

Advice on a carbon neutral public service



Ministry for the
Environment
Manatū Mō Te Taiao



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

Date Submitted:	Fri 6 November 2020	Tracking #: 2020-B-07270	
		MBIE tracking #: 2021-1222	
Security Level	Unclassified	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister of Climate Change	Read before meeting with your officials, and respond to recommendations	Tuesday 10 November
To Hon Stuart Nash, Minister for Economic and Regional Development		
CC Rt Hon Jacinda Ardern, Prime Minister		
CC Hon Grant Robertson, Minister of Finance		
CC Hon Dr Megan Woods, Minister of Energy and Resources		
CC Hon Chris Hipkins, Minister for the Public Service		
CC Hon David Parker, Minister for the Environment		
CC Hon Poto Williams, Minister of Building and Construction		
CC Michael Wood, Minister of Transport		

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments 1	Titles of appendices and attachments (ie separate attached documents): 1. Supplementary material

Ministry for the Environment and Ministry for Business Innovation and Employment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Belinda van Eyndhoven		
Director	Matthew Cowie	s 9(2)(a)	✓
GM Energy and Resource Markets	Philippa Fox		

Advice on a carbon neutral public service

Purpose

1. The purpose of this paper is to provide you with initial advice, preceding the development of a draft Cabinet paper, for a carbon neutral public service – as commissioned by the PMO on 3 November. The Cabinet paper is due to go to CBC on 23 November, CAB on 30 November, and support a policy announcement on 1 December.
2. The paper covers advice on your suggested approach to require agencies to:
 - report their emissions from the 2021/22 financial year in their annual reports
 - purchase units to offset their emissions from X year
 - remove all coal boilers by X year
 - to build/lease energy efficient buildings to s 9(2)(f)(iv)
 - to reduce the number of vehicles in their fleet and purchase electric vehicles unless there are no alternatives available.
3. It also provides advice on timing, scope (agencies covered by the obligation), costs and governance.

Key messages

4. We support the idea of setting an ambition for a public sector emissions reduction programme that is substantially in advance of the rest of the economy and agree this would demonstrate public sector leadership and help accelerate the uptake of low-emissions technologies.
5. We recommend that this takes the form of an announcement about a programme to drive ambitious emissions reductions within the state sector. There are a range of consequential decisions inside a programme like this and we have incomplete data in some areas, so it is important that this programme is run in a staged and adaptive manner.
6. The four stages needed are: reporting emissions, publishing reduction plans, reducing emissions and considering offsetting. There should be a focus on reporting and reduction plans first, and reducing gross emissions, before offsetting is considered an option, to reflect current government guidance and best practice.
7. In order to reflect the different starting points and emissions profiles of agencies, we suggest that the requirements for agencies are phased as follows:
 - Departments, departmental agencies, non-public service departments, the Reserve Bank and the Officers of Parliament - to report emissions and publish reduction plans from the 21/22 financial year in their annual reports.
 - Crown agents, tertiary institutions (including polytechnics) - to report emissions and publish reduction plans from the 22/23 financial year in their annual reports. Note that some exemptions might need to be made for entities such as the 2,416 school boards of trustees which might need a different approach.
8. Reporting requirements could be added to s45 of the Public Finance Act 1989. However, there are broader, potentially faster and simpler options available to consider such as a Cabinet Direction.

