EU Green Deal:

Impact on New Zealand's Land-based Primary Producers

Supporting the development of a primarily economic rationale for a transition to more environmentally responsible production processes, including organic production, in New Zealand's major export-oriented primary sectors.

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Organics Aotearoa New Zealand (OANZ) is the national body for the Organic Sector. Its purpose is to protect the integrity of organics and grow the Organic Sector for the health of New Zealand's people, environment and climate. It works in Treaty partnership with Te Waka Kai Ora (National Māori Organics Authority) to grow Hua Parakore and organics within Māori communities.

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Trade agreements increasingly include clauses related to environmental concerns such as greenhouse gas emissions, climate change, water quality and biodiversity loss. They also increasingly include content related to positive social outcomes, for example, the protection of the rights of Indigenous populations, the protection of workers' rights, gender equality or the elimination of forced or child labour.

The European Union (EU) is one of the most prolific drivers of environmental and social outcomes in international trade policies. The EU makes no secret of its objective of utilising trade to support its domestic sustainability agenda, as defined in the European Green Deal.

The EU Green Deal is an umbrella of policies comprising strategic initiatives in all sectors of the economy, with significant changes to notable industries, transportation, energy, building and agriculture – financial and legal measures back key action areas that make up the Green Deal.

Several areas of focus for the EU Green Deal are likely to pose significant challenges for New Zealand's export sectors, not only directly in the context of the New Zealand-EU Free Trade Agreement (FTA) but also due to the potential for the EU's practices and regulations to become de facto global standards for sustainable trade, and to be adopted by New Zealand's other major trading partners.

In each of the instances described below, the regulatory regime in New Zealand (both current and proposed) appears to lag significantly behind the equivalent systems emerging in the EU. This implies that New Zealand's legislators and regulators, along with industry representative bodies in major export-oriented primary and food-producing industries, will need to significantly increase the levels of environmental and social ambition inherent in the policies currently under development in New Zealand. Failure to do so might result in significant reductions in the levels of market access available to New Zealand exporters, not only in the EU but also in other major markets such as China, the USA and the UK, as these countries are compelled to increase their own ambition levels in these areas, to protect the interests of their domestic producers.

Organic agriculture is seen by the EU as central to increasing sustainable agriculture. The EU Farm to Fork Strategy includes a target of at least 25% of the EU's agricultural land being under organic farming by 2030, along with a significant increase in organic aquaculture.

In light of these developments, certified organic products from New Zealand are likely to benefit from improved market access into the EU, as the implementation of EU standards and restrictions reduces the scope of opportunities for conventionally farmed products.

This in turn increases both the importance of the process of developing a National Organic Standard for New Zealand, along with accompanying regulations, and the level of urgency attached to this process. The EU's organic regulations outline the rules that will apply for

recognising the equivalence of organic products from countries outside of the EU and stipulate that such equivalence must be negotiated with the EU by 31 December 2025.

New Zealand's negotiators are currently awaiting the opportunity to negotiate the equivalence of its organic legislation with their EU counterparts; however, it is not yet clear when they might be invited to do so. In the interim, New Zealand is expected to develop a "robust domestic system for organics" by the end of 2024.

Importantly, the EU's definition of a "robust domestic system for organics" does not include any determinations or requirements related to the inclusion (or lack thereof) of Indigenous values or knowledge systems. This means that any attempts on the part of the Ministry of Primary Industries (MPI) to exclude traditional Māori organic knowledge and practices from the National Organic Standard are not driven by any requirements on the part of the EU.

Furthermore, questions regarding the sustainability-related knowledge systems that underpin global trade standards or regulations are of critical importance to Indigenous knowledge systems, which are often marginalised or ignored in international trade agreements. This paper accordingly discusses the role that Indigenous Māori knowledge systems, including those related to organic production, do and should play in the NZ-EU FTA.

Te Waka Kai Ora, OANZ's partner organisation under Te Tiriti o Waitangi, provides an in-depth analysis of the approaches to traditional Māori organic knowledge being adopted by MPI in the development of the National Organic Standard and the risks that these approaches hold for such knowledge. There appears to be a significant risk of the Hua Parakore Māori organic verification system, developed by Te Waka Kai Ora to assist Māori organic growers, being wholly excluded from the National Organic Standard.

Such an outcome is likely to contradict both the letter and spirit of the NZ-EU FTA, particularly as the text of the Agreement makes multiple references to the consideration, promotion and protection (as appropriate) of Māori interests by the New Zealand government. It is equally likely to be contradictory to the EU's ongoing support, expressed in various international fora, for the protection and promotion of the rights of Indigenous peoples across the globe.

Returning to the European Green Deal, some of the key implications of the Deal and the various policies that sit beneath it include the following:

- A ban on the importation into the EU of products containing residues of pesticides and agricultural chemicals banned from use in the EU – currently, the EU's list of banned chemicals and pesticides comprises 195 items, while New Zealand's comparable list of banned substances comprises 27 items.
- A similar ban on the importation into the EU of products associated with deforestation within a fixed timeframe (likely to be after 31 December 2020) – the responsibility for ensuring that products are free from any association with deforestation will lie with the producer; this responsibility will also extend to the entire supply chain of the product, including in third countries.

- The EU is investigating the feasibility of Carbon Border Adjustment Mechanisms (CBAMs), effectively an import duty on the embedded CO_2 equivalent (CO_2-e) contained by a product, based on a life cycle analysis – while it is at present considered highly unlikely that CBAMs will be applied to agricultural or primary industry products, this may not necessarily remain the case in the future.
- Legislation aimed at eliminating greenwashing, or the practice of making false, misleading or unsubstantiated claims around the environmental benefits of a product or service, will compel New Zealand producers to comprehensively substantiate the often-repeated claims of New Zealand products and producers being amongst the most sustainable or carbon-efficient in the world.
- The EU is in the early stages of developing a Sustainability Labelling Scheme that will apply to all products sold in the EU, irrespective of whether these are imported or domestically produced. The Scheme will evaluate products according to their performance against a number of sustainability metrics in the fields of climate change mitigation, water quality, air quality, soil quality, biodiversity conservation and the circular economy.

The final aspect of the paper focuses on the organic market in the EU and the opportunities that might exist for certified organic products from New Zealand to enter European markets in light of both emerging EU legislation and the NZ-EU FTA.

The EU market for organic food products increased by 12%, reaching $58.6 billion in 2021. Germany represents the largest market, followed by France. Denmark, Switzerland and Sweden have the highest per capita spending on organic products.

To quantify the scale of export opportunities that might exist for organic exports from New Zealand to the EU, OANZ commissioned modelling of the potential effects of emerging EU policies on the 'untapped potential' for increased NZ exports into the EU in a number of case study products. The two case study sectors selected for this modelling are wine and dairy.

The modelling was undertaken by TRADE Research Advisory (Pty) Ltd (hereafter Trade Advisory), a specialist research company operating in the fields of international trade and economic development. Trade Advisory has developed a methodology to identify realistic export opportunities for countries, regions and industry sectors or individual companies.

The approach adopted by Trade Advisory in this instance was to model export potential for key organic products in the wine and dairy sectors based on an increasing percentage of New Zealand's potential exports to the EU being (hypothetically) converted from conventional to certified organic products.

Based on the outcomes of this modelling, it would appear that for certain wine and dairy products, an increase in the demand for certified organic imports into European markets, driven in part by emerging EU legislation, can translate into potential opportunities for New Zealand organic producers that equal, or in some cases exceed, the total value of current New Zealand exports to the EU, both conventional and organic.

Introduction

Context

Trade agreements recently concluded by the New Zealand government, and those currently under negotiation, increasingly include clauses related to environmental concerns such as greenhouse gas emissions, climate change, water quality and biodiversity loss. These agreements equally include content related to positive social outcomes, for example the protection of the rights of Indigenous populations, the protection of workers' rights, gender equality or the elimination of forced or child labour.

Modern environmentally and socially oriented trade policies are becoming increasingly normalised within bilateral and multilateral trade agreements. This is also true for the global trade system governed by the World Trade Organisation (WTO), as the organisation reforms to reflect the current economic environment and the challenges facing the global community.

The European Union (hereafter referred to as the EU) is one of the most prolific drivers of reform within the WTO, and is also increasingly active in driving environmental and social outcomes in international trade policies.[1] As the EU's latest trade policy states, "trade is one of the EU's most powerful tools".[2] The EU makes no secret of its objective of utilising trade to support its domestic sustainability agenda, as defined in the European Green Deal.

At the end of 2020, New Zealand exported NZ $3.81 billion in goods to the European Union. The EU is New Zealand's fourth largest food and beverage export market, accounting for 6.3% of New Zealand's total global exports.[3] By 2035, the value of all New Zealand exports is expected to increase by $1.8 billion a year, thanks to the recently-concluded New Zealand-European Union Free Trade Agreement (hereafter referred to as the NZ-EU FTA).[4]

All of New Zealand's major primary export sectors are likely to be affected by the EU Green Deal.

The Green Deal sets out a comprehensive framework of policy instruments for achieving the goal of carbon neutrality by 2050. The plan sets out the framework for achieving significant environmental and climate goals by transitioning to a modern, resource-efficient and competitive economy. The Farm to Fork Strategy is at the heart of the Green Deal. This Strategy's policy initiatives set out to transition the entire food chain toward a truly "fair, healthy and environmentally friendly food system".[5]

By focusing on global engagement, the EU aims to drive change through both international trade agreements and domestic legislative frameworks within the Union and its international

[1] https://trade.ec.europa.eu/doclib/docs/2021/april/tradoc_159544.1329_EN_02.pdf
[2] https://trade.ec.europa.eu/doclib/docs/2021/april/tradoc_159541.0270_EN_05.pdf
[3] https://www.mfat.govt.nz/en/trade/mfat-market-reports/market-reports-europe/new-zealand-eu-trade-report-for-the-year-ending-june-2020-24-september-2020/
[4] https://www.rnz.co.nz/news/political/470119/new-zealand-and-european-union-secure-historic-free-trade-deal
[5] https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en

trading partners. Given the conclusion in June 2022 of the NZ-EU FTA, the EU's ambitions in this regard are highly likely to hold significant implications for New Zealand's exports to the EU, particularly in a number of key primary sectors. Equally, the EU's agenda is likely to hold significant indirect implications for domestic policy development processes in Aotearoa.

The steps being taken by the EU to address environmental and social challenges through international trade deals pose a significant challenge for New Zealand's export sectors, not only directly in the context of the NZ-EU FTA and New Zealand's exports to the EU, but also due to the potential that exists for the EU's practices and regulation to become de facto global standards for sustainable trade, and to be adopted by New Zealand's other major trading partners such as the USA and China.

Furthermore, questions regarding the sustainability-related knowledge systems that underpin any such global trade standards or regulations, are of critical importance to Indigenous populations, who have their own localised environmental and scientific knowledge systems, which are often marginalised or ignored in international trade agreements. As a consequence, this paper will include discussions of the role that Indigenous Māori knowledge systems, including those related specifically to organic production in various primary sectors, do and should play in the implementation of the NZ-EU FTA.

New Zealand's response to EU trade deal shifts will need to consider the significant interests of Māori as protected under Te Tiriti o Waitangi and He Whakaputanga o Te Rangatiratanga o Nu Tireni. Historically excluded from trade agreement negotiations at a national level, Māori representatives have advocated tirelessly to assert their right to be actively and meaningfully involved in the establishment of Aotearoa New Zealand's international trade-related rules and policies, on the basis that international trade agreements hold an inherent risk of restricting the obligations of the Crown (the New Zealand government) under te Tiriti to protect Māori rights and interests.

In December 2020, the Crown reached an agreement with Māori to set up an entity, Ngā Toki Whakarururanga, in order to ensure Māori have an effective and genuine influence on trade negotiations that is independent and outside of Government interests.

Ngā Toki Whakarururanga is a timely development, particularly in light of the emerging EU trade agenda and the emergence of policies such as the EU Green Deal and the Farm to Fork Strategy. Māori understanding of environmental sustainability can benefit the whakapapa relationships between tāngata whenua (people of the land), Ranginui (Sky Father) and Papatūānuku (Earth Mother). The organics sector in Aotearoa includes Te Waka Kai Ora (the National Māori Organics Authority), which has developed the Hua Parakore Indigenous Māori accreditation system for the cultivation of Kai Atua (Pure Foods).

