MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Dr Megan Woods	**Portfolio**	Energy and Resources
Title of Cabinet paper	Progressing a sustainable transport biofuels mandate	**Date to be published**	28 June 2021

List of documents that have been proactively released		
Date	**Title**	**Author**
16 December 2020	*Progressing a sustainable transport biofuels mandate*	*Office of the Minister of Energy and Resources* *Office of the Minister of Transport*
16 December 2020	*Cabinet Business Committee Minute of Decision: Progressing a Sustainable Transport Biofuels Mandate (CBC-20-MIN-0139)*	*Cabinet Office*

Information redacted **YES / NO**

Any information redacted in this document is redacted in accordance with MBIE's policy on Proactive Release and is labelled with the reason for redaction. This may include information that would be redacted if this information was requested under Official Information Act 1982. Where this is the case, the reasons for withholding information are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Commercial in Confidence

Minister of Energy and Resources
Minister of Transport

Chair, Cabinet

Progressing a sustainable transport biofuels mandate

Proposal

1 This paper seeks agreement to progress development of a sustainable transport biofuels mandate, by reviewing the 2008 Biofuel Sales Obligation for reinstatement. This mandate would oblige suppliers of transport fossil fuels in New Zealand to also supply a minimum proportion of biofuels.

Relation to government priorities

2 This proposal is intended to be one of a number of actions taken in response to Parliament's declaration of a climate change emergency. It is also part of the Government's commitment, outlined in Our Manifesto to Keep New Zealand Moving, to transition to a clean, green, carbon neutral New Zealand. This commitment includes the priorities to:

2.1 ensure a just transition to a zero carbon and climate-resilient economy and society, which also optimises economic development opportunities

2.2 continue our work to help New Zealand's freight network to become more sustainable and efficient

2.3 as part of the COVID-19 economic recovery reshape New Zealand's energy system to be more renewable, affordable and secure, while creating new jobs and developing the high skill workforce our future economy needs to thrive.

3 A sustainable transport biofuels mandate would help achieve the targets in the Climate Change Response Act 2002, which require carbon dioxide (CO_2) emissions and other greenhouse gases[1], except biogenic methane, to reach net zero by 2050.

4 A mandate would also reinvigorate the domestic production of sustainable biofuels, including the production of leading-edge drop-in fuels made from woody biomass. This would help future-proof the economy by facilitating the realisation of this low-carbon growth and employment opportunity. In so doing it would contribute to a just transition to a low emissions economy.

Executive Summary

[1] In 2018 gross greenhouse gas emissions were made up of 44.5% carbon dioxide, 43.5% methane 9.6% nitrous oxide, and 2.4% fluorinated gases.

5 The Climate Change Response Act 2002 requires CO_2 emissions to be reduced to net zero by 2050. As transport is responsible for 47 percent of New Zealand's domestic CO_2 emissions[2], this target cannot be achieved without largely decarbonising transport.

6 Decarbonising transport will require a very strong suite of policies to transform the vehicle and fuel markets. Policy development is already underway to transition the light vehicle fleet to be low emissions. However, getting people to switch to electric vehicles will take several decades and is only part of the change needed.

7 We could make more progress if low carbon fuels progressively displace fossil fuels. In transport, sustainable biofuels offer a practical alternative to fossil fuels where low emission vehicles and planes are prohibitively expensive, or are still being developed as is the case in heavy vehicles and aviation. Biofuels could also achieve an immediate reduction in emissions from New Zealand's existing fleet of 3.9 million conventional light vehicles as it gradually electrifies.

8 Bioethanol and biodiesel, which require blending with fossil fuels, are already available in New Zealand, albeit at relatively low levels. Increasingly, more advanced drop-in biofuels are being commercialised in countries that provide incentives for the uptake of these fuels. Their chemical structure is nearly identical to fossil fuels, enabling them to be used in the existing fuel infrastructure and in vehicles without being blended.

9 A favourable, stable and long-term policy environment is needed to realise the biofuels opportunity. Swings in biofuel policy over 2008–2012 made the fuel market and fuel users wary of biofuels. The lack of significant policy incentives for the development of sustainable biofuels, apart from the excise tax exemption for bioethanol and some R&D support, has meant that the production, supply and use of biofuels have been subdued since 2008, despite the efforts of companies like Z-Energy, Gull and Air New Zealand.