9. To achieve the timelines suggested for reporting to a credible standard, agencies are likely to need more resourcing and support to run these programmes. This could either be provided to agencies individually or more resources could be given to a smaller group of designated 'central programme support' agencies.
10. Coal-fired boilers could be phased out of the State sector by 2025. EECA has estimated that an additional ^{s 9(2)(f)(iv)} would be required for the State sector decarbonisation fund in order to provide the capital expenditure needed to phase out the remaining coal boilers. Some backup boilers (for example in hospitals) might need exemptions. There will be higher operational costs for some buildings, which is site-specific.
11. It is also possible to require NABERSNZ certification for buildings the public service owns or leases. Government Property Group (GPG) has already partnered with EECA to obtain NABERSNZ rating for government office accommodation. This approach will be phased in over five years for buildings over 2,000m² to align with practical completion (new builds) or lease renewals (existing leases). It is set to be introduced from 1 January 2021.
12. ^{s 9(2)(f)(iv)}
13. There are significant challenges and risks around claims of carbon neutrality which mean that, at this stage, we do not recommend setting a specific date beyond which the remaining public sector emissions will be offset. More investigation is needed to understand solutions, and opportunities in relation to existing international and national context, investment and initiatives before a neutrality target date could be set.
14. Coordination across Ministers and Public Sector agencies will be essential to deliver this emissions reduction plan. We propose that:
- A ministerial group is created to govern progress on this work chaired by the Minister of Climate Change. In order to avoid a duplication of roles, this same group of Ministers could also be responsible for coordinating the Government's broader response to climate change – including the government's response to the Climate Change Commission advice in 2021 and taking decisions on how to approach adaptation to climate change. (Advice will be coming to Minister Shaw on this from MfE in coming weeks).
 - At an agency level the existing Climate Change Chief Executives Board continues to hold the governance for this work (although the membership may need to be broadened slightly); and
 - A government agency is appointed, funded and empowered to act as a functional lead to implement the work and support organisations and report progress, opportunities and risk to the Climate Change Chief Executives Board.

Context

Background from 2007/08

15. There have been previous efforts to move the public service towards carbon neutrality through the Carbon Neutral Public Service Programme (2007-09)¹

¹ <https://www.mfe.govt.nz/more/cabinet-papers-and-related-material-search/cabinet-papers/pol-07-131-towards-sustainable-new>

16. A three-step approach was taken: measure and report emissions, reduce emissions, and offset remaining emissions as a last resort through New Zealand-based offset projects.
17. This programme was discontinued following a government decision in March 2009².

Recent context and commitments

18. New Zealand's overall domestic emissions target to reach net zero emissions (except methane) by 2050 under the Zero Carbon Act, sets the baseline trajectory for any public service efforts to reduce emissions, alongside the rest of the economy.
19. The Government has stated, on several fronts, that it expects the State sector to lead the way in reducing emissions. These include
 - a. the Government's goal to ensure, where practicable, that the government's fleet is emissions free by 2025/26,
 - b. Government Procurement Rule 20: Transitioning to a net zero emissions economy and designing waste out of the system, and;
 - c. a \$200 million investment through the State Sector Decarbonisation Fund.
20. Many government agencies have already been taking the initiative to measure, report and reduce their emissions. These include the Ministry for the Environment, New Zealand Trade and Enterprise and the Energy Efficiency and Conservation Authority. There are at least 19 district health boards (DHBs), universities and councils also doing this. To support these efforts, the Ministry for the Environment (MfE) initiated an informal All-of-Government Sustainability group in 2018 to share best practice and guidance. The group represents over 34 agencies and departments.
21. A fuller list of existing commitments and initiatives is set out in Appendix 1.

Lifting public service performance

Reporting our emissions by 2021/22

22. You have suggested that agencies report their emissions from the 2021/22 financial year in their annual reports, and those agencies would be:
 - a. Departments, departmental agencies, non-public service departments
 - b. The Reserve Bank and the Officers of Parliament
 - c. Crown agents, tertiary institutions (including polytechnics), school boards of trustees
23. Based on existing efforts, we consider it would be very difficult for all these groups to achieve emissions reporting in the 2021/22 financial year due to a lack of data, capability, and resourcing. Because of these constraints we suggest a phased approach is taken.
24. Groups "a" and "b" above may reasonably be able to report their emissions on this timeline with the right support. Greater levels of support should be considered for some of the agencies with large and complex portfolios, such as the New Zealand Defence Force (NZDF), Department of Corrections, and the New Zealand Police.
25. The public service should report to international standards, to ensure we build a complete emissions profile and enable organisations to develop best practice reduction plans. The need for consistent data was a key lesson from 2007/08.