The EU Farm to Fork Strategy, along with other emerging policies both in the EU and in other major trading partners, might offer opportunities to uplift and amplify the already existing environmental sustainability strategies inherent in the kaupapa (programme) of Hua Parakore.

Understanding that emerging EU policies (along with similar ones that might be developed in response by other major trading partners) might compromise New Zealand's access to international markets, in the event that it proves unable to achieve the increasing environmental and social obligations inherent in these policies, the Our Land and Water National Science Challenge posed two important questions:

- What is the potential exposure of the land-based sectors to disruption from environmental commitments made in trade agreements?
- How could land-based production sectors prepare for this possibility?

Objectives

This paper seeks to assist in answering these questions by exploring the potential effects of the initiatives set out in the EU's Green Deal, with particular emphasis on the Farm to Fork Strategy, on New Zealand's primary export products. The research conducted for the paper focuses on two primary case studies, namely the dairy and wine sectors, to interrogate the potential effects of emerging EU policies on New Zealand's exports into the region.

In particular, this project seeks to answer the following questions:

1. What are the metrics and desired outcomes within current and emerging EU policies and regulations that might affect New Zealand's primary sector exports into the region?
2. What are the principal points of difference between EU and NZ policies, particularly regarding environmental performance?
3. What role might the increased organic production in New Zealand play in maintaining or enhancing trade access for exporters into the EU, and in preparing New Zealand exporters for climate, biodiversity and environmental policies that other trading partner nations might implement in the future?
4. What is the impact on Indigenous organics and Hua Parakore in New Zealand, and what is the Treaty obligation that the Government must uphold for mātauranga Māori and the Hua Parakore as outlined in WAI 262?
5. What effect might the increased organic production have in terms of the economic, employment and environmental performance of New Zealand's primary sectors, with specific reference to identified case studies, namely the dairy and wine sectors?

The principal hypotheses of the project include the following:

- A shift to environmentally responsible production, including organic production, in New Zealand's principal export-oriented primary sectors, will lead to improved market access into the EU, following the implementation of EU policies such as the Farm to Fork Strategy and Carbon Border Adjustment Mechanisms (CBAMs).
- A shift to environmentally responsible production in New Zealand will lead to improved market access in other key export markets, as these countries develop similar standards in response to the EU.

This project will also attempt to develop a framework for future analysis of the implications for key New Zealand export industries of the development of environmental or social regulation in key foreign markets. This framework will attempt to quantify the potential economic benefits to the New Zealand economy of a shift to more environmentally responsible production, including organic production.

The project is intended to support the development of a primarily economic rationale for a transition to more environmentally responsible production processes, including organic production, in New Zealand's major export-oriented primary sectors. For the purposes of this project, this rationale will focus primarily on the retention and potential improvement in market access for these export products into the EU.

Chapter 1: Background and Context

International Trade Rules

International trade is one of the principal global expressions of international cooperation. Over the course of several decades, the global push for trade liberalisation has expanded market access for exporters and increased the availability of goods and services for consumers. At the same time, however, this globalisation has also increased pollution, accelerated natural resource depletion and biodiversity loss, compromised the sovereignty of Indigenous peoples, and fuelled the climate crisis.

The rapidly accelerating need for enhanced environmental protection and regulation, and the speed at which such regulation needs to be created, stems from the fact that businesses have, to a significant extent, managed to successfully externalise the adverse environmental and social impacts of their activities, and of the consumption of the goods and services they produce, onto society. These negative externalities have justified government intervention and the need for appropriate regulation, including those that establish technical specifications to address environmental and social degradation.

To avoid the possibility of environmental and social provisions negatively affecting international trade, the General Agreement on Tariffs and Trade (GATT) and General Agreement on Trade in Services (GATS), along with the global body governing international trade, the World Trade Organisation (WTO), attempt to use the process of trade liberalisation to:

- increase demand for environmentally (and socially) beneficial products and services, and
- improve access for products, services and technologies needed to reduce pollution, mitigate climate change and build greener economies.

By increasing demand for environmentally beneficial products and technologies, environmental policy can complement trade policy in supporting pollution-reduction efforts to be cost-effective and promote new ways of addressing environmental problems through innovation.[6]

GATT Article XX, on the subject of General Exceptions, provides two important exemptions from GATT rules to ensure that environmental measures are not applied arbitrarily or used as disguised protectionism.

> "*Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail,*

[6] https://www.wto.org/english/res_e/publications_e/brochure_rio_20_e.pdf

or a disguised restriction on international trade, nothing in this Agreement [the GATT] shall be construed to prevent the adoption or enforcement by any contracting party of measures:

(b) necessary to protect human, animal or plant life or health; …

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption. …"[7]

Over the past several decades, an increasing understanding of the effects of climate change, biodiversity loss and other negative environmental and social outcomes has resulted in increased use of international trade to mitigate these effects. In particular, the inclusion of environmental provisions in bilateral and regional trade agreements has helped to harmonise regulation in this area. More importantly, ongoing dialogue regarding these issues in various international trade-related fora has served to increase transparency and support efforts to mitigate or avoid negative environmental outcomes.

While the prevalence of environmental provisions in bilateral and multilateral trade agreements has increased markedly, it remains the case that no one-size-fits-all rule exists to govern the manner in which these provisions, and the domestic policies that accompany them, are designed. Each country faces distinct challenges – political, environmental, social and financial – making the need for transparency when negotiating trade agreements critical.

Several instruments exist to govern the inclusion of environmental regulations and standards in international trade agreements. These make up a WTO toolkit for trade and the environment, which assists countries in minimising the risk of tensions during the negotiation of trade agreements and ensure that trade liberalisation continues alongside environmental protection. These instruments include the following WTO agreements and structures:

1. Agreement on Technical Barriers to Trade (TBT)
2. Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures
3. Agreement on Subsidies and Countervailing Measures (SCM)
4. Agreement on Agriculture
5. Trade and the Environment Committee

1. Agreement on Technical Barriers to Trade

The TBT Agreement seeks to ensure that environmental requirements, including regulations, standards, testing and certification procedures, are non-discriminatory and do not create unnecessary obstacles to trade. It urges WTO members to use international standards as a basis for their own regulations and standards and to recognise that environmental requirements can create trade barriers when they differ from country to country.[8]

[7] https://www.wto.org/english/tratop_e/envir_e/envt_rules_exceptions_e.htm
[8] https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm

2. Agreement on the Application of Sanitary and Phytosanitary Measures

The WTO Agreement on Sanitary and Phytosanitary Measures allows members to adopt food, human, animal and plant health safety regulations. SPS measures can be created for environmental purposes (as opposed to solely for biosecurity ones), provided the risk assessment is based on science and applied only to the extent necessary to protect human, animal or plant life or health. The objective of the Agreement is to facilitate the creation of trade-restrictive measures in the lightest, most non-discriminatory and transparent ways possible.[9]

3. Agreement on Subsidies and Countervailing Measures

This Agreement is an essential WTO instrument governing (largely domestic) government support programmes. It defines the concept of a subsidy, establishes the conditions under which WTO members can make use of subsidies, and regulates the remedies (such as countervailing measures) that may be taken against non-WTO-compatible subsidies.

The SCM Agreement aims to balance subsidies and countervailing measures to avoid trade distortion. Under WTO rules, domestic industries should not receive subsidies to create an unfair advantage over foreign goods. At the same time, the risk exists that countervailing measures to offset such subsidies might create a further obstacle to free and fair trade. Provided certain rules are respected, however, the Agreement provides WTO members with the opportunity to support and subsidise, as appropriate, the development of environmentally beneficial industries and technologies.

This Agreement applies primarily to industrial products and services, and its application in commodity-type agricultural products is particularly complex. Historically, global trade in agriculture has been significantly constrained by trade-distorting measures such as domestic subsidies, tariffs and quotas, based on a range of justifications and circumstances, including food security, employment retention and the lobbying power of domestic agricultural producers.

4. Agreement on Agriculture

The WTO uses ‘boxes’ to classify trade subsidies by their effects on trade. The colour of the box represents a traffic light system where green means go, yellow means caution and red means forbidden. (There also exists a blue box for production-limiting subsidies.)

The Agreement on Agriculture contains a category of permissible Green Box environmentally focused subsidies that are considered as holding a zero-to-low risk of creating trade distortions. Green Box subsidies require government funding and might

[9] https://www.mfat.govt.nz/assets/Trade-agreements/EU-NZ-FTA/Information-package/New-Zealand-and-EU-approaches-to-trade-in-sanitary-and-phytosanitary-matters.pdf

include direct income support for farmers, provided such support does not result in transfers from consumers or price support to producers.

These exemptions are intended to enable governments to capture positive environmental externalities and pursue environmentally beneficial policies in agriculture.[10]

5. Trade and the Environment Committee

This Committee is a standing forum dedicated to dialogue amongst WTO members on the relationship between trade and environmental measures. It oversees the means by which the multilateral trading system, including specific WTO mandates, promotes the UN's 2030 Agenda and the Sustainable Development Goals.

While each of the trade tools described above helps to establish norms and baselines, the increasing complexity of environmental and climate crises, and the speed at which countries are required to respond to these crises, mean that environmental requirements hold significant (and increasing) potential to reduce international market access.

The EU appears intent on spearheading the global transition to a green economy through a range of measures, including its development and application of trade policy. The EU's current trade agenda is titled Open Strategic Autonomy. It emphasises the EU's ability to make choices and shape the world around it through leadership and engagement, while promoting its social and environmental values.[11]

> Tackling climate change and other environmental challenges can only be done through openness, global engagement and cooperation. The EU will not win the fight against climate change by acting alone. In order to succeed, it is important to promote the understanding among our partners that the green transformation is not only a necessity in the medium term, but already constitutes smart economic policy today. The EU needs to leverage its openness and engage its partners, notably the biggest emitters and polluters, so that they contribute their fair share to climate change mitigation.[12]

In Aotearoa New Zealand, there is a need to apply that same openness, cooperation and understanding to the partnership established by the signing of Te Tiriti o Waitangi between Māori and the Crown.

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[10] https://www.wto.org/english/docs_e/legal_e/14-ag_02_e.htm#annII
[11] https://etui.org/publications/europes-open-strategic-autonomy
[12] https://trade.ec.europa.eu/doclib/docs/2021/february/tradoc_159438.pdf

Environment, Indigeneity and Free Trade

Indigenous peoples cannot be separated from their environments, as is evident in the term tāngata whenua, people of the land. Equally, Indigenous peoples cannot be excluded from the considerations of free trade agreements, as these agreements cover Indigenous territories, confiscated or otherwise. Since the establishment of the GATT and subsequently the WTO, Indigenous populations have opposed FTAs that perpetuate the ongoing erasure of Indigenous rights and environmental protections. The failure of FTAs to protect the cultural and intellectual property rights of Indigenous peoples have been well documented and lie at the heart of the WAI 262 claim to the Waitangi Tribunal.[13]

A further ongoing issue is the patenting of life forms and the creation of genetically modified organisms (GMOs), practices that are often promoted and enabled by FTAs, and that are considered by many Indigenous communities to be biopiracy.[14] FTAs have been critical economic and political tools that have enabled the expansion of global agribusiness and food systems, at the expense of small-scale producers from the developing South, and of Indigenous peoples and the cultural landscapes in which their traditional food systems are located. Globalisation is a tool of capitalism that is inextricably linked to ongoing everyday colonisation.

Issues of equity, inclusivity, access and rights to benefit-sharing for Indigenous peoples, are at the heart of Indigenous concerns pertaining to FTAs. One might ask: in what way are Indigenous rights to lands and territories upheld in FTAs, and how do Indigenous knowledge systems and values help shape FTAs?

