities and then projects were funded based on their recommendations.	<ul style="list-style-type: none"> • Effective intervention and good return on public investment at relatively low scale • Strong role for government intervention • Strong alignment with proposed NZEECS priorities • Focus on optimising existing plant was successful 	<ul style="list-style-type: none"> • Analyse effectiveness of each programme component and extract any lessons • Consider replication within and across sectors, targeting process heat amongst the highest energy users
Crown Loans	Provides interest-free loans to public sector organisations for energy efficiency and renewable energy projects. The loans are repaid from the energy and maintenance cost savings. Typical projects include lighting retrofits, heating and ventilation system upgrades, improved building management systems, pool heating upgrades, and biomass boiler installations.	<ul style="list-style-type: none"> • Low, but safe, investment to achieve Government's objectives • Role for government is unclear, as the financial barrier is not well evidenced • Low uptake due to low market awareness • Does not identify target market or specific energy efficiency opportunities • Policy impediments may be restricting public sector investment in energy efficiency 	<ul style="list-style-type: none"> • Consider the contribution it can make to greater Government leadership under the proposed NZEECS priorities • Review and target greatest public benefits (e.g. process heat) noting additional costs • Consider ways to increase diffusion across the public sector and replication in private sector, noting additional costs • Work with MBIE to evaluate other ways to stimulate energy efficiency investment in the public sector

Annex 3: Assessment framework for programme reviews

Problem	Strategic fit	Role for govt	Intervention	Performance	Lead	Recommendation
<p>What is the programme?</p> <p>What is the problem it is solving?</p> <p>What are the market characteristics & structures?</p>	<p>Does it fit strategically with govt & EECA objectives?</p>	<p>What market failures & barriers are causing the problem?</p> <p>What are the potential public good benefits?</p> <p>What are the potential costs?</p>	<p>What is the intervention logic?</p> <p>What are the investment objectives?</p> <p>What other options are there?</p> <p>What is the potential impact?</p> <p>Does the market have appropriate capability & incentives to support success?</p> <p>What are the risks of failure?</p> <p>What interdependencies are there with other programmes?</p> <p>What EECA resources are allocated?</p>	<p>To what extent is the programme working?</p> <p>What are the achieved benefits?</p> <p>To what extent is it value-for-money?</p> <p>What is planned for the future?</p>	<p>Does EECA have the mandate, capability & willingness to lead versus other potential lead organisations?</p>	<p>What conclusions can be made?</p> <p>What is the recommendation for the future of the programme?</p>

Annex 2: Summary assessment of the value of the programmes

Programme	Potential public benefits in sector	Value-for-money	Scale of benefits ²	EECA lead?	Expenditure 2015/16 ³	Budget 2016/17
Warm Up New Zealand	High	✓	High	MoH?	\$22.93m	\$15.00m
Top 200/Next 1000/SMEs	High	✓	Medium/High	✓	\$9.57m	\$8.85m
ENERGYWISE	Medium	✓	Low ⁴	✓	\$5.11m ⁵	\$5.11m
Commercial Buildings ⁶	Low	Too early	Too early	Private Sector?	\$1.57m	\$1.70m
ENERGY STAR	Low	x	x	✓	\$1.19m	\$1.19m
Equipment Energy Efficiency	Medium	x	High	✓	\$1.13m	\$1.50m
Heavy Vehicles	High	x	x	MoT?	\$1.04m	\$0.74m
Wood Energy South	High	x ⁷	x ⁷	✓	\$0.96m	\$0.98m
Fuel Efficient Tyres	High	x	x	MoT?	\$0.92m	\$0.22m
Crown Loans	Medium	x	Low	✓	\$2.09m ⁸	\$2.09m
Vehicle Fuel Economy Labelling	High	x ⁹	x ⁹	MoT?	\$0.81m	\$0.92m
Lower Carbon Meat and Dairy	High	✓	Low	✓	\$0.32m	\$0m ¹⁰

² The scale of benefits is determined based on the programme's net present value.

³ The costs are marginal costs of the programmes (i.e. costs that would be avoided if the programme ceased). Corporate overheads are not included. Rightlight, Residential Retrofit, and the Electric Vehicles Programme (not reviewed) incur the balance of EECA expenditure for 2015/16.

⁴ A break-even analysis was conducted as it is difficult to attribute behaviour changes and public benefits to ENERGYWISE.

⁵ This includes \$2m for The Energy Spot.

⁶ Includes NABERSNZ and Commercial Building Performance Advice programmes.

⁷ The net present value of the programme is -\$2 million based on the completed and committed projects to date. This would improve to \$13 million if s 9(2)(b)(ii) to wood fuel.

⁸ This comprises loans worth \$2m and then additional overheads.

⁹ Although the programme provides net benefits, this is highly sensitive to the key inputs of fuel savings and the marginal costs of more efficient vehicles. It is difficult to attribute fuel savings (and hence a reduction in carbon emissions) to the programme.

¹⁰ This pilot programme has concluded, and the lessons are being incorporated into Top 200/Next 1000.