² <https://www.beehive.govt.nz/release/government-committed-real-solutions-not-slogans>

26. EECA has good estimates of the State sector's energy-related emissions e.g. lighting, heating and cooling (totalling around 586,000 tonnes of CO₂-e per annum – note this does not include air travel), and the vehicle fleet, but there is a significant gap in estimating remaining emissions. Filling this gap has significant bearing on identifying reduction opportunities and supporting the transition to a low-emissions economy with clear market signals.

Setting the level of ambition

27. Setting an ambition for a carbon neutral public sector substantially in advance of the rest of the economy would demonstrate public sector leadership. Taking action to reduce emissions is the priority, but offsets would be required in the future if the aim is to become carbon neutral. As such, we need a greater understanding of both the number of units required and the availability of units for offsetting to be able to set a meaningful contribution towards carbon neutrality for the public sector in the short-term.
28. Consideration should be given to setting expectations for a reduction pathway. In order to put reduction plans in place once they have measured and reported, organisations need a high-level target to benchmark their efforts. This target should, as a minimum, be in line with what has been set in the Climate Change Response (Zero Carbon) Amendment Act.
29. Organisations can pursue more ambitious goals as well. For example, MfE and NZTE have already set close to 50% reduction targets by 2030 and developed their plans according to what is possible given their profiles. Generally, a 30% reduction by 2030 on an organisation's baseline year³ is considered the 'minimum' standard to achieve.
30. We suggest further investigation is needed by officials to look at options for a high-level target, and to give a firmer date on a feasible carbon neutral public sector and the fiscal implications of this. We do note though that to allow public sector organisations to follow best practice, to accurately measure and then meaningfully reduce emissions, would mean that setting a carbon neutral date within the next 5 years would be problematic. Having a portfolio of enough available, credible units to offset may necessitate an even longer timeframe than 5 years.

Advice on immediate reduction commitments

Coal-fired boilers

31. Coal-fired boilers can realistically be phased out of the State sector by 2025. Agencies have differing views about constraints on the supply of non-coal fired boilers.
32. To date, \$55 million has been committed to fund the replacement of coal boilers in 90 schools and over \$19 million to replace coal boilers in universities and hospitals.
33. There are some constraints and implementation considerations, but if funding was made available, it could be allocated within the next 3 years. However, it would likely to longer for all of the boilers to actually be replaced in that timeframe. Further details on this are set out in Appendix 2.
34. There remain significant numbers of natural gas and liquid fuel boilers in the State sector, particular universities, hospitals and schools. These could be transitioned within a longer timeframe with additional resources.

Electric vehicles

³ For Scope 1 & 2 emissions, and on a 2018/19 baseline year.

35. It is possible to reduce the number of vehicles in the Government fleet and require mandated agencies to purchase electric vehicles unless there are no alternatives available. However, s 9(2)(f)(iv)
36. New Zealand Government Property and Procurement (NZGPP) note that there are currently constraints on the supply of electric vehicles, although the number of models available for agencies to purchase from catalogue has recently increased.
37. To date, about half of the nearly 16,000 vehicles in the government fleet have an electric alternative (battery or plug-in hybrid) but less than 1% are fully electric.
38. To achieve a full fleet of zero emissions vehicles is estimated to require about s 9(2)(f)(iv) of capital and s 9(2)(f)(iv) of operating expenditure. An important component of this is support for transition plans and fleet audits to help agencies first optimise their fleet (potentially reducing the number of vehicles needed) and then prioritise.
39. EECA has estimated that decarbonising the government fleet would reduce emissions by a maximum of 49,000 tonnes of CO₂-e per annum, or 0.6 million tonnes of CO₂-e over the lifetime of the vehicles.
40. Further information is set out in Appendix 3.

