New Zealand Emissions Reduction Plan 2022-25 – Bioenergy and biofuels

New Zealand is using a system of emissions budgets to meet its 2050 target. The Government published the first three emissions budgets (2022–2025, 2026–2030, 2031–2035) in May 2022. The Emissions Reduction Plan https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf setting out policies and strategies for meeting emissions budgets was published on 16 May 2022. The Emissions Reduction Plan contains strategies, policies, and actions for achieving the first emissions budget, as required by the Climate Change Response Act 2002.

The Emissions Reduction Plan is supported by a Technical Information Annex https://environment.govt.nz/assets/publications/Files/Aotearoa-New-Zealands-first-emissions-reduction-plan-Technical-information-annex.pdf and a Table of Actions.

This Information Sheet provides a summary of the Emission Reduction Plan actions relating to future growth of the bioenergy and biofuels sector.

Background

The Emissions Reduction Plan responds to the recommendations of He Pou a Rangi – Climate Change Commission (the Commission) in its report, Ināia tonu nei: a low emissions future for Aotearoa. It also builds on the Productivity Commission's 2018 report, Low-emissions economy; the cross-government response (commonly known as the Climate Action Plan 2019); and the Interim Climate Change Committee's 2019 reports, Action on agricultural emissions. This plan also draws on a significant number of departmental strategies and work programmes, such as the Ministry of Transport's 2021 report, Hīkina te Kohupara – Kia mauri ora ai te iwi – Transport Emissions: Pathways to Net Zero by 2050. The New Zealand Infrastructure Commission Rautaki Hanganga o Aotearoa – New Zealand Infrastructure Strategy 2022–2052 sets out a path for how our infrastructure can lay a foundation for the people, places and businesses of the country to thrive for generations.

Key actions relating to bioenergy and biofuels

Some major actions over the next few years will include:

- beginning the process of decarbonising heavy transport and freight
- supporting businesses to move away from fossil fuels, such as coal, by continuing to roll out the Government Investment in Decarbonising Industry fund
- banning new low- and medium-temperature coal boilers and phasing out existing one. Ban new low- and medium-temperature coal boilers and phase out existing ones by 2037
- reduce our reliance on fossil fuels and exposure to volatile global fuel markets

- accelerating the delivery of agricultural emissions reduction tools and technologies for farmers and farming businesses through the establishment of a new Centre for Climate Action on Agricultural Emissions
- reducing the amount of food waste going to landfills, investing in waste infrastructure and expanding landfill gas capture
- accelerating the supply of woody biomass to replace coal and other carbon intensive fuels and materials
- support the uptake of low-carbon liquid fuels by implementing a sustainable aviation fuel mandate and a sustainable biofuels obligation
- develop an energy strategy to support a sustainable, affordable and secure energy system
- support for early adoption of mitigation technology and farm practice
- grow the forestry and wood processing industry to deliver more value from low-carbon products, while delivering jobs for communities
- accelerate the supply and uptake of bioenergy
- support businesses moving to circular practices
- develop a circular economy and bioeconomy strategy
- increase the amount of organic waste diverted from landfill
- reduce and divert construction and demolition waste to beneficial uses
- increase the capture of gas from municipal landfills
- improve waste data and prioritise a national waste licensing system
- explore bans or limits to divert more organic waste from landfill

Key assumptions relating to bioenergy

Key assumptions included:

Energy from biomass

1. A higher carbon price is expected to encourage additional afforestation on agricultural land.
2. This budget initiative will directly increase biomass supply and aims to stimulate private sector investment to create further supply. Additional biomass supply is needed to alleviate shortages projected to eventuate around 2030 as biomass is increasingly used to replace coal and other fossil-based fuels. Action is needed now to stimulate biomass production and provide certainty to a developing industry that will play a critical role in the just transition to a low emissions economy.
3. Many projects result in an increase in electricity consumption with a corresponding emissions increase that partially offsets an emissions reduction from fossil fuel use.
4. Emissions reduction estimates are largely based on marginal abatement cost analysis. The model estimates the cost of using different fuels for meeting the same energy and heating requirement and then the model chooses the cheapest option.
5. The projection does not model how additional demand for solid biomass is met.
6. Sustainable biofuels obligation is implemented.

Energy from organics

1. Of the waste diverted from Class 1 landfills, it is assumed that 40 per cent of food waste is diverted to composting (20 per cent windrow and 20 per cent in-vessel composting) and 60 per cent to anaerobic digestion.
2. Assumed that a 15 per cent to 25 per cent reduction of wood waste to Class 1 landfills could be achieved by 2030 through increased resource recovery and changes to building and construction practices.
3. Assumed that the average landfill gas capture efficiency could increase from 68 per cent to a range of 71.75 per cent to 73.5 per cent.
4. Assumed 15 of the largest 'small' category Class 1 landfills that currently do not have landfill gas capture systems could be retrofitted for landfill gas capture (or organic waste diverted elsewhere).

The plan does not address the opportunities for mitigation from agriculture being proposed by the He Waka Eke Noa partnership to reduce agricultural emissions.