FTAs have been applied as a colonising tool, as indicated by the WAI 2522 claim relating to the Trans-Pacific Partnership Agreement. In this regard, the Waitangi Tribunal:

> *recognised that this [claim] was likely to arise from 'long standing frustration that, in the negotiation of international treaties, the Māori perspective is at the margins, required to react as best it can to timeframes and an agenda set by the Crown (and others)'.*[15]

Māori Environmental Knowledge Systems and Free Trade

The NZ-EU FTA provides an opportunity to collaborate with and promote Māori environmental knowledge systems as valid and legitimate knowledge systems to understand the state of the environment. Mātauranga Māori (Māori knowledge) is a central element of the research, science and innovation landscape in Aotearoa New Zealand, with the Vision Mātauranga[16] policy a central pillar in the science and knowledge ecosystem. Māori values

[13] Te Waka Kai Ora. 2022. *He Kai te Rongoā, he Rongoā te Kai: Report into the Evidence Presented by Te Waka Kai Ora to the Waitangi Tribunal's Inquiry to the Wai 262 Claim*. Papawhakaritorito Trust: Kaitoke.
[14] Shiva, V. 1998. *Biopiracy: The Plunder of Nature and Knowledge*. Green Books: Devon.
[15] https://waitangitribunal.govt.nz/news/tribunal-releases-report-on-the-cptppa/
[16] Rauika Māngai. 2020. *A Guide to Vision Mātauranga: Lessons from Māori Voices in the New Zealand Science Sector*. Wellington, NZ: Rauika Māngai

and environmental performance indicators[17] are a part of the environmental monitoring systems in Aotearoa New Zealand, and are given legitimacy through legislation, Iwi Environmental Management Plans and across environmental policy. The question we ask is: how will mātauranga Māori (Māori knowledge) be used to understand the state of the environment, particularly in relation to the labelling measures and other environmental provisions currently under development by the EU?

Māori Organics – Hua Parakore and Free Trade

Māori values, frameworks and principles have much to contribute in understanding how food production contributes to climate mitigation, water impacts, air impacts, biodiversity impacts, circular economy and social metrics – all measures that the EU promotes. Of relevance to this project is the scope of organic production and the Hua Parakore system as a Māori knowledge framework for Māori organics both in domestic and export markets. We ask what influences and impacts the Farm to Fork Strategy might have on the already existing Hua Parakore (Māori organic) system?

The Hua Parakore system was developed by Te Waka Kai Ora through a three-year kaupapa Māori (Māori approach) research project to develop a Māori organic verification system. It is the realisation of a flaxroots-driven research project with Te Waka Kai Ora regional communities. It is understood to be the first Indigenous organics verification and validation system in the world.

From 2008 to 2011, Te Waka Kai Ora engaged with Māori organic growers, rongoā (natural Māori medicines) practitioners, kaitiaki (Māori place-based environmental guardians), whānau and hapū, to understand what constitutes a Hua Parakore product or a product free from waste and harm – essentially a Māori organic product. The outcome of the kaupapa Māori study[18] was the development of the Hua Parakore system, comprising six key kaupapa or values. These Hua Parakore values and principles uplift the mana of Ngā Atua (deities) and enhance Māori soil and kai sovereignty.

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[17] Tipa, G, Harmsworth, G, Williams, E, & Kitson, J. 2016. Integrating mātauranga Māori into freshwater management, planning and decision making. In Jellyman, P, Davie, T, Pearson, C, & Harding, J (Eds), *Advances in New Zealand Freshwater Science*. New Zealand Freshwater Sciences Society & New Zealand Hydrological Society.
Reid, J., Barr, T., & Lambert, S. 2013. Indigenous Sustainability Indicators for Māori Farming and Fishing Enterprises: A Theoretical Framework. The NZ Sustainability Dashboard Research Report 13/06. Published by ARGOS. Retrieved from www.nzdashboard.org.nz.
Harmsworth, G. & Awatere, S. 2013. Indigenous Māori knowledge and perspectives of ecosystems. In J.R. Dymond (Ed.), *Ecosystem Services in New Zealand – Conditions and Trends* (pp. 274-286). Lincoln, New Zealand: Manaaki Whenua Press.

[18] Hutchings, J., Tipene, P., Carney, G., Greensill, A., Skelton, P., & Baker, M. 2012. Hua Parakore, an indigenous food sovereignty initiative and hallmark of excellence for food and product production. *MAI Journal*, 1(2): 131-145.

Hua Parakore Framework

Hua Parakore Framework

WHAKAPAPA Hua Parakore is a connection to the natural environment.

WAIRUA Hua Parakore maintains peace and safety.

MANA Hua Parakore is a vehicle for social justice.

MĀRAMATANGA Hua Parakore is a source of knowing and enlightenment.

TE AO TŪROA Hua Parakore maintains natural order.

MAURI Hua Parakore maintains healthy soils, kai and people.

Hua Parakore is a kaupapa Māori process for verifying and validating a pure product, such as kai and traditional medicines. It can also be understood as a system for verifying a Māori organic product. It is led by Māori for Māori. Hua Parakore production and cultural practices are free from genetic modification (GM), nanotechnology, chemicals and pesticides, and ensure product purity and integrity that is congruent with Māori cultural practices. It is based on the infinite wisdom of tūpuna-based (ancestral) knowledge and is located and understood within the paradigm of mātauranga Māori (Māori knowledge). This aligns with the integration of Māori values into environmental management in Aotearoa New Zealand.

Chapter 2: The European Green Deal

The EU holds an ambition for Europe to be the first climate-neutral continent by 2050 by pursuing economic growth that benefits the environment and the climate. The goal of the EU in this regard is to produce a cleaner environment, improve and increase biodiversity, improve energy affordability and make transportation smarter, so as to contribute to a better quality of life for all Europeans. The overall roadmap for achieving these objectives is the European Green Deal.

The Green Deal is an umbrella of policies comprising strategic initiatives in all sectors of the economy, with significant changes to notable industries, transportation, energy, building and agriculture. Financial and legal measures back key action areas that make up the Green Deal.[19]

The European Commission has pledged to facilitate €1 trillion of financial support, across multiple funding mechanisms, for the Green Deal from 2020 to 2030. Half of this amount will come from the EU's multiannual budget and the EU Emissions Trading System.[20] The remainder will be mobilised through specific programmes such as the InvestEU programme, which combines public and private sector funding, and programmes that support investment in innovations that contribute to the Green Deal.[21]

It would appear that the Green Deal runs a significant risk of increasing protectionism on the part of the EU and reducing the scope for free trade between the Union and its trading partners, as the Deal includes policies aimed at protecting European industries and businesses from competition arising in countries with lower environmental standards. Conversely, however, it might be argued that these policies are necessary to ensure a level playing field and prevent carbon leakage, which could undermine the EU's efforts to achieve its climate goals.

Irrespective of these and other debates engendered by the Green Deal, it is clear that the EU remains intent on driving global change in areas related to environmental protection, social development and climate action. In light of this ambition, exporters to the EU will, over the next several years, need to remain aware of and compliant with a plethora of regulatory changes. In addition, these exporters are likely to face significant changes in the preferences of European consumers due to the growing awareness on the part of these consumers of the ecological, social and carbon footprints attached to products imported into the EU.

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[19] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_17
[20] https://www.nortonrosefulbright.com/en/knowledge/publications/c50c4cd9/the-eu-green-deal-explained
[21] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal_en

GREEN DEAL ACTION AREAS

CLIMATE

Targets climate neutrality by 2050 and a GHG reduction target of at least -55% by 2030, compared to 1990 GHG levels.

Toolkit: European Climate Law, European Climate Pact, AdaptationStrategy, Climate Diplomacy, EU at COP26 Climate Change Conference, Fluorinated Greenhouse Gases and Protecting the Ozone Layer.

ENERGY

Decarbonising the EU's energy system through renewable sources and better interconnection to meet 2030 and 2050 climate targets.

Toolkit: Energy System Integration Strategy, Hydrogen Strategy, Offshore Renewable Energy Strategy, Renovation Wave, Methane Strategy, and Trans-European Networks for Energy.

TRANSPORTATION

Transform the EU transport sector by achieving a 90% reduction in transport-related greenhouse gas emissions by 2050.

Toolkit: Sustainable and Smart Mobility Strategy and Connecting Europe Express.

FINANCE & REGIONAL DEVELOPMENT

The European Commission has pledged to mobilise at least €1 trillion in sustainable investments over the next decade.

Toolkit: NextGenerationEU, Recovery and Resilience Facility, Just Transition Mechanism, NextGenerationEU Green Bonds, Sustainable Finance, and Green Transition Reform Support.

INDUSTRY

Strategies to reduce their carbon footprint by providing affordable, clean technology solutions and developing new business models.

Toolkit: Industrial Strategy, European Battery Alliance, European Raw Materials Alliance, Sustainable Batteries, European Clean Hydrogen Alliance, and Circular Plastics Alliance.

ENVIRONMENT & OCEANS

Protection of biodiversity and ecosystems, reducing air, water and soil pollution, moving to a circular economy, improving waste management and ensuring the sustainability of blue economy and fisheries sectors.

Toolkit: Biodiversity Strategy for 2030, Zero Pollution Action Plan, Circular Economy Action Plan, Waste and Recycling, Chemicals Strategy for Sustainability, Sustainable Batteries, Organic Action Plan, Farm to Fork Strategy, 8th Environment Action Programme, Common Fisheries Policy, and Blue Economy Strategy.

AGRICULTURE

Ensure food security in the face of climate change, reduce the environmental footprint of the EU food system, strengthen the food system's resilience, and lead a transition towards competitive sustainability from farm to fork.

Toolkit: Farm to Fork Strategy, EU Biodiversity Strategy for 2030, EU Bioeconomy Strategy, Organic Action Plan, Sustainable Use of Pesticides, Circular Economy Action Plan, Zero Pollution Action Plan, Industrial Strategy, European Battery Alliance, European Raw Materials Alliance, and Circular Plastics Alliance.

Green Deal Initiatives Impacting New Zealand's Land-based Sectors

Several policies and measures within the Green Deal's toolkit will impact New Zealand's primary production sectors. As EU domestic policies and legal frameworks take shape over the next several years to legislate Green Deal actions, their effects on imports will become more significant.

Agriculture is a key element of the Green Deal due to its impacts on the environment and climate. The production, processing, retailing, packaging and transportation of food all contribute significantly to air, soil and water pollution and GHG emissions, and profoundly impact biodiversity. Although the EU's transition to sustainable food systems has started in many areas, food systems remain one of the key drivers of climate change and environmental degradation.

As environmental degradation, climate change and biodiversity loss are all global issues, the EU endeavours to collaborate with its international trading partners to build consensus regarding the development of a global sustainable food system. At the same time, the EU seeks to position Europe's domestic food system as the global standard for sustainability.

Policy structures that support the transition to environmentally responsible and climate-friendly agriculture in the EU and that will have the greatest impact on New Zealand's land-based export sectors include the following:

- Farm to Fork Strategy
- EU Biodiversity Strategy for 2030
- EU Bioeconomy Strategy
- Circular Economy Action Plan
- Zero Pollution Action Plan

Behind each strategy and plan lie additional and mutually supportive measures, plans, texts and actions that create a policy framework to support the execution of the Green Deal.