10 A favourable policy environment for biofuels is also critical to realise the aims of the New Zealand Wood Fibre Futures Project. This project seeks to increase the value to New Zealand from forestry and wood processing. The commercial opportunity of converting woody biomass into liquid biofuel has been identified as one of four priority products. However, without the right policy environment we are unlikely to attract the international investment and expertise needed to help us realise this opportunity.

11 We propose that Cabinet agree in principle to implement a biofuel mandate in general. Mandates have proven to be effective internationally in encouraging the production and use of biofuels, and other low-carbon transport fuels.

12 To progress a mandate here, we propose that the 2008 Biofuel Sales Obligation's settings be reviewed to determine whether any changes are needed in light of the latest international biofuels developments and overseas policies. This mandate was repealed before it came into effect. The review will also confirm that this measure will be of net benefit to New Zealand.

13 In particular, the review will confirm that any economic detriment from an increase in fuel costs as a consequence of a mandate, will be more than offset by the regional economic growth and employment gains from expanded domestic biofuel production, and from the economic and social gains from lowering CO_2 emissions. We also need to confirm that the

[2] For all greenhouse gases transport accounts for 21% of total domestic emissions. The other major emitting sectors are agriculture (47.8%), energy (19.6%), industrial processes (6.5%) and waste (5.1%).

mandate's settings will prevent any biofuels being supplied to New Zealand that reduce environmental and social outcomes.

14 We also propose to report back to the Cabinet Economic Development Committee on the outcome of the review of the 2008 Biofuel Sales Obligation by 30 April 2021. We will seek approval to release a public consultation document on the preferred design of the sustainable transport biofuels mandate.

Background

15 In 2008 the fifth Labour Government introduced the Biofuel Sales Obligation. This biofuels mandate required 0.5 percent of the combined petrol and diesel sold in New Zealand to be biofuels. This obligation was set to increase to 2.5 percent by 2012.

16 The Biofuel Sales Obligation was repealed in 2008 before it came into effect by the fifth National Government. The Biodiesel Grants Scheme was subsequently introduced in December 2009. However, it was discontinued in 2012 with a shift in Government focus from subsidising conventional biofuels to investing in research and development of advanced ones.

17 Since then, the momentum for the New Zealand biodiesel market has been lost, with Gull exiting this market. Liquid biofuels has stagnated at less than 0.1 percent of New Zealand's total liquid fuel sales, compared with about 4 percent globally or even higher in some countries with ambitious renewable fuels targets.

18 If the Obligation had been implemented and continued with the levels of biofuels increasing after 2012, to 7 percent for biodiesel and 10 percent bioethanol, the Ministry of Transport estimate that around 6,310 kilotonnes of CO_2 emissions would have been avoided over 2008–2020. To appreciate the scale of the foregone emission reduction, 6,310 kilotonnes is around 40 percent of current annual total transport emissions.

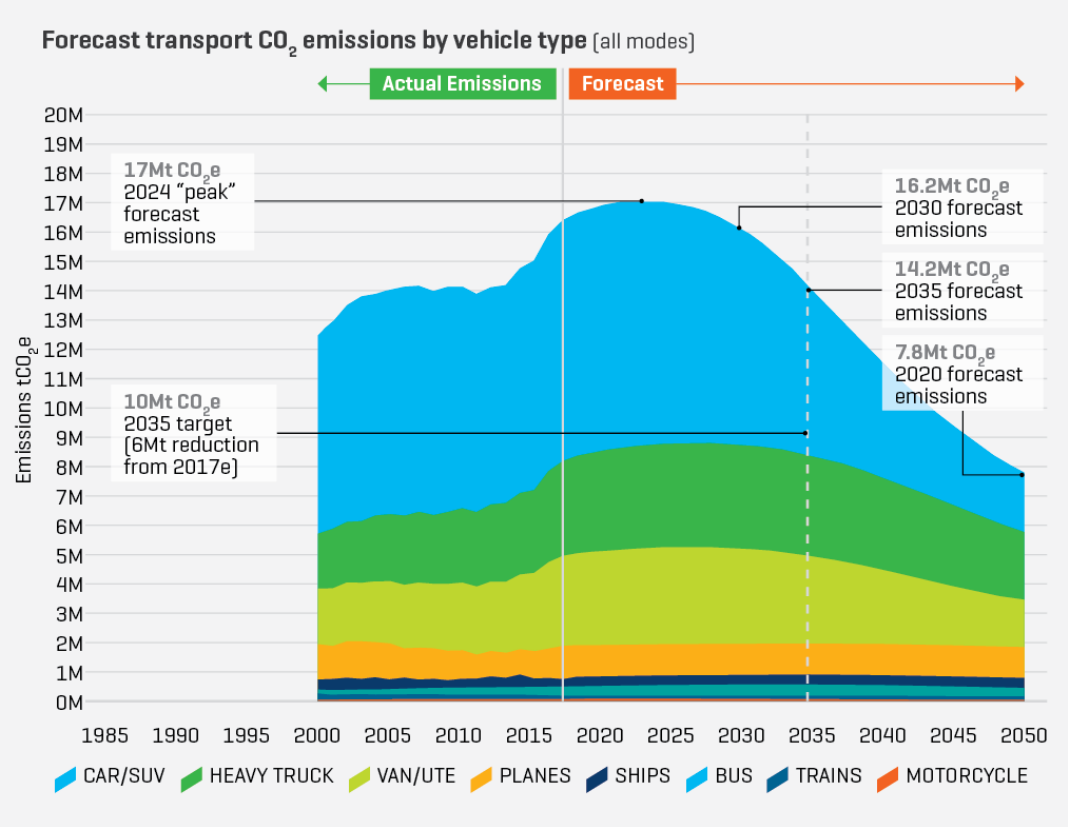
The growth in transport emissions is making it difficult for New Zealand to meet its commitments to reduce CO_2 emissions