Emissions Reduction Plan – Table of Actions: Bioenergy and biofuels

(Actions relevant to bioenergy and biofuels extracted from the full Table of Actions accompanying the Emissions Reduction Plan https://environment.govt.nz/assets/publications/Files/Aotearoa-New-Zealands-first-emissions-reduction-plan-Table-of-actions.pdf)

Equitable transition (Chapter 3)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Objective 2: Support proactive transition planning				
3.2.2 Support regions and industries to manage the transition.	• Progress Industry Transformation Plans to transform industries to an agreed future state, including improved environmental outcomes.	First emissions budget and ongoing	MBIE/MSD	Regions, local government, Māori, businesses, industry, unions, workers

Working with nature (Chapter 4)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
4.4 Encourage global efforts to use nature-based solutions.	• Aotearoa advocates for international recognition of well-implemented nature-based solutions as effective mitigation and adaptation measures that provide ecosystem and socio-economic co-benefits and safeguards. • Aotearoa fulfills its Glasgow Leaders' Declaration on Forests and Land Use commitment to support global efforts to halt and reverse forest loss and land degradation by 2030, alongside its other international biodiversity and sustainability commitments. This includes ensuring our climate change efforts recognise the critical role of forests and sustainable land use for climate change mitigation and adaptation, biodiversity, indigenous peoples and local communities, and enabling the world to meet its sustainable development goals.	2022 onwards	MFAT/MPI/DOC/ MfE	TPK, Pacific Regional Environment Programme, Intergovernmental Panel on Climate Change, Intergovernmental Panel on Biodiversity and Ecosystem Services, International Union for Conservation of Nature, United Nations Environment Programme, Convention on Biological Diversity

Emissions pricing (Chapter 5)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Focus area 2: Adjust the NZ ETS to drive a balance of gross and net emissions reductions				
5.2.1 Adjust the NZ ETS to drive a balance of gross and net emissions reductions.	• Investigate options for adjusting the NZ ETS to drive an appropriate balance of gross and net emissions reductions.	2022 onwards	MfE	NZ ETS participants (including NZ ETS foresters), other NZ ETS users, Māori, government agencies
5.2.2 Investigate new sources of emissions removals.	• Identification of potential changes to the NZ ETS that may be necessary to accommodate new types of emissions removals, to support net emissions reductions (dependent on inclusion in New Zealand's Greenhouse Gas Inventory).	2022 onwards	MfE	NZ ETS participants (including NZ ETS foresters), other NZ ETS users, Māori, government agencies
Focus area 5: The voluntary carbon market				
5.5 Develop a voluntary carbon market framework.	• Voluntary carbon market framework to drive emissions abatement in addition to what the NZ ETS incentivises.	2022 onwards	MfE	Private and public sector

Funding and finance (Chapter 6)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
6.1 Establish the Climate Emergency Response Fund (CERF) to ensure the climate is prioritised in the Budget process.	• The CERF will fund a number of initiatives throughout Budget 2022 and beyond, providing a long-term source of public funding for climate action.	2022 onwards	TSY	Government agencies
6.2 Issue Sovereign Green Bonds.	• Money raised from green bonds will be used to support projects that help reach our climate objectives.	2022 onwards	TSY	
6.3 Build on the success of New Zealand Green Investment Finance (NZGIF).	• NZGIF will continue to accelerate and facilitate investment in emissions reduction in Aotearoa.	Ongoing	NZGIF	
6.9 Collaborate with the finance sector to accelerate sustainable finance.	• Phase two of the open-source guidance is produced by a public-private sector partnership (including the Aotearoa Circle's Centre for Sustainable Finance, private sector banks and MPI to support sustainable agriculture finance initiatives.	Ongoing	MPI	The Aotearoa Circle, the financial industry, Toitū Tahua: Centre for Sustainable Finance, government agencies
6.10 Implement the Carbon Neutral Government Programme (CNGP).	• Data on emissions, emissions reduction targets, and reduction plans in place for all CNGP organisations. Government emissions, reduction targets and plans in place for CNGP organisations, emissions reductions across government.	Establishment 2022–25, then ongoing	MfE	Government agencies, suppliers
6.11 Apply the Government Procurement Rules to reduce emissions.	• Existing framework, requiring focus on the procurement of low-emissions and low-waste goods, assets, services and works.	Ongoing	MBIE	Government agencies, suppliers

Planning and infrastructure (Chapter 7)

Actions for delivery	Proposed outputs	Timeline	Lead (support)	Key stakeholders/partnerships
7.1 Improve the resource management system to promote lower emissions and climate resilience.	• Embed climate outcomes in new legislation (eg, the Natural and Built Environments Act and Strategic Planning Act). • Assess existing and emerging national direction against the policy intent of the emissions reduction plan.	2022–25	MfE	Māori, government agencies, including Te Waihanga, local government, industry stakeholders