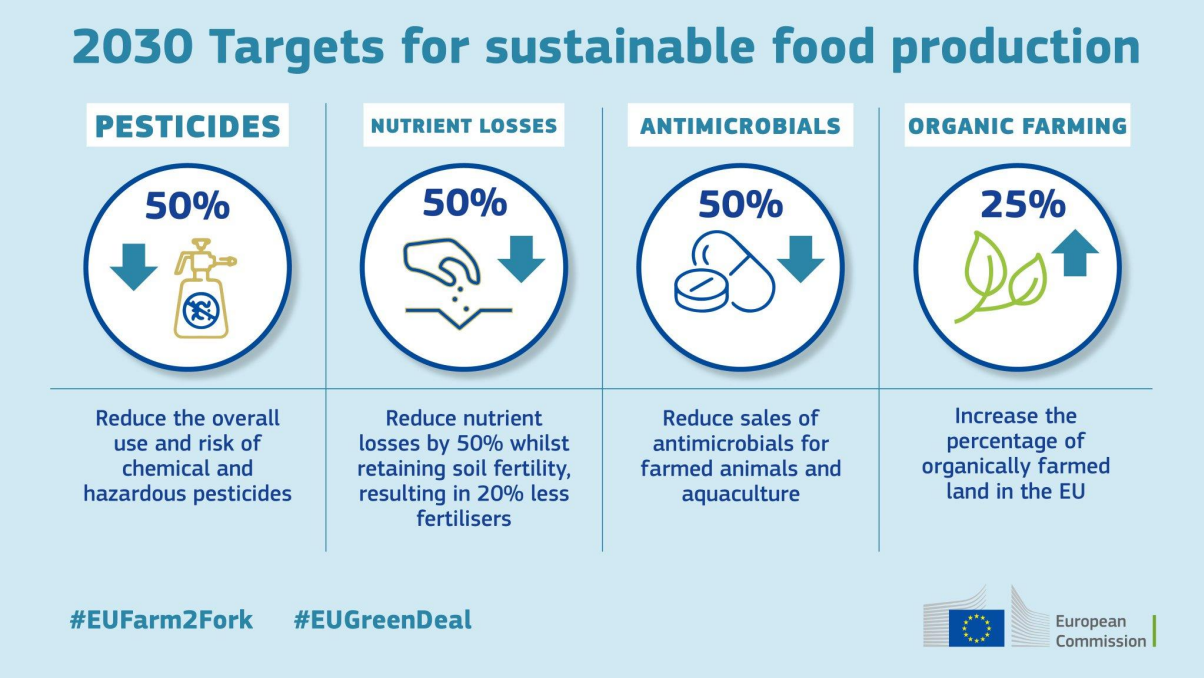
Farm to Fork Strategy

The EU's Farm to Fork Strategy (F2FS) aims to reduce the environmental and climate footprint of the continent's food production and consumption system. The strategy "*sets out a plan to achieve food security and citizens' health through access to sufficient, nutritious, sustainable food, and preserve the affordability of food while generating fairer economic returns for everyone*."[22] It is recognised as the pathway to Europe's future food system.

[22] https://food.ec.europa.eu/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf

The Farm to Fork Strategy proposes to:

- Reduce the use of chemical pesticides and fertilisers.
- Increase organic farming.
- Reformulate processed food.
- Change food packaging materials.
- Introduce new food labelling rules to support sustainable agriculture.



Source: European Commission

The Strategy aims to reward operators in the food production chain who have already undertaken a transition to sustainable practices, enable this transition for other participants, and create additional opportunities for food businesses.

The Strategy establishes a number of specific targets for sustainable food production by 2030, as follows:

1. Reduce by 50% the overall use and risk of chemical pesticides and reduce by 50% the use of more hazardous pesticides.
2. Reduce nutrient losses by at least 50% while ensuring no deterioration in soil fertility; reduce fertiliser use by at least 20%.
3. Reduce sales of antimicrobials for farm-fed animals by 50%.
4. Achieve at least 25% of the EU's agricultural land under organic farming and a significant increase in organic aquaculture.

One of the flagship initiatives for the Farm to Fork Strategy is the development of a legislative Framework for Sustainable Food Systems (FSFS), to accelerate the transition to sustainable food systems across Europe. This Framework will consolidate all food-related policies in the EU. It is intended to be adopted by the European Commission by the end of 2023.

Another key initiative within the FSFS is the Sustainability Labelling Framework, which will apply to all imports into the European Union. By 2024, the Commission intends to develop criteria for a single EU sustainability label for all food products, domestic and imported. The label will cover nutritional, climate, environmental and social aspects of food production.

Sustainable Use of Pesticides

In June 2022, the European Commission adopted proposals for a new Regulation on the Sustainable Use of Plant Protection Products to support the Farm to Fork and Biodiversity Strategies. These proposals aim to reduce the environmental footprint of the EU's food system and help mitigate economic losses arising from climate change and biodiversity loss.

The principal elements of the new Regulation include:

- Legally binding targets at the EU level to reduce by 50% the use and the risk of chemical pesticides and the use of the more hazardous pesticides by 2030 (with EU member states setting national reduction targets within defined parameters to ensure that the EU targets are achieved).
- Environmentally friendly pest-control measures to ensure that farmers and other professional pesticide users practise integrated pest management (IPM), an environmentally friendly system of pest control that focuses on pest prevention and prioritises alternative pest control methods, with chemical pesticides only used as a last resort.
- A ban on all pesticides in sensitive areas, including urban green areas such as public parks or gardens, playgrounds, recreation or sports grounds, public paths, protected areas, and any ecologically sensitive area to be preserved for threatened pollinators.

Other key measures include requiring member states to set positive targets to increase the use of non-chemical pest control methods and requiring farmers and other professional users of pesticides to obtain independent advice on alternative methods to ensure greater uptake of non-chemical pest control methods.

The Sustainable Use of Pesticides (SUD) Directive (Directive 2009/128/EC) creates a framework for the implementation of national action plans on the sustainable use of pesticides. It promotes the use of Integrated Pest Management and alternative approaches or techniques, such as non-chemical pesticide substitutes, to reduce the risks and effects of pesticide use. It also legally binds pesticide reductions throughout the European Union.

Member States have created National Action Plans to carry out the various tasks outlined in the Directive. The primary efforts concern training pesticide users, consultants and distributors, inspecting pesticide application equipment, banning aerial spraying, limiting the use of pesticides in sensitive areas, and educating the public about the dangers of pesticides. Member states report on the implementation of their action plans to the European Commission.

Organic Action Plan

Central to the Farm to Fork Strategy is the Organic Action Plan. While the Farm to Fork Strategy sets a target of at least 25% of the EU's agricultural land under organic farming by 2030, the Organic Action Plan is intended to help EU Member States achieve this target.

The EU endorses organic production as a sustainable agricultural system that respects the environment and animal welfare and includes all other stages of the food supply chain. It considers organically produced food to be of high quality and hold low environmental impacts. Organic production uses energy and natural resources responsibly, promotes animal health and contributes to enhancing biodiversity, ecological balance and water and soil quality.[23] As such, it plays an essential role in developing a sustainable food system.

The EU's emphasis on organic farming is clearly demonstrated by its goal of 25% of agricultural land under organic farming by 2030. This significant target highlights the EU's ambition to implement at large scale a resilient and environment-friendly farming system. The EU's organic strategy is grounded in a holistic framework to ensure that organic food is normalised for consumers. Through this framework, Member States will design their agriculture strategies in compliance with the Common Agricultural Policy (CAP) and with financial support from the European Agricultural Guarantee Fund.[24]

The Organic Action Plan is designed to operate by empowering CAP National Action Plans. Member States will create national policies that improve public awareness and demand for organic food. The EU will help Member States to overcome technical gaps in organic farming by sharing research and introducing innovation. Improved information sharing on organic production, marketing and trade will form part of the strategy. The EU plans to stimulate organic markets through organic food promotion policies, green public procurement, promotional activities to enhance consumer trust, and increased awareness of organic food through the promotion of the EU organic logo.

At the same time, the EU plans to encourage farmers to switch to organic farming by offering financial support for the conversion and maintenance of organic farming methods through the CAP. New organic regulations will also simplify production rules and phase out several exemptions. Similarly, robust inspection systems will be maintained by Member States to ensure product quality.

Small farmers will be able to participate in the initiative through the implementation of group organic certification systems. Research, innovation and education will be disseminated to farmers to ensure that standards are met, and issues such as contamination are minimised. The EU strategy recognises the necessity for a strong focus on education and research, as knowledge is currently one of the primary limiting factors in organic production.

[23] https://agriculture.ec.europa.eu/farming/organic-farming/organics-glance_en
[24] https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-funds_en

The EU's Biodiversity Strategy 2030 will also be supported by the positive environmental effects of organic farming. Other frameworks and strategies that will benefit from increased levels of organic farming include the Green Infrastructure Communication and Soil Thematic Strategies, the Water Framework Directive and the National Emission Ceiling Directive. The organic policies of the EU will also be integrated with other policy goals as relevant.

The Farm to Fork Strategy will collaborate with both producers and consumers of organic products. Member States' national policies will address issues such as the simplification of complicated rules that hinder small farmers' access to organic schemes, fraudulent behaviours that negatively impact the reputation of organic farming, nutrient pollution, and the recycling of organic wastes. New Zealand food producers are likely to gain increasing benefits from complying with the standards included in this holistic approach to organic farming.

The most prominent methods for increasing organic production include:

- Supply chain interventions.
- A focus on food security.
- The elimination of environmental risks associated with chemically intensive farming.
- The creation of healthier food supply and demand systems with a minimal economic impact on producers and consumers.

Biodiversity conservation and regeneration are examples of important environmental benefits that can be achieved alongside a strengthened farming system.

EU Biodiversity Strategy for 2030

The Biodiversity Strategy aims to protect nature and reverse ecosystem degradation across the continent.[25] It seeks to improve ecosystem resilience by reducing:

- The impacts of climate change.
- The incidence of forest fires.
- Levels of food insecurity.
- The incidence of disease outbreaks – including by protecting wildlife and combating illegal wildlife trade.

To achieve this, the Strategy establishes some clear goals, including that:[26]

1. At least 30% of the EU's land and 30% of the EU's sea will be legally protected. Member States will be responsible for designating additional land and sea areas to be protected.
2. The Commission will help Member States to implement and improve existing legislation to ensure no deterioration in conservation trends and status. In this regard,

[25] https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en#policy-areas
[26] https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380

30% of the species and habitats currently reflecting an unfavourable status should show improvement by 2030.
3. Declines in pollinator populations should be reversed. As indicated in the Directive on the Sustainable Use of Pesticides, the Commission will reduce the overall use of pesticides by 50% by 2030 and reduce the use of hazardous pesticides by 50% by 2030.
4. The extent of agricultural areas displaying high-diversity landscape features will increase by 10%.
5. A total of 25% of the EU's agricultural land is to be farmed organically by 2030.
6. Nutrient losses from agricultural land will be reduced by 50% while maintaining soil fertility. The aim is to reduce fertiliser use by 20% by 2030, within enforcement through environmental and climate legislation.
7. At least 3 billion trees will be planted in the EU by 2030, in conjunction with reforestation and afforestation efforts focused on agricultural lands. Additionally, cities with at least 20,000 inhabitants will be required to create Urban Greening Plans to provide migratory islands for birds and insects. The Forest Information System for Europe (a joint project between the Commission and other data providers) will monitor progress towards this goal.
8. All by-catch of threatened species of fish will be eliminated.
9. The free flow of 25,000 km of rivers will be restored by 2030 through the removal of obsolete barriers and the restoration of floodplains and wetlands.

The legal enforcement of the Strategy lies primarily with Member States. The Commission will work closely with Member States to improve compliance and assurance through collaboration with environmental agencies, auditors, police, prosecutors and the courts.

Additionally, the role of civil society has been strengthened through improved access for NGOs and individuals to national environmental courts. In 2020, the Commission established a new Knowledge Centre for Biodiversity, which collaborates with the European Environment Agency to foster public-private partnerships in funding the Biodiversity Strategy.

Circular Economy Action Plan

This Action Plan promotes a range of initiatives across the entire life cycle of products. It targets product design, promotes circular production processes, encourages sustainable consumption, and aims to minimise waste to ensure that resources used retain their value in the EU economy for as long as possible.[27]

The goals of the Circular Economy Action Plan include:

1. Developing a framework for sustainable product manufacturing in the EU by creating a legislative initiative regarding sustainable products, that implement Reduce, Reuse

[27] https://op.europa.eu/en/publication-detail/-/publication/8ea1b114-a639-11eb-9585-01aa75ed71a1/language-en/format-PDF/source-273510340

and Recycle principles in production and consumption activities. For example, the Plan includes an increased focus on the 'right to repair' to increase the lifespan of products. Legislation in this regard will make repair manuals, spare parts and repair services available to purchasers. It will also place tighter controls on environmental claims used by product manufacturers and distributors.