19 Globally, reducing CO_2 emissions to net-zero is the highest priority in the fight against climate change, because unlike other gases it stays in the atmosphere for hundreds of years. Decarbonising transport is key to New Zealand being able to achieve net zero CO_2 emissions.

20 Decarbonising transport is technically feasible. However, without strong government action decarbonisation will not occur in the time frames we have to limit the severity of climate change.

21 In recent years, emissions in the other major emitting sectors have largely plateaued. In transport they are still increasing. Since 1990, transport emissions have increased by 90 percent and within transport, road emissions have more than doubled. This growth compares with an increase of 17 percent in agriculture, our largest emitting sector.

22 The Ministry of Transport's base case emissions projection sees road transport emissions continuing to rise until around 2024, with an increase in vehicle kilometres travelled due to population and economic growth expected before COVID-19. Emissions are then expected to plateau before slowly declining closer to 2030. The projected decline largely reflects an assumed increasing rate of EV uptake as EVs achieve price parity with conventional vehicles.



23 The Ministry is updating this projection as it now considers it too optimistic. It is more likely that transport emissions will continue to rise beyond 2024, reflecting that EV purchase price parity is unlikely to occur in our market until much later in the 2020s.

24 With this trajectory transport will not make a meaningful contribution to New Zealand's commitments to the Paris Agreement on Climate Change. Our first commitment is to reduce emissions to 30 percent below 2005 levels for the period 2021–2030. To contribute to this target, road transport emissions would have to be lower than they were in 2005 in each year of the period 2021–2030. Even in the best of those years in this optimistic projection, 2030, road transport emissions are expected to be around 20 percent higher than in 2005.

25 We have reached a point where stronger measures and a fuller set of measures are required to enable rapid and significant cuts in transport emissions.

26 Further, even this optimistic projection makes it clear that we can not only rely on electric vehicles and the future possibility of hydrogen, to transition the transport system fast enough to help meet our 2050 net-zero carbon target. Emissions from heavy trucks, aviation, ships and rail show little decline. This indicates that a wide range of mitigation opportunities need to be identified and acted on urgently.

Biofuels offer a low carbon transport opportunity especially where low emission vehicle technologies are less advanced or are prohibitively expensive

27 Biofuels are a do-able low emissions opportunity that is available now. The lifecycle emissions of sustainable biofuels are typically much lower than fossil fuels.

28 The most common biofuels are bioethanol, which is a petrol substitute, and biodiesel, which is a diesel substitute. Any bio-derived oil can be used to make biofuels for aviation, which are commonly referred to as biojet, or sustainable aviation fuel.

29 Sustainable biofuels are typically made from a number of feedstocks including: agricultural crops and residues, forestry residues, agricultural by-products, and waste (excluding plastics waste made from crude oil). In New Zealand a very small amount of biodiesel is being made used vegetable oil. Bioethanol is being made from whey, a by-product from the dairy industry.