Building efficiency

41. In the short term, MBIE and EECA suggest NABERSNZ is an appropriate standard to use to indicate building energy efficiency (over Greenstar). Looking ahead, we recommend public sector property portfolios should be guided by the principles of the Building For Climate Change (BfCC) programme. For further detail, please see Supplementary Materials.
42. NZGPP are supportive of a focus on reducing embodied carbon (rather than just operational carbon); work is underway to require mandated procurement agencies to consider embodied carbon in new government buildings.
43. The Government Property Group (GPG) has already partnered with EECA to provide the 67 agencies mandated for Government property with minimum standard to obtain NABERSNZ rating for central government office accommodation. s 9(2)(f)(iv)
44. This approach is planned to be phased in over five years for buildings over 2,000m². This provides an opportunity to align with practical completion (new builds) or lease renewals (existing leases). It is set to be introduced from 1 January 2021.
45. The context for buildings in different parts of the public sector is quite varied – for example moving a central government agency into a new building is more straightforward than upgrading an existing hospital or school.
46. Further information is set out in Appendix 4.

Governance and implementation

47. Coordination across Ministers and Public Sector agencies will be essential to deliver a range of key climate change priorities in the coming year, including the government's response to the Climate Change Commission, delivering New Zealand's first Emissions Reduction Plan and working on New Zealand's National Adaptation Plan. Options are being developed for what Ministerial and public sector governance and coordination arrangements are best suited, building on the existing Climate Change Chief Executives Board. These arrangements could also be used to oversee the carbon neutral public service work.

48. The Climate Change Chief Executives Board could be used for governance at the agency level. However, it has limited representation from the broader state or public sector (members are predominantly representing Public Service Departments) so a review of membership may be required.
49. To develop and deliver the work there would need to be a functional lead established and resourced. This lead would manage the work programme, including the set up of cross organisational working groups to support organisations with measuring, reporting and reducing emissions.

Options for setting reporting requirements

50. You've suggested that reporting could be required through an amendment to s45 of the Public Finance Act 1989 (PFA). The Cabinet paper would need to make the policy decision on that to enable legislation to be drafted. Amending the Act will mean select committees are able to question Chief Executives on emissions reduction plans as part of the Annual Review from 2022.
51. Treasury advises there are broader, and potentially faster and simpler options available to consider including a Cabinet Direction. This could be a quicker instrument than a legislative process to change the PFA.
52. The Public Service Commission advises that the government can direct departments (public service and non-public service) and departmental agencies, Crown agents and school boards of trustees. It lacks powers to direct tertiary institutions, the Reserve Bank and offices of Parliament to give effect to these measures.
53. If agencies are required to include their emissions data and reduction plan in their annual reports then these could form the basis of questions from Select Committees.
54. Overall, the legal and compliance framework needs to be carefully considered alongside any current or proposed reporting requirements. More work is required to assess what would be most efficient.

Offsetting

55. Further work is needed about any potential use of offsetting for credible carbon neutral claims for the public service.
56. Best practice guidance, including the Ministry for the Environment's own offsetting guidance, outlines the need to prioritise reducing emissions before offsetting. There is a risk if offsetting is undertaken prior to meaningful emissions reductions that an organisation is accused of trying to "buy its way" out of having to reduce its emissions.
57. There are also a number of technical barriers to claiming carbon neutrality using offsetting once the Paris Agreement period begins in 2021. For example, the only mechanism to ensure the abatement achieved through the voluntary offsetting claims of individuals is additional to New Zealand's Nationally Determined Contribution (NDC) targets and not double counted is to increase the NDC target. Carbon neutral claims rely on abatement that would not have otherwise occurred. Almost all abatement will be counted towards achieving our NDC target and reduce the number of international units needed to be purchased.
58. There are several international working groups looking at how voluntary carbon markets can credibly operate under the framework of the Paris Agreement. We are following this work closely and engaging with some partners. Resolution on this work is not expected for at least another year.

59. s 9(2)(f)(iv)

60. This reinforces the need to focus on gross emissions reductions in the first instance.
61. Further information is set out in Appendix 5.