2. Improving key product value chains and decreasing waste in high-impact sectors. Industries such as electronics, construction, plastics and packaging will be more tightly regulated to improve the lifespan and reusability of their products. Mandatory recycling and the standardisation of packaging materials will also help reduce waste.
3. Making circularity work for individuals, cities and regions. Increases in the effectiveness of circularity strategies will be achieved by investing in education and training systems to promote lifelong learning and social innovation. Member States will develop mechanisms to achieve EU-wide goals while ensuring direct benefits to their populations. Programmes that promote the transition to circular economies include the European Social Fund Plus programme, European Urban Initiative, Intelligent Cities Challenge Initiative and the Circular Cities and Regions Initiative. Stakeholders will be able to engage with these initiatives through the European Circular Economy Stakeholder Platform, which will help monitor progress using indicators such as consumption and material footprint.

Initiative on Substantiating Green Claims

As part of the Circular Economy Action Plan framework, the European Commission has proposed a ban on greenwashing.[28] Because greenwashing "ultimately leads to a less green economy", the Green Deal requires companies making green claims to "substantiate these against a standard methodology to assess their impact on the environment".[29]

Under the Unfair Commercial Practices Directive, the Commission has developed a list of product social and environmental characteristics regarding which manufacturers or distributors cannot mislead consumers.[30] These include:

- Making generic, vague environmental claims where the environmental performance of the product or trader cannot be demonstrated. Examples of such generic environmental claims include 'environmentally friendly', 'eco' or 'green', which suggest or create an impression of environmental performance.
- Making environmental claims regarding an entire product, on the basis of characteristics relating only to a certain aspect of the product.
- Displaying a voluntary sustainability label that is not based on a third-party verification scheme or not established by a public authority.[31]

[28] https://ec.europa.eu/commission/presscorner/detail/en/IP_22_2098
[29] https://ec.europa.eu/environment/eussd/smgp/initiative_on_green_claims.htm
[30] https://resource.co/article/european-commission-proposes-greenwashing-ban-and-new-consumer-rights
[31] https://ec.europa.eu/commission/presscorner/detail/en/IP_22_2098

Under the 2020 Circular Economy Action Plan, “the Commission will also propose that companies substantiate their environmental claims using Product and Organisation Environmental Footprint methods.”[32] In 2021, the Commission published the Understanding Product Environmental Footprint and Organisation Environmental Footprint methods to educate the public regarding Life Cycle Assessment (LCA) methodologies as a mechanism for measuring environmental performance and communicating the potential life cycle environmental impact of products.[33]

EU Bioeconomy Strategy

The EU Green Deal uses the Bioeconomy Strategy to accelerate progress towards a circular, low-carbon economy. The term bioeconomy means “using renewable biological resources from land and sea, like crops, forests, fish, animals and microorganisms to produce food, materials and energy.”[34]

The Strategy has five goals:

- Ensuring food and nutrition security.
- Managing natural resources sustainability.
- Reducing dependence on non-renewable resources.
- Limiting and adapting to climate change.
- Strengthening European competitiveness and job creation.

The Commission aims to achieve these goals by strengthening and growing bio-based sectors, promoting investment and securing markets. The Commission will fill funding gaps by launching a €100m Circular Bioeconomy Thematic Investment Platform. The private sector will be incentivised to invest in bio-based products, including biorefineries, while the public sector will establish regulatory frameworks. One of these regulatory frameworks will work toward transitioning from fossil-based materials to sustainable and biodegradable alternatives.

The Commission will also drive research that fuels private investment. The Commission plans to produce a regulatory report that identifies bottlenecks and enablers to improve bio-based innovation. It will analyse investment volumes, public information and best practices, and professional and industrial knowledge within the EU. It will also promote investment in new refineries, identify new investment opportunities and monitor the progress of investment projects.

The Commission will create standards that will be used to create labels and incentives, to improve the quality and visibility of bio-based products. These standards will be linked to the

[32] https://environment.ec.europa.eu/news/environmental-footprint-methods-2021-12-16_en
[33] https://ec.europa.eu/environment/eussd/smgp/pdf/EF%20simple%20guide_v7_clen.pdf
[34] https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/bioeconomy-strategy_en

environmental performance of products, with better-performing outcomes favoured. Product life cycle and environmental impact data will be collected and compared.

To rapidly roll out local bio-economies across member states, educational and technical training programmes covering the skills needed for the bioeconomy will be deployed. However, it will be up to member states to support the Strategy by developing national bioeconomy strategies. The Commission will strengthen the sustainability of bio-economies once they are established in every Member State by:[35]

- Sharing and improving knowledge of biodiversity and ecosystems, especially in forestry and farming systems.
- Supporting programmes in the field and enhancing the number of researchers working in relevant education and training projects.
- Monitoring sustainability progress through measures such as published research, recommendations and the collection of relevant scientific data.
- Promoting best practice in the field.
- Improving the conservation status of species and habitats, including marine habitats and life.
- Enhancing the benefits of biodiversity in primary production.
- Measuring progress through the number of established action plans, funded projects and knowledge-sharing efforts, and measuring improvements in the conservation status of species.

Zero Pollution Action Plan

The European Commission's conceptualisation of zero pollution covers air, water, soil and consumer products. The Commission's objective is to develop and maintain healthy ecosystems and living environments for all European citizens, and as part of this, the Zero Pollution Action Plan sets the following targets for 2030:[36]

- Reducing by at least 55% premature deaths caused by air-pollution-related health concerns.
- Reducing noise pollution disturbance in populations by 30%.
- Reducing threats to biodiversity due to air pollution by 25%.
- Reducing nutrient loss in agricultural lands by 50%; reducing the use of pesticides by 50%; reducing the use of hazardous pesticides by 50%; reducing antibiotic use in animal farming by 50%.
- Reducing plastic litter by 50% and microplastic release by 30%.
- Reducing total waste generation and municipal waste by 50%.

Furthermore, the Commission aims to improve air quality through projects that achieve the following outcomes:[37]

[35] https://op.europa.eu/en/publication-detail/-/publication/edace3e3-e189-11e8-b690-01aa75ed71a1/
[36] https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-zero-pollution-action-plan
[37] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021DC0400&from=DA

- Aligning air quality standards with World Health Organisation (WHO) recommendations and analysing knowledge and policy gaps for improving indoor air quality.
- Strengthening the ability of local authorities to address air pollution at source and improving noise pollution levels by improving tyre and transport vehicle standards.
- Phasing out coal as a heating source and replacing it with cleaner domestic heating sources or those sourced from neighbouring countries.
- Revising domestic wastewater treatment directives to implement permanent health-relevant parameters.
- Revising aquaculture guidelines to protect surface and groundwater sources while at the same time promoting Emissions Control Areas across EU seas.
- Revising EU-wide waste laws by 2025.
- Phasing out harmful chemicals from domestic and agricultural lands.
- Promoting enhanced collaboration between national authorities and civil agencies to facilitate the effectiveness of the Environmental Compliance and Governance Forum.
- Empowering environment enforcement agencies to check national and transboundary pollution levels.
- Encouraging the application across member states of existing inspections and other compliance checks and penalty clauses.
- Promoting technologies to monitor pollution levels and verification.
- Encouraging private investment in the environmental sector, especially by enabling the trade of carbon credits.
- Establishing institutions to raise funds for sustainable development, increase public funding and encourage entrepreneurs in their zero pollution efforts, for example, through the European Business Awards.
- Monitoring progress by enabling cross-agency monitoring and furthering technologies such as mobile phone applications to encourage public participation in monitoring processes.

Source: European Commission

Chapter 3: EU Border Measures Affecting NZ Primary Sector Exports

EU Green Deal strategies, including the Farm to Fork, Biodiversity, Zero Pollution and Circular Economy Strategies, provide the context for legally binding domestic and border measures that will take effect in the EU over the next several years. These measures are highly likely to directly affect New Zealand's exports to the EU.

The measures described in this Chapter are border control measures that will actively ban or restrict imports of food and agricultural products into the EU under certain conditions, or that (as in the case of Carbon Border Adjustment Mechanisms, or CBAMs) might impose additional costs on such products for them to be imported into the EU.

Import Ban on Products Containing Pesticides Banned in the EU

The EU's green sustainable strategy aims to reduce the excesses of agricultural inputs, fertilisers and pesticides to help address the climate change crisis. Pesticides are associated with toxic runoff, ecosystem deterioration and the deleterious decline of insect populations. Insects are essential for pollination, food web stability,[38] sustainable ecosystems and maintaining the recycling of vital nutrients found in detritivores.[39]

The EU's Chemical Strategy for Sustainability, which supports the Zero Pollution Plan and the Sustainable Use of Pesticides Strategy, in support of the Farm to Fork and Biodiversity Strategies, is likely to be supplemented by new legislation that will ban the importation of any products containing residues of 'most harmful' chemicals, that are (or will be) banned from domestic use in the EU.[40]

Pressure for this legislation comes primarily from civil society and consumer groups to stop the 'boomerang effect' of banned pesticides re-entering the EU through imported food. The EU strictly regulates (for example, through EU Pesticide Regulation EC 1107/2009) the domestic deployment of pesticides.[41] At the same time, however, certain EU Member States still produce and export many of the chemical pesticides or ingredients that are banned from use in the EU. The risk exists that European consumers can ultimately ingest these pesticides through conventional agricultural products that are imported into the EU from countries that allow the use of these chemicals.[42] This outcome contradicts several of the Farm to Fork Strategy's principal objectives, including improving the health of EU citizens

[38] https://resjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/een.12985
[39] http://eweb.furman.edu/~wworthen/bio230/mitigating.pdf
[40] https://environment.ec.europa.eu/strategy/chemicals-strategy_en
[41] https://www.pan-europe.info/sites/pan-europe.info/files/Report_Banned%20pesticides%20in%20EU%20food_Final.pdf
[42] https://www.pan-europe.info/sites/pan-europe.info/files/Report_Banned%20pesticides%20in%20EU%20food_Final.pdf

and the ambition of the EU to utilise trade to protect biodiversity and increase environmental welfare. As a result, many civil society actors continue to point out this double standard on the part of the EU.

EU rules allow Member States to refuse or restrict the sale of pesticides. Since 2021, Switzerland (although not an EU Member State) has prohibited the export of five especially harmful pesticides; further active components are expected to follow. In Germany, a Declaration confirming the government's intention to ban the export of harmful pesticides was issued in September 2022. In France, a law prohibiting the production, retention and export of pesticides outlawed by the EU came into effect in January 2022.

Countries that purchase pesticides have also taken action to combat unfair trade practices – Tunisia, Mexico, and the Palestinian National Authority have banned the importation of pesticides that are illegal in the producing or exporting nation.[43]

EU Pesticide Policies

Source: European Commission

[43] https://eu.boell.org/en/PesticideAtlas-imports-exports

The European Council has a comprehensive regulatory framework in place to control the use of pesticides. In June 2022, the European Commission adopted proposals for a new Regulation on the Sustainable Use of Plant Protection Products, which includes the new Sustainable Use of Pesticide Regulation. This Regulation will require Member States to adopt a risk-based approach to chemical pesticide management and take measures to reduce chemical pesticide use where possible.

Pesticide is a term used to describe products that prevent, destroy or control a harmful organism ('pest') or disease. In agriculture, pesticides are defined as Plant Protection Products and are regulated through the EU Regulation on the Sustainable Use of Plant Protection Products.[44]

Such Plant Protection Products include insecticides, herbicides, fungicides, rodenticides, and other chemical or biological products used to control pests in agriculture and other areas. It also covers plant growth regulators, defoliants, desiccants, and other products that affect the growth or development of plants. Pesticides do not include fertilisers or soil conditioners.

The Regulation on the Sustainable Use of Plant Protection Products defines the appropriate use of pesticides as being to “protect plants or plant products against pests/diseases, before or after harvest; influence the life processes of plants; preserve plant products; or destroy or prevent growth of undesired plants or parts of plants.”[45]

In Europe, pesticides are classified in different ways depending on the following:

- Their function (e.g. herbicides used to eradicate weeds, insecticides for insects).
- The origin of their active substances (e.g. chemical or non-chemical).
- The hazards they present to health and the environment.

The EU utilises the United Nations Globally Harmonized System of Classification and Labelling of Chemicals to determine and quantify the potential risks that a pesticide may pose to human health and the environment.