30 Internationally, biofuel conversion technologies have advanced markedly. They have become more efficient and can use a wider range of feedstocks, such as wood waste and algae. Some of these more advanced biofuels do not need to be blended with fossil fuels to be used in conventional vehicles and fuel infrastructure as they are chemically almost identical to fossil fuels. Examples being used in the United States include:

30.1 bioethanol made from corn stover (ie stalks and leaves) using the biochemical enzymatic process has lifecycle emissions that are 129 percent lower than emissions from petrol. The percent is greater than 100 percent because the heat generated during the conversion process is recycled

30.2 biodiesel made from corn stover using the Fischer-Tropsch process has lifecycle emissions that are 91 percent lower than emissions from mineral diesel.

31 Sustainable biofuels could play a key role in the decarbonisation of transport. They could be a transitional fuel for some parts of transport, like the existing light vehicle fleet. They could also be the long-term low-carbon option for heavy road vehicles, and long-haul aviation. Specifically biofuels could be key for:

31.1 **conventional light vehicles that are already in New Zealand**. Electric vehicles are the lead opportunity to decarbonise light vehicles. However, every high-emitting conventional vehicle that enters the fleet today will, without further action, be driven until it is, on average, 20 years old. For new vehicles purchased in 2020, it will not be until 2040 that there is another opportunity to switch these vehicles for low carbon ones. Biofuels could be a transition fuel, lowering emissions from conventional vehicles until they are gradually replaced with EVs

31.2 **heavy vehicles, especially heavy freight trucks**. Conventional biofuel blends as high as 20 percent can be used in some large trucks and buses[3]. Drop-in biofuels offer the opportunity of higher percentage blends being used in conventional vehicles, including up to 100 percent. Major truck manufacturing companies like Scania, are now producing truck engines capable of running entirely on biofuels. Green hydrogen is also an option for heavy freight, however, vehicles are not yet being sold commercially and they have a much high upfront cost[4]. They also require infrastructure investment

31.3 **rail.** The cost of electrifying rail freight is extremely high and biodiesel could offer a more cost effective alternative. Kiwirail is currently testing the 100 percent drop-in renewable diesel produced by the international company Neste in one of its shunter locomotives. The testing will take 3-months and concerns whether the fuel provides the same level of performance and reliability as mineral diesel

[3] *Green Freight – Strategic Working Paper*, Ministry of Transport 2020.
[4] A 50-tonne diesel freight truck costs in the order of $250,000–$300,000. The hydrogen trucks to be secured by Hiringa Energy from US-based Hyzon Motors will each cost $750,000.

31.4 **shipping**. Ships are well-suited to biofuels, since marine fuel specifications are much more flexible and biofuels produce much less sulphur pollution[5]. However in the long-term, ammonia and hydrogen are likely to be the best low-carbon solutions for shipping

31.5 **aviation**. Air New Zealand has explored how it could decarbonise its operation to support the national and Paris agreement targets. It considers the largest mitigation opportunity to be sustainable aviation fuel, as electricity and hydrogen are not suitable for long-haul flights. Air New Zealand has said sustainable aviation fuel has the potential to provide at least 50 percent of its needed decarbonisation by 2040-2050, if production facilities are established in New Zealand, and if it can manage the increased costs associated with sustainable aviation fuel.

32 The Ministry of Transport estimates that if a 10 percent bioethanol blend and a 7 percent biodiesel blend were used in road transport in 2022, around 529 kilotonnes of emissions would be avoided in that year. If the biodiesel blend were increased to 10 percent for the heavy diesel fleet, the emissions avoided would increase to 623 kilotonnes. These estimates indicate that even with a modest level of biofuel use, around 3.7–4.4 percent of road transport emissions in 2022 would be avoided.

33 Further reductions would be secured if biofuels were used in aviation, shipping and rail.

Biofuels create opportunities for green economic growth and employment creation

34 Beyond helping to decarbonise transport, a move to biofuels could support the transition to a net zero emissions economy in a way that stimulates regional economic growth and job creation. A 2011 study by BERL[6], which looked into the economic impact of the New Zealand Bioenergy Strategy (including a wide range of bioenergy actions beyond biofuels mandate) proposed by the Bioenergy Association of New Zealand, found that biofuels providing 30 percent of the country's transport fuels and meeting 25 percent of its energy needs by 2040 would generate:

34.1 economic growth, with a gain of 1.2 percent in GDP ($6.2 billion per year) and a 1.2 percent improvement in balance of payments (around $2 billion per year) over business as usual
34.2 employment growth, leading to an extra 27,000 regional jobs
34.3 new business opportunities for existing land owners, including Māori who own more than 300,000 hectares of land suitable for afforestation.