Financial implications

62. At this stage, we do not have a comprehensive view of costs of capital and operational expenditure. Below is what we do know so far. This will require further investigation by officials prior to the Cabinet paper, on different constraints, levels of ambition and costs.
63. EECA has estimated that an additional s 9(2)(f)(iv) in capital expenditure is required to add to the State sector decarbonisation fund in order to phase out the remaining coal boilers.
64. Some agencies that replace coal with a renewable option will also require additional operating expenditure to cover the higher energy costs. The actual cost differential between coal and biomass or electricity will be site specific, but in many cases the energy costs of these renewable options will be materially higher than coal.
65. Achieving a full government fleet of zero-emission vehicles by 2025 is estimated to require about s 9(2)(f)(iv) of capital and s 9(2)(f)(iv) of operating expenditure.
66. It is important to note, however, that to date, the number of new electric vehicles entering the fleet has been extremely low – without additional funding to cover the price premium of electric vehicles, progress is expected to remain slow.

Next steps

67. Following feedback on this advice, further work will be undertaken to develop a Cabinet Paper, in consultation with other agencies. This will go to CBC on 23 November, CAB on 30 November, and support a policy announcement on 1 December.

Recommendations

68. We recommend that you:

- a. **Note** the current and previous efforts to move the public sector towards lower emissions, and the value of bringing in the lessons from these experiences.
- b. **Note** the gaps in current understanding of emissions from the public service, and the importance of measuring and reporting as a first step.
- c. **Agree** to take a phased approach for efforts towards carbon neutrality in the public sector, starting with a programme of reporting emissions and building emission reduction plans.

Yes/No

d. **Agree** that the milestones for this programme include:

- Departments, departmental agencies, non-public service departments, the Reserve Bank and the Officers of Parliament measuring, verifying and reporting emissions, and enacting emissions reductions plans within the 2021/2022 financial year, and
- Crown agents, tertiary institutions (including polytechnics) measuring, verifying and reporting emissions, and enacting emissions reductions plans within the 2022/2023 financial year.
- Some exemptions may need to be made for organisations like school boards, given their restricted capacity to do this work and their limited emissions profile.

Yes/No

e. **Agree** the objective of this programme to be the overall state sector showing leadership by being carbon neutral ahead of the current 2050 net zero goal contained in the Climate Change Response (Zero Carbon Amendment) Act

Yes/No

f. **Note** that more work is needed by officials to determine a credible date and pathway for offsetting because of the complexities presented by carbon neutral claims.

g. **Note** the options presented on governance and **agree**:

- A ministerial group is set up (mapped to agency responsibility), to govern progress on this work chaired by Minister for Climate Change

Yes/No

- At an agency level that the existing Climate Change Chief Executives Board is mandated to govern this work (potentially with a broader membership)

Yes/No

- A government agency is appointed, funded and empowered to act as a functional lead to implement the work and support organisations and report progress, opportunities and risk to the Climate Change Chief Executives Board.

Yes/No

h. **Agree** to, as part of this programme, announce/reinforce further commitments to:

- remove all coal-fired boilers in the state sector by 2025, where practicable;
- s 9(2)(f)(iv)

Yes/No

i. **Agree** to align the reduction plans for the state sector with the approach in the Emissions Reduction Plan, which is to first focus on gross emissions reductions and only subsequently to consider offsetting in line with government guidance.

Yes/No

j. **Note** that there are significant challenges and risks with offsetting and officials will need to undertake additional work to understand solutions, and opportunities in

relation to the existing international and national context, investment and initiatives before a neutrality target could be confidently advised.

k. **Note** that while fiscal cost implications are challenging to estimate at this very early stage, even by themselves the actions to remove coal boilers and upgrade to an EV fleet may cost around ^{s 9(2)(f)} _(iv) so the full fiscal costs of this programme will need to be worked through within the programme development.

l. **Agree** to use this advice as the basis for a Cabinet paper, which will be taken to CBC on 23 November, for a public announcement on 1 December.