Research, science, innovation and technology (Chapter 8)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
8.1.1 Establish a portfolio of Climate Innovation Platforms to support and coordinate strategic, effective and innovative initiatives.	• Provide the mechanism for Aotearoa New Zealand's investment in climate innovation across the economy. Climate innovation platforms will coordinate action and provide the enabling environment for key challenges and opportunities in our shift to a low-emissions future to be addressed at pace.	Portfolio of platforms are anticipated to be established in first emissions budget and through subsequent emissions budgets.	Cross government	Government agencies, companies, research organisations, Māori, communities
8.1.2 Scale up and further target existing initiatives towards climate change.	• Existing policy initiatives to support sectors and communities to mitigate and adapt to climate change will be scaled up to accelerate the transition.	2022 onwards	MBIE	Māori, private sector, Crown Research Institutions (CRIs), universities, research organisations
8.2 Te Ara Paerangi Future Pathways science-system reform programme.	• Aotearoa New Zealand's science system reform programme will orientate and enhance the system for the future. This includes setting priorities for the system, including addressing Aotearoa New Zealand's challenges associated with transitioning to a low-emissions economy and society.	Underway	MBIE	Research, science and innovation sector, Māori, other government agencies, private sector, public
8.9 Research-industry partnership networks will continue connecting industry to the science system, to help solve sector problems.	• Pool knowledge and resources to solve sector problems through connecting the science system to industry.	Ongoing – baselined initiative	MBIE	Callaghan Innovation, companies, research organisations
8.10 The start-up support programme will continue to be enhanced, to provide the support required to foster the development of new start-up businesses.	• Fostering innovative start-up companies through the incubator and acceleration programme, including cleantech or green start-ups that address social and environmental challenges.	Ongoing – baselined initiative	MBIE	Callaghan Innovation, companies, research organisations
8.13 Continue to support research and development through innovation grants and incentives.	• Support Aotearoa businesses to conduct research and development, enabling them to grow and address the challenges they face.	Ongoing – expansion from 2023	MBIE	Private sector, Māori incorporations and trusts

Circular economy and bioeconomy (Chapter 9)

Actions for delivery	Proposed outputs	Timeline	Lead (support)	Key stakeholders/partnerships
9.1 Commence a Circular Economy and Bioeconomy Strategy.	• A Circular Economy and Bioeconomy Strategy, that aligns with the Waste Strategy's vision and principles, has meaningful engagement with Māori and other key stakeholders, and will include the five actions below. 9.1.1 Move to a more circular public sector. 9.1.2 Innovation, skills and investment. 9.1.3 Align regulatory systems and the business environment. 9.1.4 Enable Māori to shape and benefit from the transition to a circular economy and thriving bioeconomy. 9.1.5 A bioeconomy framework to guide the use of our bioresources and maximise wellbeing.	2022–25	MBIE	Government agencies, local government, industry, communities, Māori
9.2 Increase data collection and research to measure baselines and indicators.	• Aotearoa can learn a lot from other countries. However, Aotearoa also needs to build its own evidence base, to develop circular approaches that will work in its unique context. The Government will: – measure the circularity of our economy, identifying a baseline and a measurement framework with indicators – develop maps that show the flow of resources across systems and sectors – build evidence about impacts through data collection and research.	2022–23	MBIE	Government agencies, research institutes
9.3 Integrate circular practices across government, communities and businesses.	• The Government will build on public and private-sector achievements, to unlock the potential of the circular economy. Examples include the Government's procurement policy, which supports a circular economy.	2022–23	MBIE	Government agencies, local government, industry, Māori
9.4 Support businesses moving to circular economy models.	• The Government will investigate opportunities to support industry-led and regional programmes that enable businesses to adopt circular economy models.	2022–24	MBIE	Industry and industry groups such as Sustainable Business Network

Actions for delivery	Proposed outputs	Timeline	Lead (support)	Key stakeholders/partnerships
9.5 Investigate a circular economy hub.	• The Government will consider partnering with key industry, Māori and local-government stakeholders to launch a circular economy hub, to support deployment of circular practices in Aotearoa.	2022–24	MBIE	Government agencies, local government, industry, communities, Māori
9.6 Accelerate sustainable and secure supply and uptake of bioenergy in Aotearoa.	• The Government will set up a work programme that is consistent with the bioeconomy objectives and energy strategy, and takes account of the needs of rural communities. This will consider: – establishing a baseline for the supply and demand of bioenergy feed stocks – developing a framework to choose the right type of bioenergy supply from our bioresources – considering the regulatory framework for bioenergy markets – helping to match the supply of bioenergy with demand – undertaking demonstration projects and private-public partnerships.	2022–24	MBIE (MPI)	Government agencies, EECA, regional councils, Māori, industry
9.7 Support research and development and accelerate investment in the bioeconomy to commercialise bioeconomy technology and products.	• This action will build on existing research and development funding in this area, as well as potentially new initiatives to turn our bioresources into new bio-based products and biomaterials (eg, low-carbon wood products, marine derived pharmaceuticals).	2022–24	MBIE (MPI)	Government agencies, local government, industry, communities, Māori

Transport (Chapter 10)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Focus area 3: Begin work now to decarbonise heavy transport and freight				
Action 10.3.1: Support the decarbonisation of freight				
Develop a national freight and supply chain strategy with industry. This strategy will take a long-term, system wide view of the freight and supply chain. Working with industry, it will identify how to best decarbonise the freight-transport system to be net-zero by 2050, while improving the efficiency and competitiveness of the supply chain.	• Strategy completed.	Strategy to be published in mid-2023	MOT	Local government, freight sector, Te Tiriti o Waitangi partners
Evaluate options to: • improve the efficiency of heavy vehicles • regulate heavy vehicle imports to reduce emissions • support infrastructure development for green fuels and fast charging for heavy vehicles • reduce emissions from heavy vehicles operated or procured through government activities.	• Evaluations completed.	Late 2022–early 2023	MOT	Waka Kotahi, EECA, freight sector
Evaluate options for road user charges (RUC) to support emissions reductions, including whether to extend the heavy-EV exemption from RUC and whether to set RUC rates differently by fuel type/emissions.	• Evaluation completed.	Late 2023–mid 2024	MOT	Waka Kotahi, EECA, freight sector
Consider the implementation timing of Euro VI standard for heavy vehicles.	• Implementation timeframe agreed.	2022	MOT	Waka Kotahi, EECA, vehicle importers, freight sector