Under this classification, the classes of pesticides are defined as:

- Class 1: Extremely hazardous pesticides – these are highly toxic and pose a severe risk to human health and the environment.
- Class 2: Highly hazardous pesticides – these are moderately toxic and pose a significant risk to human health and the environment.
- Class 3: Moderately hazardous pesticides – these are slightly toxic and pose a low risk to human health and the environment.
- Class 4: Relatively low-risk pesticides – these have low toxicity and pose a minimal risk to human health and the environment.

[44] https://ec.europa.eu/assets/sante/food/plants/pesticides/lop/index.html
[45] https://epthinktank.eu/2022/11/29/sustainable-use-of-plant-protection-products-eu-legislation-in-progress/

The EU also takes into account how pesticides might impact human health and the environment by categorising them as:

- Carcinogenic, mutagenic or toxic to reproduction (CMR) – pesticides that have been shown to cause cancer, genetic mutations, or reproductive problems in humans or animals.
- Endocrine-disrupting – pesticides that interfere with the hormone system in humans or animals, which can lead to a wide range of health effects.
- Persistent – pesticides that persist in the environment for extended periods and that can accumulate in the food chain, leading to health and environmental risks.
- Toxic to bees and other pollinators – pesticides that can harm bees, butterflies and other pollinators, which are essential for the health of ecosystems and food production.

The Regulation on the Sustainable Use of Plant Protection Products, which supports the Farm to Fork and Biodiversity Strategies, establishes legally binding targets at the EU level for reductions in the overall use of pesticides by 50% by 2030, and decreases in the use of hazardous pesticides by 50% by 2030.

The Sustainable Use of Pesticides plan recognises the importance of organic farming and aims to promote its development and expansion as a means to reduce pesticide use and improve environmental sustainability. It includes specific measures to support organic farming and encourage the use of natural methods for pest and disease control while also promoting research and innovation to develop new, safer and more sustainable plant protection products.

Reducing pesticide use is part of the EU's broader goal of promoting sustainable agriculture and protecting the environment. In line with this objective, on 27 September 2022, the European Commission announced new rules lowering the maximum allowable residues of harmful chemicals to the lowest levels that existing technologies can measure for a category of harmful insecticides known as neonicotinoids. This import restriction will take effect in 2026, while restrictions on the production and export of neonicotinoids from the EU will take effect in 2023.[46]

New Zealand's Pesticide Policies

New Zealand's Environmental Protection Authority (EPA), which falls under the jurisdiction of the Ministry for the Environment, is responsible for approving pesticides and setting controls on their use.

All pesticides used on food products must also be registered with the Ministry for Primary Industries (MPI). Pesticides used in food production are managed with maximum residue

[46] https://www.reuters.com/business/sustainable-business/eu-backs-lower-residue-limits-bee-harming-pesticides-2022-09-27/

levels, established by the EPA and regulated by MPI. Pesticides are regulated under the Agricultural Compounds and Veterinary Medicines (ACVM) Act of 1997.

The ACVM Act establishes controls over the way agricultural compounds, including agricultural chemicals and fertilisers, may be used, sold, imported and manufactured in New Zealand. It aims to prevent or manage risks associated with the use of agricultural compounds, including risks to trade in primary produce, risks to animal welfare and risks to agricultural security. The Act also seeks to ensure that domestic food residue standards are not breached and that sufficient consumer information regarding agricultural compounds is available.

Under the ACVM Act, manufacturers and importers of agricultural and veterinary chemicals must keep records of their products and their use. This requirement extends to growers who use pesticides on their crops. Growers must keep accurate records of the pesticides they use, including the type and amount of pesticide used, the date of application, and the crops or animals treated. The Act also mandates that individuals and organisations using pesticides follow the label instructions for each pesticide they use, including any requirements for personal protective equipment, buffer zones and other safety measures.

The EPA also manages the Hazardous Substances and New Organisms (HSNO) Act of 1996 by preventing or managing the adverse effects of hazardous substances, including synthetic pesticides that are deemed hazardous. The ACVM Act and the HSNO Act overlap, but the EPA is ultimately responsible for monitoring and reviewing the use of hazardous substances and new organisms to ensure ongoing compliance and identify any emerging risks.

Pesticides in the NZ-EU FTA

Given the emphasis placed by the EU's climate, biodiversity and organic policies on reductions in the use of synthetic chemical pesticides, it is hardly surprising to find the subject mentioned in the text of the NZ-EU FTA.

In Chapter 7, dealing with Sustainable Food Systems, Article 7.4 describes the Parties' commitment to cooperation in improving the sustainability of food systems, with this cooperation taking place both bilaterally and in relevant international fora. Forms of cooperation might include exchanges of information, expertise and experiences, as well as cooperation in research and innovation.

Topics of potential cooperation include:

> (a) food production methods and practices which aim to improve sustainability, including organic farming and regenerative agriculture, amongst others
> (b) the efficient use of natural resources and agricultural inputs, including reducing the use and risk of chemical pesticides and fertilisers, where appropriate
> (c) the environmental and climate impacts of food production, including on agricultural greenhouse gas emissions, carbon sinks and biodiversity loss

(d) contingency plans to ensure the security and resilience of food supply chains and trade in times of international crisis
(e) sustainable food processing, transport, wholesale, retail and food services
(f) healthy, sustainable and nutritious diets
(g) the carbon footprint of consumption
(h) food loss and waste, in line with the Sustainable Development Goals Target 12.3
(i) reduction of the adverse environmental effects of policies and measures linked to the food system; and
(j) Indigenous knowledge, participation and leadership in food systems, in line with the Parties' respective circumstances

Risks to New Zealand Producers

While the New Zealand government has recently held public consultations regarding the potential elimination of some high-risk pesticides, reducing the overall levels of pesticides in New Zealand does not appear to be a high priority for either the government or various primary industries. This implies a number of risks for land-based primary producers exporting to the EU.

In the first instance, legislation under development in the EU ban has the potential to ban imports from New Zealand's primary producers that show residues of any pesticides banned in the EU. Secondly, an overall reduction in the level of pesticide use in the EU is likely to increase expectations on the part of EU importers and consumers that foreign producers will do the same. Producers who have not proactively moved away from high-risk pesticides or reduced overall chemical pesticide use are likely to be at the highest risk from both import bans and changing consumer preferences.

As the New Zealand government does not currently have regulations in place to reduce the use of synthetic chemical pesticides, the government appears to rely primarily on voluntary initiatives and self-imposed industry practices in this area. While producers and exporters might well be motivated to change their practices to maintain market access and competitiveness in their European export markets, the rate at which EU regulations are changing leaves them vulnerable.

In comparison to the EU, very few synthetic pesticides have been banned by the EPA from use in New Zealand, with this discrepancy seemingly growing over time. According to the Pesticide Action Network International's Consolidated List of Banned Pesticides 2022, the EU (including all 27 member states) has banned 195 pesticides. At the time of writing, New Zealand has banned 27.[47]

The family of neonicotinoids is a major concern for NZ exporters. Mitchell et al (2017) conducted a worldwide survey on neonicotinoids in honey. Residues were found in NZ

[47] https://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/

honey.[48] The continued use of banned pesticides in the EU threatens exports to NZ-EU FTA countries who have reduction and sustainable goals.

Specifically, the EU's more restrictive approach has resulted in banning the use of several pesticides that are widely used in New Zealand. The most controversial are:

1. Chlorpyrifos (organophosphate insecticide): a neurotoxic pesticide in the organophosphates class of chemicals that is widely used in New Zealand to control a range of insect pests in crops such as kiwifruit and citrus. The EU banned the use of chlorpyrifos in 2020 due to concerns over its impact on human health, particularly on the development of the brain in children.
2. Imidacloprid (neonicotinoid insecticide): a neurotoxic widely used in New Zealand to control a range of pests in crops such as maize and potatoes. The EU banned the use of imidacloprid in 2013 due to concerns over its impact on bees and other pollinators.
3. Thiamethoxam (neonicotinoid insecticide): a neurotoxic, systemic, persistent insecticide. Acute toxicity to bumble bees, honey and native bees. Outdoor use banned in EU.
4. Clothianidin (neonicotinoid insecticide): an active ingredient and metabolite of Thiamethoxam. Persistent, acutely toxic, neurotoxic; disorientation, altered spatial memory retrieval and biosensory abilities disrupted possibly at the colony level.

The European Council has also been engaged in ongoing debate around the use of glyphosate, an herbicide widely used in New Zealand and around the world to control weeds in crops and public spaces. While glyphosate-based herbicides are still permitted in the EU, they are subject to strict regulation and can only be used in clearly defined circumstances.

The EU's precautionary approach to the use of glyphosate is primarily due to concerns over its potential carcinogenic properties and, thus, its impact on human health and the environment. Glyphosate use was approved in the EU until 15 December 2022, and shortly before the expiry of this approval, the Council extended the EU authorisation for its use until 15 December 2023.[49] Also noteworthy is the fact that in November 2017, authorisation for the use of glyphosate was granted for only five years instead of the proposed 15 years.

Glyphosate is the most commonly used herbicide in New Zealand, with an estimated 1,800 tonnes used annually. Per capita, New Zealand's glyphosate usage is significantly higher than that of the EU.

In New Zealand, there appears to be no national plan for the overall reduction of pesticide use and, consequently, no legally binding targets in this regard. Instead, measures to reduce pesticide use appear to have focused on improving the management and use of existing pesticides, for example, through training and education for farmers.

[48] https://www.science.org/doi/10.1126/science.aan3684

[49] https://www.politico.eu/article/glyphosate-license-extended-to-end-of-2023/

The government's relatively hands-off approach in this area also means that New Zealand does not consistently collect national-level data on pesticide use. As a result, the EPA does not appear to hold a comprehensive picture of pesticide use in the county. In this regard, the EPA's 2019 Annual Report states the organisation's intention to progress its chemical mapping project because "little is currently known about New Zealand's chemical landscape or the impact it has on human and environmental health". This project is, however, yet to be completed at the time of writing.

Despite the lack of a comprehensive pesticide reduction policy and accompanying data, the New Zealand government invested in programmes that seek to reduce farmer and grower dependencies on synthetic chemical pesticides.

As an example, one of the larger programmes that MPI has invested in seeks to reduce chemical spray use on apples and pears. MPI pledged to contribute $7.44 million of the cost of this programme of $14.77 million, with the remainder of the funding provided by New Zealand Apples and Pears Inc.[50] In this regard, New Zealand Apples and Pears Inc has indicated that its objective of becoming 'spray-free' by 2050 stems primarily from the policy framework being developed by the EU's Farm to Fork Strategy.

In spite of these initiatives, however, it is likely that as the EU achieves its targets in this area and more pesticides are banned, New Zealand producers will need to proactively reduce their dependence on these banned substances in order to retain their access to European markets.

In 2020, Consumer NZ tested 16 locally grown fruit and vegetables for more than 200 pesticides. This included organic and conventionally grown produce from three different retailers. Sixteen pesticides were detected, nine of which were banned in the EU.[51] The foods testing positive for EU-banned pesticides included kale, oranges, lemons, green cabbage, potatoes, kūmara (sweet potato) and strawberries.

Many European retailers have also implemented their own standards for pesticide residues, along with various other requirements for suppliers. Recent examples include the European operations of supermarket chains Coop, Aldi and Lidl, all of which require more stringency in pesticide residues than is legally required – Lidl requires 66% fewer residues than mandated by EU legislation, Coop 50% less and Aldi 20%-30% less. This trend is expected to continue in the future. Suppliers who are able to reduce pesticide residues in their products are, therefore, likely to improve their prospects of selling to European retailers.[52]

[50] https://www.beehive.govt.nz/release/spray-free-target-new-zealand-apples-and-pears-boost-export-growth
[51] https://www.consumer.org.nz/articles/pesticides-in-fruit-and-vege
[52] https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/trends#organic-and-pesticide-free-products-are-on-the-increase

Risks to Human Health

In 2017, New Zealand's average pesticide use was estimated at approximately 7.89 kg/ha, or three times higher than the world average (2.63 kg/ha).[53] In agriculture alone, New Zealand farmers consume 3,400 tonnes of pesticides annually.