Yes/No

m. **Agree** that this briefing and appendices will be released proactively on the Ministry for the Environment's website within the next 8 weeks.

Yes/No

n. **Agree** to officials working up further advice to incorporate in the cabinet paper about options for the most efficient way to mandate reporting requirements e.g. s45 of the Public Finance Act or a Cabinet Direction.

Yes/No

Signature



Matthew Cowie
Acting Director, Climate Change Mitigation
Ministry for the Environment



Philippa Fox
GM Energy and Resource Markets
Ministry for Business, Innovation and Employment

Hon James Shaw
Minister for Climate Change

Date:

Hon Stuart Nash

Minister for Economic and Regional Development

Date:

Released under the Official Information Act 1982

Supplementary material

Appendix 1 - Existing commitments and initiatives

1. Pre-existing commitments for the public sector to reduce emissions include:
 - a. Its efforts as part of New Zealand's overall domestic emissions target to reach net zero emissions (except methane) by 2050 under the Zero Carbon Act.
 - b. The expectation that the State sector leads by example, taking active steps to reduce greenhouse gas emissions, improving energy efficiency and reducing waste outputs, in the Enduring Letter of Expectations to Statutory Crown Entities.
 - c. A commitment by the Climate Change Chief Executives Board⁴ to take leadership on measuring, reporting and reducing their emissions, in December 2018.
 - d. An agreement by Chief Executives at the State Sector Services Leadership Retreat in August 2019, on the need to measure, report and reduce our emissions, set targets, and work with our suppliers to reduce their greenhouse gas emissions.
 - e. A goal that, where practicable, the government's fleet should be emissions free by 2025/26, set out in Government procurement rules.
 - f. The Government's response to the Productivity Commission's Low Emissions Economy report endorsed recommendations 14.3 and 14.5 on government leadership for phasing out fossil fuels and accelerating procurement of EVs.
2. There are several initiatives underway to support public sector emissions reductions:
 - g. The Clean-powered Public Service Fund (previously 'State Sector Decarbonisation Fund') - EECA will support decarbonisation programmes with \$200 million in capital expenditure and additional operating expenditure for energy services such as audits and feasibility studies. This is in addition to EECA's existing suite of tools and services that are available for large energy using organisations in the State Sector.
 - h. The Low-Emission Vehicles Dashboard (New Zealand Government Procurement) – helping government agencies transition their light vehicle fleet to emissions free alternatives.
 - i. New Zealand Government Procurement's (NZGP) Rule 20: Transitioning to a net zero emissions economy and designing waste out of the system. This puts minimum requirements on agencies to meet priority outcome 4 (reducing emissions, reducing waste):
 - i. *Light vehicles*: When purchasing vehicles from the All of Government Motor vehicles contract, agencies need to purchase vehicles that are 20% below their current emissions profile. Agencies can find out what their current emissions profile is on the reducing government fleet emissions page.
 - ii. *Stationary heat/process heating systems*: When purchasing heating systems for a government building, agencies need to ensure that they are buying a low emission heating option. Agencies must not purchase coal boilers.

- iii. *Office supplies*: When purchasing office supplies from the All of Government Office supplies contract, agencies need to purchase items that produce low amounts of waste and/or are recyclable.
- j. *Measuring emissions: A guide for organisations* – MfE publishes guidance on measuring, reporting and offsetting greenhouse gas emissions, which is available to State Sector organisations. Also available to State sector organisations is *Meeting our commitments: Emissions measurement, reduction and reporting guidance*, prepared by EECA and MfE.

Appendix 2 - Coal-fired boilers

3. Coal-fired boilers can realistically be phased out of the state sector by 2025. Progress is already being made through delivery of the \$200m Clean-powered Public Service Fund (previously known as the state sector decarbonisation (SSD) fund). To date, \$55 million has been committed to fund the replacement of coal boilers in 90 schools and. This is estimated to reduce emissions by 17,000 tonnes, or about 40% of State sector coal use by emissions.
4. There will remain a further 120 school coal boilers and a smaller number of larger-scale coal boilers in hospital, universities, and defence and corrections facilities.
5. It is estimated that replacing these boilers will cost an additional § 9(2)(f)(iv) (estimated by EECA) of capital, plus additional operating expenses. If this funding was made available, it could be committed within the next 3 years, but it is unlikely that all of the boilers would actually be replaced in that timeframe.