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Action 10.3.3: Work to decarbonise aviation				
Develop and set specific targets for decarbonising domestic aviation in line with 2050 targets.	• Targets developed and set.	By 2023	MOT	MfE, MBIE, Tourism NZ (TNZ), key industry parties
Establish a public-private leadership body focussed on decarbonising aviation, including operational efficiencies, infrastructure improvements, and frameworks to encourage research, development and innovation in sustainable aviation.	• Public-private leadership body established.	By end of 2022	MOT	Ministers of Transport and Energy, and leaders/senior representatives at MOT, MfE, Civil Aviation Authority, SCION Research, TNZ, alongside key private-sector organisations across aviation, energy, research and sustainability sectors
Implement a sustainable aviation fuel (SAF) mandate.	• Proposed settings for a SAF-specific mandate developed by December 2022, once the findings of Air New Zealand's SAF feasibility study are available. • SAF mandate established.	Policy recommendations on the design of a SAF mandate to be developed by December 2022.	MOT/MBIE	Local aviation bodies, such as Air New Zealand and other domestic airline carriers/fuel suppliers
Action 10.3.4: Progress the decarbonisation of maritime transport				
Develop a national action plan to reduce commercial and recreational maritime emissions.	• National action plan completed. The plan will align with international and domestic decarbonisation ambitions and include targets for maritime (see sub-action below).	By 2025	MOT	Maritime New Zealand, MFAT, MPI, shipping industry
Set new targets for maritime, including: • all new large passenger, cargo, and offshore fishing vessels to meet highest carbon intensity reduction, as set by the International Maritime Organization, by 2035.	• Targets set as part of the national action plan.	By 2025	MOT	Maritime New Zealand, MFAT, MPI, and the shipping industry

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Undertake research to advance the development and uptake of alternative low- and zero-carbon fuels for shipping in Aotearoa and develop safety and environmental standards for their use.	• Research completed.	By 2025	MOT	Maritime New Zealand, MFAT, MPI, fuel industry, ports, shipping industry
Work with other like-minded countries to put in place the conditions to allow low- or zero-carbon shipping on key trade routes by 2035.	• Conditions are in place for zero-carbon shipping on key trade routes.	By 2035	MOT	Maritime New Zealand, MFAT, MPI, shipping industry
Action 10.3.5: Implement the Sustainable Biofuels Obligation				
Implement the Sustainable Biofuels Obligation, which requires liable fuel suppliers to reduce the total emissions of the fuels they supply by a set percentage each year through the deployment of biofuels (in blended or neat form).	• Sustainable Biofuels Obligation implemented.	2023	MOT/MBIE	Environmental Protection Authority
Action 10.4: Support cross-cutting and enabling measures that contribute to the delivery of a low-emissions transport system				
Ensure the next Government Policy Statement on Land Transport (GPS-LT) guides investment consistent with the emissions reduction plan.	• GPS-LT 2024 provides a transport investment strategy consistent with the emissions reduction plan.	Mid 2024	MOT	Waka Kotahi, local government, KiwiRail
Develop a strong evidence base to inform transport decarbonisation and an equitable transition and ensure actions taken are effective within the Aotearoa context.	• Transport Climate Research Plan published.	Research plan completed in 2023	MOT	Waka Kotahi, local government, Interagency Climate Change Data and Modelling Group, universities
Provide people and businesses with information and education to support behaviour change as we transition to a low-carbon economy.	• Scope of intervention to be established.	To be confirmed once scope established	MOT	Waka Kotahi, EECA
Develop the skills and capability required to transition to a low-emissions transport system and support an equitable transition.	• Review completed into what capability and capacity is needed for the transition.	By 2025	MOT	MBIE, Waka Kotahi, local government, multiple sectors (eg, education, construction, transport)

Energy and industry (Chapter 11)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Focus area 1: Use energy efficiently and manage demand for energy				
Action 11.1.1: Improve business and household energy efficiency				
Warmer Kiwi Homes programme.	• Grants for insulation and heating for lower-income New Zealanders, to achieve warmer, drier homes.	Underway – ongoing until mid 2024	EECA	Households, installers
Action 11.1.2: Improve the state sector's energy efficiency and fuel switching				
State Sector Decarbonisation Fund (component relating to energy and industry sectors).	• Co-funding for state sector organisations to increase energy efficiency and the use of renewable energy, with a focus on replacing the largest, most used fossil-fuel boilers. Co-funding is also available for other projects including electric vehicles.	2021–25	MBIE/EECA	State sector entities, including schools, hospitals and tertiary institutions
Action 11.2.2: Ensure the electricity system and market can support high levels of renewables				
Ban new fossil-fuel baseload generation.	• Policy enacted to ban new fossil-fuel baseload generation.	Consultation expected late 2022, implementation by 2024	MBIE	Electricity generation developers, government agencies, local government
Focus area 3: Reduce our reliance on fossil fuels and support the switch to low-emissions fuels				
Action 11.3.1: Manage the phase out of fossil gas				
Develop a gas transition plan.	• A gas transition plan that sets out a transition pathway for the fossil gas industry, explores opportunities for renewable gases and ensures an equitable transition.	2022–23	MBIE	Māori, gas industry, gas user groups, Gas Industry Company (GIC)
Action 11.3.2: Develop low-emissions fuels				
Investigate low-emissions energy supply options for renewable gas and bioenergy.	• Investigation of low-emissions energy supply options for renewable gas and bioenergy to support future emissions reductions.	2022–23	MBIE	Māori, gas industry, gas user groups, biogas industry, GIC