Pesticide use has been strongly linked with a range of adverse human health outcomes, including an increased incidence of cancer.[54] Pesticides are considered to increase cancer risks through various mechanisms, including immunotoxicity, tumour promotion, peroxisome proliferation, hormonal action and metabolic disruption.

A 2019 study led by Associate Professor Kimberly Hageman and Associate Professor Christoph Matthaei from the University of Otago, found that although New Zealand has programmes in place to regularly monitor pesticides in groundwater, little is known about pesticides present in surface waters such as streams and rivers.[55] The study found seven different pesticides in the waterways tested, including chlorpyrifos, three neonicotinoid insecticides, and two that have been detected in honey from New Zealand hives.

"This lack of knowledge on the distribution of pesticides and their concentrations in our waterways needs to be addressed. Not only are our freshwater fish species at risk, but so too are the animals they eat; aquatic insects such as mayflies and other invertebrates. We know from many overseas studies that these chemicals are detrimental to the entire freshwater ecosystem in the concentrations they're being found in these countries. But relatively few New Zealanders are aware of this," Matthaei says.

Using the New Zealand EPA's classification, 3% of herbicides, 8% of fungicides and 8% of insecticides used in New Zealand are suspected carcinogens. Using the United States Environmental Protection Agency's classification, 5% of herbicides, 60% of fungicides, 8% of insecticides, and 72% of plant growth regulators used in New Zealand are suspected carcinogens.[56]

New Zealand producers use an estimated 148-616 tonnes of active pesticide ingredients that are classified as suspected human carcinogens annually.[57] This potentially represents as much as 50% of the total tonnage of pesticide active ingredients used in New Zealand agriculture, suggesting highly elevated risks of cancer, particularly amongst those individuals who handle these pesticides. Any reduction in the use of these pesticides is likely to reduce this risk, along with a range of other adverse health effects.

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53 https://reader.elsevier.com/reader/sd/pii/S0160412022001325?token=019F92CFE10B822AC3DD55BD3FE6AFB516E00481A3A0550E6B3BE1C4D340D481F036EE26F06A55A7561137D4BCAB4D73&originRegion=us-east-1&originCreation=20230304040456

54 https://journal.nzma.org.nz/journal-articles/the-carcinogenicity-of-pesticides-used-in-new-zealand

55 https://www.otago.ac.nz/news/news/otago717396.html

56 https://journal.nzma.org.nz/journal-articles/the-carcinogenicity-of-pesticides-used-in-new-zealand

57 https://journal.nzma.org.nz/journal-articles/the-carcinogenicity-of-pesticides-used-in-new-zealand

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

Both conventional and organic farming use pest control methods; the differences lie in the rules and regulations around their use. In certified organic farming, the rules are designed to promote environmentally sustainable and socially responsible farming practices that promote biodiversity and climate-positive agriculture and reduce harm to farming communities.

The principal difference between pest control in conventional and organic farming lies in the proactive approach, watching for signs of any presence throughout the growing season.

Conventional farming often relies on synthetic chemical pesticides whose full formulations (active ingredients and adjuvants) are persistent, toxic, can accumulate and become harmful to the environment and human health. Common examples used in conventional farming include glyphosate, neonicotinoids and organophosphates.

Certified organic farming is highly restricted in its use of pest control products. This is to minimise the risk of harm to non-target organisms, such as bees and other beneficial insects. Organic farmers may only use natural or organically registered pest control products derived from natural sources. These products are less toxic than synthetic compounds and break down quickly in the environment.

Importantly, certified organic farmers are required to seek approval to use approved pesticides only when alternative pest management approaches fail and using approved substances becomes necessary. Organic farmers must also follow strict guidelines regarding the timing and frequency of pest control applications.

As a result, certified organic goods entering the EU market are likely to hold an increasing competitive advantage, as organic certified products align with the sustainability objectives of the EU's Farm to Fork and other strategies and with the preferences of EU consumers.

Import Ban on Products Linked to Deforestation

The issue of global deforestation has gained increasing prominence over the past several decades, as the role of increasing demand for timber and agricultural products from developed and emerging economies has accelerated the pace of deforestation in many least-developed countries, particularly those in the tropical regions of Africa, Asia and South America.

As a result, a wide range of bilateral and multilateral initiatives aimed at combating deforestation have emerged. These include the UNFCCC programme for Reducing

Emissions from Deforestation and Forest Degradation in Developing Countries (known as REDD+), as well as various projects and programmes of UNEP, the FAO, the WTO and various other multilateral institutions.

Most recently, in December 2022, deforestation was identified as a leading driver of biodiversity loss at the Fifteenth Conference of the Parties (COP 15) to the United Nations Convention on Biological Diversity (CBD) held in Montreal, Canada.

In the adoption of the Kunming-Montreal Global Biodiversity Framework,[58] which aims to markedly increase levels of global biodiversity protection, the Conference identified "changes in land and sea use" as the most direct driver of change in nature, with deforestation being one of the most common and pervasive of such changes in land use. As a result, several of the headline and complementary indicators that will be applied to measure the effectiveness of the implementation of the Framework are directly related to the health and integrity of forest ecosystems.

In addition to these multilateral initiatives and agreements, various international conservation organisations have for many years been actively engaged in the protection of forests, including, amongst others, WWF International, Conservation International, the International Union for Conservation of Nature (IUCN), the Rainforest Alliance and the Forestry Stewardship Council.

Increasingly, the efforts of these organisations have been supported by major national and multinational corporations as awareness has grown regarding the environmental impact associated with the activities of these companies and the products they manufacture. In some instances, the actions of companies have been labelled as greenwashing, with varying degrees of justification for such accusations.

Global Action on Deforestation by the EU (including with Trading Partners)

The EU has a long history of comprehensive action regarding deforestation in other regions and the importation of forest products into the EU. The EU Action Plan for Forest Law Enforcement, Governance and Trade (FLEGT) was adopted in May 2003 as one of the Commission's follow-up actions to the 2002 World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa in 2002. This Action Plan was aimed at providing the EU with a process and a set of measures to effectively address issues of illegal logging and related trade.

More recently, in line with the 2019 Communication on Stepping up EU Action to Protect and Restore the World's Forests,[59] the EU has expressed an intention to improve the health of existing forests and significantly increase sustainable, biodiverse forest coverage worldwide. In this regard, the EU's five main priorities are:

[58] https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf
[59] https://eur-lex.europa.eu/resource.html?uri=cellar:a1d5a7da-ad30-11e9-9d01-01aa75ed71a1.0001.02/DOC_1&format=PDF

- Reducing the footprint of EU consumption on land and encouraging EU consumption of products from deforestation-free supply chains.
- Working in partnership with producer countries to reduce pressures on forests.
- Strengthening international cooperation to halt deforestation and forest degradation and encourage forest restoration.
- Redirecting finance to support more sustainable land-use practices.
- Supporting the availability and quality of information on forests and commodity supply chains, the access to that information, and supporting research and innovation.

In order to achieve these priority objectives, the EU has developed a range of policies in three distinct areas, namely the promotion of deforestation-free products, the combating of illegal logging and cooperation with partner organisations.

In terms of combating illegal logging, the EU's FLEGT Action Plan remains a major enforcement mechanism, particularly with regard to logging activities in Central Africa, South America and Southeast Asia. The Action Plan has also resulted in the development of two key pieces of legislation, namely the EU Timber Regulation (Regulation (EU) No 995/2010), which prohibits the placing of illegal timber and timber products onto the internal market within the EU, and the FLEGT Regulation (Council Regulation (EC) No 2173/2005), which allows the Commission to control the entry of timber into the EU from countries entering into bilateral Voluntary Partnership Agreements (VPAs) with the EU.

These VPAs aim to ensure that only legally harvested timber is imported into the EU. They include commitments and actions from both Parties to halt the trade in illegal timber. They also aim to promote better enforcement of forest law and inclusive approaches to forest management that involve both civil society and the private sector.

VPAs have been signed with Ghana, the Republic of the Congo, Cameroon, Indonesia, the Central African Republic, Liberia and Vietnam. The EU has concluded negotiations for further Agreements with Honduras and Guyana, while negotiations are ongoing with the Ivory Coast, the Democratic Republic of the Congo, Gabon, Laos, Malaysia and Thailand.

The most recent developments in the EU with regard to deforestation concern the promotion of deforestation-free products. In this regard, the Commission has undertaken to develop a set of regulatory measures to ensure that the products consumed by EU citizens do not contribute to deforestation or forest degradation worldwide. Furthermore, by promoting the consumption of deforestation-free products and reducing the EU's impact on global deforestation and forest degradation, these rules are intended to reduce greenhouse gas emissions, accelerate carbon sequestration and reduce biodiversity loss.

This programme forms part of a broader set of actions aimed at addressing deforestation and forest degradation, first outlined in the 2019 Commission Communication on Stepping up EU Action to Protect and Restore the World's Forests. This commitment was later confirmed by the European Green Deal, the EU Biodiversity Strategy for 2030 and the Farm to Fork Strategy.

In November 2021, the Commission proposed a regulation to curb EU-driven deforestation and forest degradation. The principal driver identified for these processes is the expansion of agricultural land linked to the production of various commodities, including palm oil, beef, soy, coffee, cocoa, timber and rubber. In proposing this regulation, the Commission accepted that as a major consumer of these commodities, the EU bears partial responsibility for the negative outcomes associated with their production.

In December 2022, an agreement was reached on a joint proposal regarding deforestation-free products. Once the regulation is in force, operators and traders will have 18 months to comply with the new regulations, with a longer adaptation period permitted for small and micro enterprises.

The principal objectives of the new Regulation are to:

- Avoid situations in which the listed products Europeans consume contribute to deforestation and forest degradation, both globally and within the EU.
- Reduce carbon emissions caused by EU consumption and production of the relevant commodities by at least 32 million metric tonnes per year.
- Address all deforestation driven by agricultural expansion to produce the commodities within the scope of the Regulation, along with forest degradation.

Under the regulation, all relevant companies will be required to conduct strict due diligence before placing onto the EU market (or exporting from the EU) palm oil, cattle, soy, coffee, cocoa, timber and rubber, as well as derived products such as beef, furniture or chocolate. These commodities have been selected on the basis of an impact assessment identifying them as principal drivers of deforestation due to agricultural expansion.

Companies wishing to import these products into (or export them from) the EU will be required to prove that the products are both deforestation-free (produced on land that was not subject to deforestation after 31 December 2020) and legal (compliant with all relevant applicable laws in force in the country of production). They will also be required to collect precise geographical information regarding the farmland on which these commodities have been grown in order that they can be verified as compliant. EU member states will be tasked with ensuring that non-compliance on the part of importers leads to effective and dissuasive penalties.

The list of commodities covered by the regulation will be regularly reviewed and updated, taking into account new data such as changing deforestation patterns.

Under the regulation, the Commission will also implement a benchmarking system that will assess countries (or parts thereof) and their level of risk of deforestation and forest degradation, taking into account agricultural expansion for the production of the identified commodities and derived products. Obligations for exporting and importing companies will depend on the level of risk associated with a country or region. This will also assist the EU's collaboration with partner countries in halting deforestation while at the same time paying particular attention to the circumstances of local communities and Indigenous peoples.

The EU will also increase its bilateral and multilateral engagement with producer and consumer countries to ensure that the Regulation is effectively implemented and to assist producer countries as required. The Regulation is intended not only to reduce greenhouse gas emissions, increase carbon sequestration and reduce biodiversity loss, but also to help secure the livelihoods of millions of people, including Indigenous peoples and local communities who rely on forest ecosystems.

Action on Deforestation within the EU

Apart from actions aimed at reducing deforestation in the EU's trading partners, and support for forest conservation efforts through mechanisms such as REDD+, the EU has implemented a number of measures to improve forest conservation by Member States and reduce emissions related to forest conversion within the EU itself. According to data published by the EU, domestic forests absorb the equivalent of close to 10% of total EU GHG emissions annually. As a result, appropriate domestic policies related to Land Use, Land Use Change and Forestry (also known as LULUCF) can contribute substantially to the achievements of the EU's climate policy objectives.