35 The potential of biofuels is evident in Stage One of the New Zealand Wood Fibre Futures Project, which is carried out as part of Te Uru Rākau's work on developing the Forestry and Wood Processing Industry Transformation Plan. This project is investigating how New Zealand could benefit from converting woody biomass into high-value low carbon products. The project has identified liquid biofuels as one of four products that are likely to be the most commercially viable from woody biomass. Several countries with large forestry sectors like New Zealand's are having commercial success in manufacturing liquid biofuels from woody biomass.

[5] Low Emissions Economy , the New Zealand Productivity Commission April 2018
[6] Nana, G., J. Boshier, and A. Generosa. *Preliminary analysis of the economic impact of the New Zealand Bioenergy Strategy* Report for Bioenergy Association of New Zealand 2011.

36 Following engagement with key stakeholders, including Air New Zealand, Fonterra and Z Energy, Te Uru Rākau has accelerated Stage Two of the project. This is undertaking further analysis to enable the Government and potential investors to see the:

36.1 business case for investing in any of the four product candidates
36.2 feasibility analysis and roadmap for implementation for each of the four product candidates
36.3 legislative and regulatory options that could be implemented to support the commercial success of the investment and product uptake.

37 On 30 November 2020, the Ministry of Primary Industries (MPI) issued a request for proposal seeking an experienced, world-class consultancy agency to carry out this analysis. MPI expects the final report to be delivered in mid-2021.

Sustainable biofuels have wider environmental benefits beyond CO_2 emissions reduction

38 The main environmental benefit of biofuels is a reduction of CO_2 emissions, but they also have other benefits. Biofuels can improve air quality in urban areas by reducing vehicle exhaust pollutants[7], which are harmful to human health (sulphur dioxide, nitrogen oxide and particulate matter). The annual social cost of the damage from transport air pollution is estimated to be $2.1 billion[8].

39 They can contribute to a circular economy by recycling waste streams that are currently sent to landfill, or are left to degrade land and water resources, such as forestry slash. As well, replacing diesel with biodiesel reduces the degradation of aquatic and marine environments. The values of these co-benefits have not been quantified.

A number of challenges are limiting the realisation of the biofuels opportunity

40 Despite the potential, New Zealand's use of biofuels is low by international standards and we have developed little production capacity. Liquid biofuels make up less than 0.1 percent of our total liquid fuel sales[9]. This compares with about 4 percent globally[10]. Some countries, typically those with mandatory biofuels obligations or renewable transport fuels targets, have achieved higher shares, for instance, the share of biofuel in Sweden's transport sector was 20 percent in 2017[11]. Finland plans to lift the share of biofuels blended in transport fuel from 13.5 percent now[12] to 30 percent by 2030[13].

41 Our low use reflects the number of challenges that limit the production and use of biofuels. The key ones are that:

---

[7] The main pollutants are sulphur dioxide, nitrogen oxide and particulate matter, which are all harmful to human health.

[8] Kuschel G, Sridhar S and Metcalfe J (2020). *Domestic Transport Cost and Charges: Working Paper D4 - Air quality and greenhouse gas emissions.* Report for NZ Ministry of Transport prepared by Emission Impossible Ltd, September 2020

[9] Scion, 'New Zealand Biofuels Roadmap Summary Report.

[10] ibid

[11] https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Nov/IRENA_Advanced-biofuels_2019.pdf

[12] https://www.iscc-system.org/wp-content/uploads/2017/04/9_Jaaskelainen_FI_Ministry_of_Transport_and_Communications_ISCC_Conference_150217.pdf

[13] http://www.reuters.com/article/finland-energy-biofuels-idUSL8N1DP2F8

41.1 **sustainable biofuels are not cost competitive with fossil fuels.** Biofuel suppliers struggle to operate at a sufficient scale to achieve economies of scale that reduce costs. Biofuel prices can also be driven up by the cost of feedstocks, which can be kept high because of demand for them from other uses