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Focus area 4: Reduce emissions and energy use in industry				
Action 11.4.1: Decarbonise Aotearoa Industries				
Set an action plan for decarbonising the industrial sector.	• An action plan for decarbonising the industrial sector. The plan will support existing industries to decarbonise and allow innovative low-carbon industries to grow. The plan will include considering a timetable for phasing out fossil fuel use in boilers.	2022–24	MBIE	Māori, industrial firms, industry groups, energy-sector stakeholders, energy service providers
Continue the roll out of the Government Investment in Decarbonising Industry (GIDI) fund.	• Grants for businesses to implement projects to decarbonise the use of industrial process heat through fuel switching and energy efficiency improvements.	2021–22	MBIE/EECA	Industrial firms, businesses, large energy users
Fund further decarbonisation of industry and heat through expansion of the GIDI.	• Funding for: – high-impact process heat decarbonisation projects, with adapted criteria to fund larger and longer projects – using regional energy transition plans to inform investment and optimise options for fuel switching at a regional level – additional electricity network connections and distribution network upgrades to unlock and/or accelerate fuel-switching for multiple process heat users – more technology diffusion projects.	2022–29	MBIE/EECA	Industrial firms, businesses, large energy users, energy service providers, Transpower, electricity lines businesses
Provide grant funding for commercial space and water heating and high efficiency electrical equipment.	• Grants or rebates for commercial buildings to replace fossil fuel boilers for space or water heating with low-emissions alternatives (primarily electric heat pumps).	2022–26	MBIE/EECA	Energy service providers, equipment vendors, commercial building owners, businesses
Support businesses to decarbonise through the EECA business programmes, including the energy transition accelerator, large energy user partnerships and sector decarbonisation plans.	• Businesses have the information and support they need to overcome barriers to identifying and implementing energy efficiency projects and to switching from fossil fuels to renewables for non-transport energy use.	Underway – work with businesses is ongoing	EECA	MBIE, industrial firms, businesses, large energy users, energy service providers

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Support businesses to decarbonise through the EECA technology demonstration fund.	• Funding recipients adopt proven technology or an innovative process-improvement opportunity that has yet to be widely deployed in Aotearoa.	Underway – regular funding opportunities	EECA	MBIE, industrial firms, businesses, large energy users
Finalise and implement the Advanced Manufacturing Industry Transformation Plan.	• The Advanced Manufacturing Industry Transformation Plan, to accelerate the growth and transformation of a thriving Aotearoa manufacturing sector. It has been created in partnership between industry and government.	Plan in place by end of 2022, with implementation following	MBIE	Central government, advanced manufacturing industry stakeholders, including businesses and unions
Implement national direction for industrial GHG emissions.	• National direction under the Resource Management Act 1991 implemented, to support councils to make nationally consistent decisions on GHG discharges when considering applications for air discharge permits. Includes a ban on new low- and medium-temperature coal boilers and phasing out existing coal boilers by 2037.	In place by the third quarter of 2022	MBIE/MfE	Local government, industrial firms, clean-energy service providers, fuel suppliers, equipment vendors
Develop a mandatory energy and emissions reporting scheme.	• A mandatory scheme to require large energy users to provide information about their annual energy use and emissions, with data produced to inform a range of stakeholders and drive emissions reductions.	In place by mid 2024	MBIE	Central government, large energy users, clean-energy service providers, fuel suppliers, equipment vendors
Regional Heat Demand Database.	• An interactive data visualisation tool to enable users to view fuel demand for process heat by region, site count, heat demand and energy demand.	2022	EECA	Transpower, electricity lines businesses, fuel suppliers, industrial firms
Regional energy transition accelerator pilot.	• A pilot regional decarbonisation plan in Southland, to inform investment for optimal fuel switching and low-emissions energy supply at a regional level.	Pilot complete in 2022, followed by evaluation and potential roll-out in other regions	EECA	Regional suppliers of bioenergy, electricity generators, Transpower, electricity lines businesses, industrial firms and other stakeholders