Boiler-fleet make-up, emissions and cost estimates

6. It is estimated that the 200+ coal-fired boilers in the State sector emit around 40,000 tonnes of CO₂-e per year, which is 7.5% of the 530,000 tonnes emitted from heating, cooling and lighting in the State sector each year.
7. Of the estimated § 9(2)(f)(iv) of additional capital needed, about § 9(2)(f) would replace the remaining 120 coal boilers in primary and secondary schools and the rest § 9(2)(f)(iv) would replace a smaller number of large coal boilers, mostly in the South Island. These are rough estimates based on an extrapolation of the projects already funded through SSD Fund.
8. These estimates do not include related infrastructure, such as upgrading transformers in cases of electrification, nor the sunk costs/residual value of existing assets. For example, Christchurch hospital installed a coal-fired boiler as recently as 2015. Additional operating expenditure would also likely be required for some agencies as biomass and electricity can have a higher energy cost compared to coal. This is site-specific but on average is assumed to be 20 per cent more.
9. The actual costs of replacing coal plant are site-specific and vary significantly as there are a number of different facilities e.g. schools, universities, hospitals. Schools have a much lower load factor (meaning they are running for a much smaller portion of the year) so are significantly more expensive on a 'cost per tonne of abatement' basis than other facilities. In general, the cost per tonne of abatement in the State sector is higher than in industry due to the lower load factors of boilers in the State sector. [these last two sentences might be too much detail for now]

Feasibility and constraints

10. Some boiler replacements are relatively straightforward – in smaller schools in particular, where wood boilers can be swapped in, or where heat pumps can be installed in areas where there is sufficient capacity on electricity networks.
11. However, for larger facilities such as hospitals, more resource-intensive scoping and feasibility studies will be required to identify the best option. Projects may require changes to plant layout, additional supporting infrastructure such as transformers, line upgrades, new boiler houses or wood fuel handling facilities.
12. New Zealand's energy services market is also relatively small, so there are delivery constraints on how many boiler replacements can be worked on concurrently.
13. Anecdotally, the COVID-19 pandemic has brought about logistical disruptions to the supply of equipment into New Zealand and could delay imports.

Implementation considerations

14. The most efficient means to implement this initiative is to scale up the existing SSD Fund by ^{s 9(2)(f)(iv)} [REDACTED]
15. In addition, in order to compel agencies to access funding and replace boilers by a target date, it will be important to communicate requirements (including on reporting progress), and how agencies can access support and funding.
16. This could be done through a letter from the Prime Minister to each Chief Executive, or incorporated into other communications as part of the proposed Programme. A Cabinet mandate (rather than legislation) is likely to be sufficient.

Other considerations

17. There remains significant natural gas and liquid fuel boilers in the State sector, particular universities, hospitals and schools. These could be transitioned within a longer timeframe with additional resources.

Appendix 3 - Electric vehicles

18. Of the nearly 16,000 vehicles in the government fleet, about half have an electric (battery or plug-in hybrid) alternative, but less than 1% (146) are currently electric. To date, just \$1m of the SSD Fund has been allocated to contribute to replacing internal combustion engine (ICE) vehicles with battery electric vehicles (BEV).
19. There are significant challenges to transitioning the fleet, including:
 - Materially higher cost of battery electric vehicles (BEVs) and plug-in hybrids (PHEVs) and the cost of charging infrastructure
 - Limited choice of makes and models and supply constraints
 - Lack of information and tools for agencies to develop long-term transition plans, and
 - Incumbent business models that favour existing ICE vehicles over new technologies.