41.2 **production faces significant co-ordination challenges**. Feedstock producers are unlikely to commit to growing a crop for a biofuel producer without a guaranteed market, while a producer would not build a conversion plant without guaranteed supply of a sustainable feedstock. Nor would producers invest without a guarantee from customers that they will buy their biofuel

41.3 **advanced drop-in sustainable biofuels are preferable but developers face high financial and technical barriers**. New conversion technologies have to be proven to operate reliably at scale before commercial deployment can occur. Proving a technology can create a catch-22 situation. To convince investors to fund construction and operation of a large-scale production facility, developers effectively need to have a large-scale production facility in place to persuade them that their conversion technologies will be successful and cost effective at scale

41.4 **use of conventional biofuels is limited by "blend walls" that deter investment.** Unmodified road vehicles can only use conventional biofuels in low-percentage blends as higher blends risk engine damage, and void vehicle manufacturers' warranties. For bioethanol, there is a "blend wall" of 10 percent, while retail sales of biodiesel are limited to blends of 7 percent. However, the potential for uptake is greater in the heavy road freight, buses, rail, aviation and maritime sectors where higher blends can be used

41.5 **there is a lack of significant incentives and past uncertainty in biofuels policy**. The removal of the Biofuels Sales Obligation in 2008 and the Biodiesel Grants scheme has made the market wary of biofuels. The main biofuels policy measures that remain in place include R&D funding and a fuel excise duty exemption for bioethanol. This is of particular concern to the ability of the forestry and biofuel sectors to pursue the commercial opportunity of turning woody biomass into liquid biofuels. Without the right policy environment we are unlikely to attract the international investment and expertise needed to help us realise this opportunity.

Government intervention is needed to address these challenges

42 In theory the Emissions Trading Scheme (ETS), by zero-rating the biofuel component of transport fuels, could create a sufficient financial incentive to sustain a domestic market for biofuels. However, transport has been part of the ETS since its inception. To date the ETS has not provided a sufficient incentive to increase the use of low carbon fuels, or to reduce transport emissions. This is because the current emissions price of around 9 cents per litre for diesel, and 7.8 cents for petrol[14] is a very small component of fuel prices and is less than the marginal abatement cost of available biofuels.

[14] https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/weekly-fuel-price-monitoring/

43 The effectiveness of the ETS in driving fuel switching will also be diluted by global subsidies on oil and the production of fossil fuels, and more generally, by significant uncertainty in the range of future global oil prices. Even with very high emissions prices, biofuels could struggle to compete with fossil fuels when oil prices are low.

44 The biofuel experience to date is evidence of some of the challenges facing the development of sustainable biofuel supply chains in New Zealand. For example:

44.1 Z Energy was producing biodiesel from animal tallow without government support, however, earlier this year it hibernated its plant. It could not afford the increase in the international tallow price that was bid up by international producers of renewable diesel operating with government subsidies

44.2 Gull has recently decided to withdraw the biodiesel blend it was providing in 5 of its 99 outlets. For the last 6 years it had imported biodiesel from Australia as it was unable to find a consistent domestic supplier. In recent years, the lack of scale has removed Gull's option to automate blending and lower cost.

45 While the ETS improves the cost competitiveness of biofuels by introducing an emissions price on fossil fuels, the ETS alone cannot overcome the other challenges set out in paragraph 40. Complementary policy measures are needed.

Internationally mandates with environmental sustainability criteria are the preferred way to encourage the production and use of biofuels

46 Globally, 68 countries have enacted mandates, at the national or subnational level[15], to address the challenges limiting biofuel uptake. Mandates are common because they:

46.1 force an increase in demand that allows production to expand and a level of scale to be achieved. Scale reduces the costs of biofuels by spreading fixed and technology costs over a greater volume of sales

46.2 expose suppliers to a higher level of market discipline than other interventions, such as subsidies.

47 Overseas mandates, particularly those in Europe and North America, include environmental sustainability criteria to ensure that biofuels from unsustainable sources, such as those produced from palm oil originating from recently converted land, are not supplied.

48 The case for a biofuels mandate was identified as part of the Ministry of Transport's Green Freight project. This project looked at the role biofuels, electricity and hydrogen could play in reducing CO_2 emissions from heavy road freight in New Zealand. A mandate was one of three recommended options to reduce CO_2 emissions. The other two were to provide up-front grants for low and zero-emission vehicles and to investigate a CO_2 standard for heavy trucks.