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Action 11.4.2: Develop an approach for single-firm industries with emissions that are hard to reduce or remove				
Develop a strategic approach or framework for addressing emissions from single-firm industries with emissions that are hard to abate.	• A strategic framework for considering and addressing issues relating to single-firm industries and the strategic role of such firms in facilitating Aotearoa's wellbeing.	Development to begin in late 2023	MBIE	Government agencies, single-firm industries, workers and unions, regions, Māori
Focus area 5: Strategic approaches and targets to guide us to 2050				
Action 11.5.1: Set targets for the energy system				
Set a renewable energy target.	• A renewable energy target of 50 per cent of total final energy consumption to come from renewable sources by 2035.	Target set 2022, followed by ongoing monitoring	MBIE	Energy-system stakeholders, electricity industry participants, consumers, government agencies
Develop secondary indicators for the energy system.	• A set of secondary indicators, monitored alongside the targets above, that: – measure progress in the energy and industry focus areas – ensure the energy system remains affordable, secure and reliable as we transition.	2022–24, alongside development of an energy strategy	MBIE	Energy-system stakeholders, electricity industry participants, consumers, government agencies
Action 11.5.2: Develop energy strategies for Aotearoa				
Develop an energy strategy.	• An energy strategy to address strategic challenges in the energy sector, including signalling a pathway away from fossil fuels and toward greater levels of renewable electricity and other low-emissions fuels.	2022–24	MBIE	Māori, energy-system stakeholders, central government agencies, consumers
Develop a new New Zealand Energy Efficiency and Conservation Strategy (NZEECS).	• A new NZEECS aligned with the emissions reduction plan and energy strategy. The NZEECS guides the EECA's work programme.	2022–24	MBIE	Māori, energy and industry sectors stakeholders, large energy users, consumers, clean-energy service providers

Building and construction (Chapter 12)

Action for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Action 12.1.2: Spark and foster innovation across the sector				
Support development of the Forestry and Wood Processing Industry Transformation Plan (ITP).	• Options and guidance to support the ITP to develop, and increase use of, innovative timber-based construction materials.	2022–24	MBIE	MfE, construction sector
Action 12.1.3: Realise cross-sector opportunities to reduce whole-of-life embodied emissions				
Explore requiring waste minimisation or recovery plans for building consent.	• Proposals for legislative and regulatory requirements that could minimise construction waste and increase diversion from landfill.	2022–23	MBIE/MfE	Local government, building-consent authorities, MfE, construction sector, waste sector
Support Kāinga Ora's waste minimisation programme and share lessons learned.	• Kāinga Ora is prioritising relocation and deconstruction over demolition as site-clearance options, with landfill-diversion targets of 80 per cent in Auckland/Northland and 60 per cent elsewhere, and a house-relocation target of 7 per cent. • A Construction Waste Minimisation Programme Plan is in development.	2022 and ongoing	Kāinga Ora	HUD, MBIE, MfE
Investigate barriers to reusing, repurposing and recycling building materials.	• Research to understand regulatory and system barriers to repurposing and recycling building materials, adaptive reuse of buildings and the development of a market for reused building materials.	2022–25	MBIE/MfE	Local government, building-consent authorities, construction sector, waste sector, building research organisations.
Explore circular economy initiatives for building and construction.	• Options for how action in the building and construction sector can reduce waste sector emissions. • These could include more targeted use of waste levy for building and construction, creation of end markets for reused building materials, and exploration of product stewardship schemes.	Options identified in 2022–23	MBIE/MfE	MfE, MBIE, MPI, construction sector, waste sector
Action 12.2.2: Use the Government's purchasing power to drive market change				
Support implementation of Government procurement guidelines and rules for buildings.	• Requirements for mandated agencies to procure low-emissions and low-waste goods, services and works, and to encourage innovation to significantly reduce emissions and waste.	2022 and ongoing	MBIE	MBIE New Zealand Government Procurement, with input from other agencies, including Kāinga Ora

Action for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Explore options to expand the Warmer Kiwi Homes programme, such as eligibility criteria, to better achieve equitable outcomes.	• Options to expand the existing Warmer Kiwi Homes programme to different types of retrofits. • Options regarding eligibility criteria.	2022–25	MBIE	EECA, MBIE (Energy and Resource Markets)
Focus area 4: Shift energy use from fossil fuels				
Assess the equity impacts of shifting away from fossil gas use.	• Research into distributional impacts that may be created where other emissions reduction initiatives affect the supply of, and demand for, fossil gas. • Options for support or incentives to manage these impacts.	2022–25	MBIE	MSD, TSY, building research organisations, community groups, fossil fuel users
Identify potential regulatory and other barriers to shifting away from fossil-fuel use in buildings and investigate options to address these.	• Review of requirements for installation of solid biofuel heating in buildings (eg, wood pellet heaters and boilers).	2022–25	MBIE	MBIE (Energy and Resource Markets)

Agriculture (Chapter 13)

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
Focus area 1: Price agricultural emissions by 2025				
13.1.1 An emissions pricing mechanism is developed, and agricultural emissions are priced by 1 January 2025.	• A pricing mechanism for agricultural emissions will be implemented from 2025. A detailed business case will be developed to support the implementation of a pricing mechanism.	2022–25	MPI	He Waka Eke Noa – Primary Sector Climate Action Partnership (He Waka Eke Noa) partnership members, food and fibre sector
13.1.2 All producers will have emissions reports by the end of 2022 and a farm plan in place by 2025.	• All farmers will be measuring their on-farm emissions annually and have a written plan in place to measure and manage their greenhouse gas emissions by 2025.	2022–25	MPI	He Waka Eke Noa partnership members, food and fibre sector
13.1.3 Further incentivising on-farm mitigation.	• Options investigated to support early adopters of on-farm changes that will reduce emissions before the introduction of an agriculture emission pricing system and revenue recycling system from 2025. Farmers and producers will achieve emission reductions beyond what they are already commercially incentivised to do.	First emissions budget and ongoing	MPI	Food and fibre sector, iwi and whenua Māori entities, industry partners
Focus area 2: Accelerate new mitigations				
13.2.1 Strengthen the role of research and development to get mitigations to producers sooner.	• Strengthened role of research and development in accelerating the availability and uptake of new mitigations. This will accelerate the development of a pipeline of new technologies, and streamline the uptake of new mitigations to producers sooner.	First emissions budget and ongoing	MPI	Science sector, international science partners, industry and food sector bodies, universities, iwi and whenua Māori entities
13.2.2 Establish a new Centre for Climate Action on Agriculture Emissions to drive a step change in research, development and commercialisation of emissions reduction technologies.	• Provide a step change in investment to accelerate development and increase the impact of priority mitigations. This will accelerate development and increase national impact of priority mitigations.	Mid 2022	MPI	Food and fibre sector, Crown Research Institutes (CRIs), whenua Māori entities