20. s 9(2)(f)(iv)

additional support. This is estimated to require about s 9(2)(f)(iv) of capital and s 9(2)(f)(iv) of operating expenditure. An important component of this is support for transition plans and fleet audits to help agencies first optimise their fleet (potentially reducing the number of vehicles needed) and then prioritise.

Fleet composition and estimated cost and emissions

21. There are nearly 16,000 vehicles in the government fleet owned or leased by the 137 agencies that must apply the Government Procurement Rules, and the fleet is estimated to emit 56,000 tonnes of CO₂-e per year. About half of these vehicles currently have an electric (battery or plug-in hybrid) alternative, but less than 1% (146) are currently electric.
22. Government can play a role in reducing emissions from this sector by demonstrating leadership, showing that low-emissions alternatives are viable, and increasing diffusion of low-emission vehicles into the second-hand market.
23. The approach to date has been to set a clear expectation that State sector agencies play their part in delivering on the existing target of an emissions-free fleet, where practicable, by 2025/26. This has been supported by the use of Government Procurement Rules, which are a lever to achieve broader outcomes, but are not mandatory for all of the public service.
24. Additional support to transition the fleet by 2025 has been estimated to require:
 - s 9(2)(f)(iv) of capital: s 9(2)(f)(iv) of which would contribute to the purchase price difference between an ICE vehicle and an EV, and about s 9(2)(f)(iv) of charging infrastructure.
 - s 9(2)(f)(iv) of operating expenditure: about s 9(2)(f)(iv) of which would contribute to the difference in the cost of leasing an EV compared to an ICE, and the remaining s 9(2)(f)(iv) would pay for supporting services such as transition plans, fleet audits and administration.

Appendix 4 - Building efficiency

s 9(2)(f)(iv)

28. An additional point to note is the increasing "greening" of the grid does lead to diminishing climate returns for initiatives purely focused on energy efficiency.
29. The Building for Climate Change Programme was launched in July 2020 as the vehicle for delivering a step change to the way the building sector operates to drive long term

emissions reduction. At its core the programme is focusing on improving operational efficiency and reducing the emissions embodied in buildings through the amount and type of materials used. The combination of improved efficiency and reduced embodied emissions will deliver the best climate outcomes compared with a pure focus on energy efficiency.

30. As part of the programme, government agencies with significant property responsibilities including the Ministries of Health and Education, NZ Defence Force, Kāinga Ora and Auckland Council have been working to develop a plan for leading the way with introducing the changes being proposed. This work is in the early stages and is initially focused on new builds but in time will move the public service beyond relying on simple energy efficiency labelling to a more comprehensive climate change solution for building and construction.

Appendix 5 - Offsetting

31. There are complexities and risks in offsetting emissions beyond 2020.
32. After 2020, there will be no mechanism (without a policy change) for post-2020 offsets generated in New Zealand to be "additional" because by default any abatement will also be counted towards meeting our domestic emissions target (our nationally determined contribution (NDC)) under the Paris Agreement. There will therefore be a policy question as to whether extra effort from the public sector should contribute toward New Zealand meeting its national targets or be separate from (and additional to) these.
33. The international voluntary carbon market faces uncertainty for the same reason. There is no clear mechanism to avoid double counting between voluntary offsetting claims and NDC targets.


34. s 9(2)(f)(iv)

35.

36. There are several international working groups looking at how the voluntary carbon market can credibly operate under the framework of the Paris Agreement. We are following this work closely and engaging with some partners. Resolution on this work is not expected for at least another year.

37. s 9(2)(f)(iv)

s 9(2)(f)(iv)



38. Carbon neutral claims are important to many organisations. Government setting the policy for what constitutes a 'valid' but environmentally questionable offset in the context of NDCs ahead of international agreement could have negative impacts on businesses that trade internationally.
39. The nature of the complexities with offsetting in the current market mean that further work would need to be completed by officials to provide advice about any potential use of offsetting in credible carbon neutral targets for the public service.

Released under the Official Information Act 1982

Released under the Official Information Act 1982