49 During the consultation on the Ministry's project, there was a great appetite across the fuel and freight industries to consider biofuels as a viable option to reduce CO_2 emissions. This reflects how far the conversion technologies to produce biofuels have progressed.

We could reinstate the 2008 Biofuels Sales Obligation, subject to confirmation it provides the greatest benefits

[15] IEA and REN21, 2018.

50 We propose that Cabinet agree in principle to implement a biofuels mandate and confirm this decision by July 2021. Previous work has highlighted the significant benefit a mandate could bring. However there are several options for how such a mandate could be designed and we need to take into account the latest international developments.

51 To introduce a mandate we could reinstate the 2008 biofuels sales obligation. It would oblige suppliers of petrol or diesel in New Zealand to also supply a minimum proportion of biofuels. In the 2008 scheme, the biofuel proportion was initially 0.5 percent of a liable supplier's petrol and diesel sales, rising to 2.5 percent over four years.

52 The obligation was to apply to suppliers that first purchase or obtain petrol or diesel from a New Zealand manufacturer, such as the refinery at Marsden Point, or that import petrol or diesel directly from overseas. The liable firms would currently be the oil companies BP, Gull, Mobil, and Z-Energy.

53 Before confirming whether to reinstate the biofuels sales obligation, we need to strengthen the existing evidence base to confirm that this measure will be of net benefit to New Zealand in light of the latest international biofuels developments and overseas policies. We are mindful that any significant increase in fuel prices would reduce household disposable incomes. It would also be detrimental for businesses once they had exhausted their ability to minimise vehicle kilometres travelled, for instance, through operating efficiencies. For these reasons to proceed we would need to assess the overall impact of the biofuels mandate (in the absence of other new complementary biofuels policy measures), taking into account the:

53.1 economic detriment from an increase in fuel costs
53.2 potential economic benefits, such as regional economic growth and employment gains from domestic biofuel production and other socio-economic benefits of reducing CO_2
53.3 environmental benefits of biofuels.

54 Based on this assessment, we will examine the appropriate level of mandatory biofuels target for New Zealand, particularly whether the target could be even more ambitious than the 2008 Biofuels Sales Obligation.

55 We will also need to ensure that biofuels produced or imported do not degrade environmental and social outcomes in New Zealand, or in their source country. Officials will review the sustainability criteria in the 2008 obligation to ensure they are still appropriate in the New Zealand context and confirm that the advanced biofuels developed in recent years will meet those criteria.

56 Following the review and report back to Cabinet, consultation would occur with stakeholders. This consultation would primarily address:

56.1 Whether the 2008 biofuel sales obligation the most effective mandate for New Zealand, or is an alternative type of mandate preferable?

56.2 What levels of biofuel supply are appropriate to mandate over the first 5-year period? This includes seeking guidance from the fuel and biofuel industries on how much biofuel could be produced domestically in this timeframe and how much could reliably be imported.

56.3 Whether the sustainability criteria are sufficient to guarantee that any biofuels supplied and used in New Zealand are produced from environmentally sustainable sources, and do not negatively impact on land use, food production or raise food prices? This includes seeking stakeholder views on whether minimum CO_2 reduction standards

would be needed to reject the use of biofuels that do not have low life-cycle CO_2 emissions.

The review would be jointly led by Energy and Transport officials

57 We propose that the review be jointly led by the Ministry of Business, Innovation and Employment and the Ministry of Transport. The following agencies would contribute to the review: the Energy Efficiency and Conservation Authority, the Ministry of Primary Industries, the Ministry for the Environment and Waka Kotahi New Zealand Transport Agency.

Timeline for the review

58 The timeline for the officials' review is outlined in the table below. This timeline allows Cabinet to decide on the design of the mandate in April 2021. Public consultation would follow over May–June 2021, allowing final decisions on the mandate in July 2021. Should Cabinet agree to progress the mandate, the legislative process would follow.

Milestone	Timeframe
Report to the Cabinet Economic Development Committee: • on the outcome of the officials' review of the 2008 Biofuels Sales Obligation • seeking approval to release a consultation document outlining the design detail of the mandate.	April 2021
Public consultation on the design of the mandate	May–June 2021

Report to the Cabinet Economic Development Committee:
• on the outcome of public consultation and the changes made to the preferred mandate
• seeking approval to implement the preferred mandate and of the key elements of its design, including the:
  ○ required levels of biofuel supply
  ○ sustainability criteria and quality specifications for biofuels
  ○ testing, certification, verification and enforcement requirements.
	July 2021

Financial Implications

59 There are no fiscal implications arising from the recommendations in this paper. If in 2021 Ministers subsequently agree to progress a mandate, estimates of the government administration costs and impacts on fuel excise duty will be provided.