Actions for delivery	Proposed outputs	Timeline	Lead	Key stakeholders/partnerships
13.2.4 Support clear and effective regulatory pathways for agricultural mitigation tools.	• Develop a robust regulatory system to manage the risks of new mitigation tools to the trade of primary produce, along with risks to animal welfare, agricultural security and public health, and food safety (eg, methane inhibitors under the Agricultural Compounds and Veterinary Medicines Act).	First stage of this work will be completed in 2022	MPI	Industry, product entrepreneurs, food and fibre sector, science organisations, Māori organisations
Focus area 3: Support producers to make changes				
13.3.1 Develop further climate-focussed extension and advisory services.	• Multichannel information campaigns will be available to upskill producers, build and enhance support networks and rural communities to become more climate resilient. Grow a pipeline of trusted industry advisors with a strong understanding of emission reduction practices.	2022–26	MPI	Food and fibre sector, rural professionals, science and research
Focus area 4: Transition to lower emissions land use and systems				
13.4.1 Build the evidence base for regenerative agriculture.	• An evidence base for regenerative agriculture is established, and an understanding of how the practice can contribute to Aotearoa New Zealand's emission reduction targets.	First emissions budget and ongoing	MPI	Quorom Sense, food and fibre sector
13.4.2 Reduce the emissions of our largest farmer – Pāmu.	• Consider opportunities for Landcorp Farming Limited (trading as Pāmu) to demonstrate sector leadership by accelerating on-farm emissions reductions while continuing to fulfil its principal objective as a successful business over the long-term.	First emissions budget and ongoing	MPI	Landcorp Farming Limited (trading as Pāmu)
13.9 Integrated farm planning.	• Accelerate the delivery of a national integrated farm planning system for farmers and growers, in partnership with industry and regional sectors. The system will streamline compliance of regulatory requirements, making it easier and less time consuming for farmers and growers to meet their business and regulatory requirements, which are primarily for new freshwater regulations and upcoming greenhouse gas reporting requirements. It will also provide additional support for advisory services.	First emissions budget and ongoing	MPI	Food and fibre sector, regional councils, iwi and Māori partners

Forestry (Chapter 14)

Actions for delivery	Proposed outputs	Timeline	Lead (support)	Key stakeholders/partnerships
Focus area 1: Support the right mix, level and location of afforestation				
14.1.1 Ensure regulatory settings deliver the right type and scale of forests, in the right place.	• Consider amendments to NZ ETS to support a better mix of forest type, retain important productive land uses, avoid displacing gross emissions reductions, and better manage the potential long-term environmental effects of exotic forests, including: – restricting exotic forests from permanent post-1989 forest category – adjusting the application of accounting rules to remote/marginal land, to support production on this land.	2022: public consultation 2022/23: Cabinet decision expected	MPI (MfE)	Landowners, local government, forestry and wood processing sectors
14.1.2 Support landowners and others to undertake afforestation.	• Continue to assist landowners and others to undertake afforestation and conservation projects through: – the One Billion Trees Fund (1BT) – Crown Forestry joint ventures – the Hill Country Erosion Programme – the Erosion Control Funding Programme (ECFP).	First emissions budget to 2028 Planting will continue for several years for grants that have been approved	MPI	Private landowners, Māori landowners, Māori, regional councils
14.1.3 Enhance forestry planning and advisory services.	• Better support and inform current and potential forest growers and the full forestry system by providing advisory services across the full cycle of establishing, managing and harvesting forests. • Help understand, at a regional level, where forests will be grown and where harvested wood will be needed so that the forest estate, regional infrastructure and processing capacity align to support the growth of production forestry and domestic manufacturing. • Provide advice on diversifying forestry regimes, including alternative species, in order to develop new types of forestcrops that deliver new products or woody biomass for emerging markets (eg, bio-energy).	Implementation underway 1 July 2022: core servicesstart up Oct 2022: extensionservices begin End of June 2023: fully operational	MPI	Māori, landowners, the forestry and wood processing sectors