Legislative Implications

60 There are no legislative implications arising from the recommendations in this paper. If in 2021 Ministers subsequently agree to progress a mandate, legislation would be required. This would include amending the Energy (Fuels, Levies, and References) Act 1989 and the Engine Fuel Specifications Regulations 2011, which provide the fuel specifications for biofuels and the limits on biofuel blends in transport.

Impact Analysis

Regulatory impact statement

61 The Cabinet's Impact Analysis requirements apply to the proposal to agree in principle to implement a biofuel mandate in general. Due to time constraints, it is not feasible to provide a Regulatory Impact Statement to accompany this Cabinet paper. The Regulatory Quality Team (RQT) at the Treasury and the MBIE have agreed on the nature and timing of a Supplementary Analysis Report (SAR). This SAR will be provided to the Cabinet Economic Development Committee meeting in April 2021.

62 The rest of the Cabinet paper seeks agreement to scope a sustainable transport biofuels mandate, and set out a timeline for the further policy development work. This does not involve in principle agreement on regulatory proposals and therefore the Cabinet's Impact Analysis requirements do not apply at this stage.

Climate Implications of Policy Assessment

63 The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements do not apply to the proposal in this paper as there is no direct emissions impact.

64 The CIPA team will work with the Ministry of Business, Innovation and Employment and the Ministry of Transport to assess the emissions impacts of policy proposals if they are advanced.

Human Rights

65 The proposals in this paper are consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Consultation

66 The following agencies were informed about this paper, however, their views are not reflected: Waka Kotahi, Treasury, Ministry for the Environment, Department of Conservation, Ministry of Social Development, Ministry of Justice, Ministry of Foreign Affairs and Trade, New Zealand Customs Service, Ministry for Primary Industries, Inland Revenue, Te Puni Kokiri, and the Energy Efficiency and Conservation Authority. The Department of Prime Minister and Cabinet have also been informed.

Communications

67 Following confirmation from Cabinet, we intend to issue a media statement, announcing the intention to reinstate the 2008 Biofuels Sales Obligation subject to further investigation.

Proactive Release

68 We propose to proactively release this Cabinet paper subject to any necessary redactions. This would be done within 30 business days of decisions being confirmed by Cabinet.

Recommendations

The Minister of Energy and Resources and the Minister of Transport recommend that Cabinet:

1. **note** that as transport is responsible for 47 percent of New Zealand's domestic CO_2 emissions it will be difficult to achieve our 2050 target, to reduce CO_2 emissions to net zero, unless transport is largely decarbonised

2. **note** that biofuels are already available, especially in countries with mandates, and have a role to play in the decarbonisation of transport, both as a transitional fuel for the existing light road vehicle fleet, and as a long-term solution where low emission vehicles and planes are prohibitively expensive, or are not expected to develop, for example, in long-haul aviation

3. **agree** in principle to implement a biofuel mandate

4. **agree** that the 2008 Biofuel Sales Obligation be reviewed for its suitability as a measure to facilitate an increase in the supply and use of sustainable biofuels in transport

5. **direct** officials from the Ministry of Business, Innovation and Employment and the Ministry of Transport, in consultation with the Ministry of Primary Industries, the Energy Efficiency and Conservation Authority, the Ministry for the Environment and Waka Kotahi to conduct the review referred to in recommendation (3) above and undertake further research into the costs and benefits of a biofuels mandate and the sustainability criteria for biofuels

6. **invite** the Ministers of Energy and Resources and Transport to report back to the Cabinet Economic Development Committee on the outcome of the officials' review by 30 April 2021, and if relevant, to seek approval to release a public consultation document on the preferred biofuels mandate's design

7. **note** that the Government may announce that it is investigating the possibility of introducing a biofuels mandate in the near term if it wishes to signal its interest in promoting the development of biofuels market in New Zealand.

Authorised for Lodgement

Hon Megan Woods
Minister of Energy and Resources
Dated:_____

Hon Michael Wood
Minister of Transport
Dated:_____