Actions for delivery	Proposed outputs	Timeline	Lead (support)	Key stakeholders/partnerships
Focus area 4: Grow the forestry and wood processing industry to deliver more value from low carbon products				
14.4.1 Develop forestry and wood processing industry transformation plan (ITP).	• Set out a cohesive set of actions to transform the forestry sector, grow the domestic wood processing industry and get more value from our logs. • Consider options to attract investment in the production of low-emissions wood products and biofuels. • Provide a transformation roadmap to lift value from the forestry and wood processing sector to: – increase wood processing and accelerate the bioeconomy – lift productivity and resilience across the forestry and wood processing supply chain – scale up internationally competitive wood-processing clusters – support increased use of wood in construction and improve export outcomes.	2022 and ongoing	MPI	The Government is taking a partnership-led approach to developing the ITP. An advisory group, consisting of members from the forestry and wood processing sector, expertise from other sectors, Māori and unions, has been established, to shape policy development.
14.4.2 Invest in expanding supply of woody biomass.	• Work with landowners to increase planting of commercial forest crops to replace coal in process heat and/or as input to biofuels and biomaterials. • Undertake research to support cost effective recovery of harvest residues to supply biomass. • Undertake operational research to support species selection and forest management of short rotation crops.	July 2022/23: engagement with landowners begins 2022/23: research programme underway 2023/24: crop planting to begin	MPI	Landowners, forestry and wood processing sectors, research organisations

Waste (Chapter 15)

Actions for delivery	Proposed outputs	Timeline	Lead (support)	Key stakeholders/partnerships
Focus area 2: Increase the amount of organic waste diverted from landfill				
15.2.1 Improve household kerbside collection for foodand garden waste.	• Improvements to kerbside collections to increase the diversion of food and (where appropriate) garden waste. These may include a mix of voluntary and regulatory measures such as funding, standardised collection, separation, condition and handling of recyclable materialsand food waste, and reporting against diversion targets.	2023–30: subject to kerbside transformation consultation in 2022	MfE	Local government, waste collectors and facilities
15.2.2 Invest in organic waste processing and resource recovery infrastructure.	• A targeted resource recovery infrastructure fund, providing investment in infrastructure such as compost facilities, to process household (and business) food and garden waste. Increased investment in resource recovery infrastructure such as transfer stations upgrades to improve recovery anddiversion of key organic waste.	2023–25	MfE	Local government, waste sector, resource recovery operators
15.2.3 Require the separation of organic waste.	• Source separation of business food waste from rubbish is being consulted on (kerbside transformation proposals 2022).	2024/25: subject to Waste Minimisation Act	MfE	Local government, waste collectors and facilities
	• Regulations (following new legislation) to establish obligations for households, businesses, collectors, disposalfacilities and others to separate out specified organic materials including food waste.	2008 (WMA) review in 2022/23		
Focus area 3: Reduce and divert construction and demolition waste to beneficial uses				
15.3.1 Support the building and construction sector to minimise waste through research and improved capability.	• Research, training and technological initiatives that minimise construction and demolition waste, including research into alternatives, techniques and processes for hard-to recycle construction materials (like treated timber).	2022–25	MfE (MBIE)	MBIE, MPI, SCION Research, BRANZ, New Zealand Green Building Council, Kāinga Ora, building and construction industry

15.3.2 Invest in sorting and processing infrastructure for construction and demolition waste.	• A targeted resource recovery infrastructure fund. Increased investment in sorting and processing plant, as well as resource recovery network infrastructure to improve the separation of construction and demolition waste materials, targeting wood waste.	2023–25	MfE	Local government, waste sector, resource recovery operators
15.3.2 Invest in sorting and processing infrastructure for construction and demolition waste.	• A targeted resource recovery infrastructure fund. Increased investment in sorting and processing plant, as well as resource recovery network infrastructure to improve the separation of construction and demolition waste materials, targeting wood waste.	2023–25	MfE	Local government, waste sector, resource recovery operators
15.3.3 Enable the separation of construction and demolition materials.	• Future regulations (following new legislation) to establish obligations for households, businesses, collectors, disposal facilities and others to separate out specified organic materials, including construction and demolition waste, targeting wood.	2024/25: subject to WMA review in 2022/23	MfE	MBIE, local government, building and construction sector, waste collectors and facilities
Focus area 4: Explore bans or limits to divert more organic waste from landfill				
15.4 Investigate banning organic waste from landfill by 2030.	• Proposed limits or bans of organic waste to landfill will be considered based on evidence of the combined impact (reduction of organic wastes to landfill) of waste policy implementation and infrastructure investment. To ban materials there must a reasonably practicable alternative to disposal available.	Monitor and assess the need from 2026	MfE	Māori, local government, businesses, waste industry, communities, households
Focus area 5: Increase the capture of gas from landfills				
15.5.1 Regulations will require landfill gas capture at municipal landfills.	• Regulations are introduced to require landfill gas capture at all municipal (Class 1) landfills that receive organic material by 31 December 2026.	Proposed by 31 December 2026	MfE	Local government and private sector landfill operators
15.5.2 Feasibility studies will determine the need for additional landfill gas capture requirements.	• Investigation into the composition of waste received at a range of landfill types that receive organic waste. Research to determine landfill gas capture feasibility at Class 2–5 landfills.	2022–25	MfE	Local government and private sector landfill operators

Focus area 6: Improve waste data and prioritise a national waste licensing scheme

15.6.1 Develop a national waste licensing scheme.	• New legislation and regulations to support a national waste licensing scheme for more effective regulation, administration and data collection from a range of parties.	2025: subject to WMA review in 2022/23	MfE	Local government and private sector operators of waste disposal, recovery collections and facilities
15.6.2 Improve information on greenhouse gas emissions from waste disposal.	• A new national data collection and reporting programme on emissions reductions from waste, including: a landfill waste material composition survey programme, kerbside collection reporting and feasibility studies for landfill gas capture improvements.	2022–25	MfE	Local government and private sector operators of waste disposal, recovery collections and facilities