Up to 2020, EU Member States were committed under the Kyoto Protocol to ensuring that GHG emissions from land use changes were compensated by an equivalent absorption of CO_2 on the basis of additional action in the sector.

In July 2021, the European Commission adopted a series of legislative proposals setting out a pathway to climate neutrality in the EU by 2050. These include an intermediate target of at least a 55% net reduction in greenhouse gas emissions by 2030. This legislative package proposed to revise a number of pieces of EU climate legislation, including the EU Emissions Trading Scheme, Effort Sharing Regulation, and transport and land use legislation.

Under current EU legislation, adopted in May 2018, EU Member States are required to ensure that accounted GHG emissions from land use, land use change or forestry are balanced by at least an equivalent accounted removal of CO_2 from the atmosphere in the period 2021 to 2030.

The LULUCF Regulation implemented the agreement between EU leaders in October 2014 that all sectors, including land use, should contribute to the EU's 2030 emission reduction target. It also aligns with the Paris Agreement, highlighting land use's critical role in achieving long-term climate mitigation objectives.

The Regulation sets a binding commitment for each Member State to ensure that accounted emissions from land use are entirely compensated by an equivalent accounted removal of CO_2 from the atmosphere through action in the sector – this is known as the 'no debit' rule.

As indicated above, prior to 2020, member states partly undertook this commitment individually under the Kyoto Protocol; however, the Regulation enshrines the commitment into EU law for the period 2021-2030. The Regulation also expands the scope of action beyond forests to all land uses (including wetlands by 2026).

The new rules are intended to provide Member States with a framework to incentivise more climate-friendly land use, without the imposition of new restrictions or bureaucratic requirements on individual actors.

A somewhat contentious aspect of the regulation is the inclusion of emissions from biomass used in energy generation in the 2030 climate commitments of member states. Environmental, forest and climate activists have claimed that this situation creates an incentive to shift energy generation from fossil fuels to domestic biomass sources, as opposed to promoting absolute declines in energy consumption. This, in turn, creates a risk of increasing the rate of deforestation within the EU, undermining the ability of the region's forests to sequester carbon.[60]

Deforestation-Related Policy in New Zealand

New Zealand's position as a significant producer and exporter of wood and wood-related products, along with the widespread existence of plantation forests to feed this export industry, implies that at present, the large-scale destruction of old-growth Indigenous forests, as takes place in Africa, Southeast Asia and South America, is not a primary concern for policymakers and regulators. In many instances, the conversion of Indigenous forests or other habitats into plantation forests, primarily of radiata pine, took place decades or centuries ago.

In the majority of instances, current attention appears to be focused primarily on the management and mitigation of negative environmental and social outcomes associated with plantation forestry, along with the reversion of land considered marginal or unsuitable for plantation forestry back to Indigenous habitats.

Furthermore, the rights and concerns of mana whenua as these relate to both Indigenous and commercial forests, are increasingly being recognised in policymaking related to commercial forestry operations and Indigenous forest conservation efforts at both national and local government levels.

Total forest cover in New Zealand exceeds 10 million hectares, of which 80% comprises native forest and 20% plantation forests. The bulk of this plantation forest is productive, with the remainder classified as reserves or unproductive (permanent) forest cover.
Forests contribute more than $6 billion per annum to the New Zealand economy, primarily in the form of exports. Forestry-related exports constitute approximately 1.6% of New Zealand's GDP and are the country's third-largest export earner, behind dairy, meat, and horticulture.[61] Primary export markets include China, Australia, the Republic of Korea and Japan.

[60] https://www.fern.org/publications-insight/forests-sacrificed-for-eu-climate-policy-2366/
[61] https://www.mpi.govt.nz/forestry/forest-industry-and-workforce/forestry-wood-processing-data/

Indigenous (and plantation) forests also provide a significant contribution to tourism earnings, particularly in the context of the country's network of National Parks, Great Walks and Great Rides.

Forestry activity is managed primarily by the Ministry for Primary Industries (MPI), while Indigenous forests on Crown land are managed by the Department of Conservation (DoC), often in collaboration with iwi and local government structures as appropriate.

Forestry also plays an important role in New Zealand's activities related to climate change mitigation and adaptation. Forestry is included in the country's Emissions Trading Scheme (ETS), under which participating businesses are required to purchase and surrender to the New Zealand government New Zealand Units equivalent to the tonnage of carbon dioxide equivalent (CO_2-e) these businesses emit through their activities. Forest owners can earn carbon credits through participating in the ETS, which can be sold to emitting businesses in other sectors. Conversely, forest owners need to purchase credits when they harvest or clear forests.

Forestry activities within the ETS are managed by MPI, while transactions within the scheme are managed by the Environmental Protection Authority (EPA), which operates the New Zealand Emissions Trading Register (NZETR). Each participant in the ETS maintains an account in the NZETR to receive, trade or pay for units.

Deforestation is a consideration within the ETS. The term deforestation is applied in two specific sets of circumstances:

- When former forest land is converted to a use other than further forestry cultivation, for example, pastoral land or housing.
- When forest landowners do not meet certain criteria within set time frames – this is particularly the case when landowners do not meet ETS criteria for re-establishing forests following harvests.

Forest owners hold different obligations under the ETS, depending on the length of time that the forests have been in place.

Deforestation is also mentioned in a number of contexts in New Zealand's first Emissions Reduction Plan (ERP). Specifically, deforestation is mentioned in Chapter 4: Working with Nature. This chapter refers to the cumulative effects of historic deforestation across the country, which resulted in the release of 12Gt of CO_2 into the atmosphere. In this context, the ERP highlights the importance of native forest conservation and the development of native forests to act as long-term carbon sinks and support the conservation of Indigenous biodiversity in alignment with the objectives of New Zealand's Biodiversity Strategy.

Deforestation is also mentioned in Chapter 5 of the ERP on the subject of emissions pricing. In this context, the Plan aims to investigate whether any changes are required to the NZ ETS in order to balance gross and net emissions. This will include consideration of the rates of afforestation and deforestation in New Zealand.

Finally, Chapter 14 of the ERP, dealing with forestry, considers the strengthening of specific policies aimed at reducing the deforestation of pre-1990 native forests. Continued new forest planting over the coming decades, along with the ongoing prevention of deforestation, is identified as being necessary to meet emission budgets.

Deforestation in the NZ–EU FTA

Given the importance attached to the subject of deforestation by the EU, both in its domestic policy development agenda and in its actions to reduce deforestation in other regions, it is perhaps somewhat surprising that the subject receives only limited mention within the text of the NZ-EU FTA.

The subject is mentioned in Chapter 19, on Trade and Sustainable Development, and more specifically in Article 19.9, which relates to trade and forests. In this article, the parties recognise deforestation as a major driver of global warming and biodiversity loss, and commit to exchanging knowledge and experience in order to encourage the consumption of and trade in products from deforestation-free supply chains. They also commit to strengthening their cooperation on trade-related aspects of sustainable forest management, minimising deforestation and forest degradation, forest conservation, illegal logging, and the role of forests and wood-based products in climate change mitigation and circular and bioeconomies. This cooperation is to take place bilaterally, regionally and in international fora as appropriate.

Risks to New Zealand Producers

Given the situation described above, it would appear that the most relevant deforestation-related implications for New Zealand's exports to the EU lie in the emergence of EU legislation aimed at limiting the importation of products associated with deforestation and forest degradation. Furthermore, the expectations placed by the EU on current and potential exporters relating to due diligence in their supply chains hold specific implications in terms of products such as soya and palm kernel expeller (PKE). Both these products are extensively imported into New Zealand and used as feed for the beef and dairy industries.[62]

At the time of writing, the EU's list of products for which such due diligence must be conducted includes beef but not dairy products. As indicated by the EU, however, the list of commodities covered by the regulation will be reviewed and updated as required, taking into account new data such as changing deforestation patterns.

Undertaking the required levels of due diligence to definitively prove that products imported into New Zealand and used as feed in the beef and dairy industries is likely to require New Zealand farmers, as well as the New Zealand government and industry bodies such as

[62]Provisional data from Stats NZ for the year to December 2022, estimates the value of New Zealand's imports of PKE at NZ$720m and of soya at NZ$298m, both on an ad-valorem basis.

Federated Farmers, to substantially increase their levels of engagement with relevant international fora such as the Roundtable on Sustainable Palm Oil (RSPO) and the Round Table on Responsible Soy (RTRS).

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

Worldwide, most organic certification programs require that certified organic feed be sourced from sustainable agricultural practices that do not contribute to deforestation or the degradation of native virgin bush. This means that organic farmers that use soy or palm oil will have imported the feed from suppliers that use sustainable and responsible practices regulated through the supplying country's organic certification system.

Carbon Border Adjustment Mechanisms

The area of Carbon Border Adjustment Mechanisms (CBAMs) is potentially one of the most contentious elements of the EU's Fit for 55 policy package, which supports the EU's objective of a 55% reduction in emissions by 2030.[63]

The principal objective of CBAMs is to avoid carbon leakage, for example, through companies shifting the production of carbon-intensive products from the EU to countries with less restrictive emissions reporting and/or reduction regimes. Furthermore, the policy is intended to encourage the EU's trading partner countries to establish (or strengthen) domestic carbon pricing policies.

The EU's CBAMs will target imports of carbon-intensive products, most notably cement, aluminium, fertilisers, iron and steel. The policy is intended to align with the EU's Emissions Trading System (EU ETS) and will, over time, replace a number of existing EU mechanisms designed to address the risk of carbon leakage, particularly the free allocation of EU ETS allowances.

The CBAM policy is intended to operate in compliance with international trade rules. At the same time, however, it appears highly likely that the imposition of CBAMs by the EU will be challenged by exporting countries, both in multilateral fora such as the WTO and bilaterally through mechanisms such as FTAs. These challenges are likely to result in establishing a range of precedents and practices governing the imposition of CBAMs.

Regarding the scope of this research paper and the identified case studies for the dairy and wine sectors, it appears unlikely that these and other primary food-producing sectors will be directly subjected to CBAMs in the foreseeable future. Based on discussions with

[63] See page 53, *Climate Change Mitigation*, for a description of the EU's Fit for 55 policy package.

representatives of the EU Delegation in New Zealand, it would appear that the internal complexity of the EU Common Agriculture Policy (CAP) currently makes the implementation of EU-wide CBAM measures on agricultural products close to impossible on a practical level. This situation may, however, change in the future, for example, through revisions to the CAP, the extension of the EU ETS to additional product categories, or the implementation of completely new emissions reduction policies across the EU.

Despite the seemingly limited possibility of CBAMs being implemented on agricultural or primary sector exports from New Zealand to the EU, one area of potential concern lies in the input chains of New Zealand's major export products. As an example, products exported to European markets may face potential import restrictions (or disclosure requirements) related to the emissions profile or traceability of inputs such as fertilisers.

Chapter 4: Domestic Measures Affecting All Products Sold in the EU

The measures described below are likely to affect agriculture and food products sold in the EU, irrespective of whether these are domestically produced or imported. They are likely to directly affect New Zealand's exports to the EU, and the level of EU market access that New Zealand's products will enjoy in European markets under the NZ-EU FTA.

Greenwashing Legislation

Greenwashing is the practice of making false or misleading claims about the environmental benefits of a product or service. As part of its ambitions under the Circular Economy Action Plan and the New Consumer Agenda,[64] the EU has, over the course of several years, implemented a range of rules to address greenwashing, with the most recent policy update taking place in 2021 and a number of additional legislative developments underway.

Several pieces of EU legislation already affect New Zealand exports, including the Unfair Commercial Practices Directive (UCPD) and the Environmental Claims Regulation (ECR). Both laws apply to all businesses that sell or supply goods or services to consumers in the European Union. The UCPD prohibits commercial practices that are misleading as to the nature, characteristics, suitability for their purpose, or quantity of the goods or services offered. This includes false or misleading environmental claims.

The ECR sets out specific requirements for making environmental claims about products and services. It applies to all types of environmental claims, including those related to the environmental performance of a product, the environmental impacts of a service, or the environmental benefits of a product or service.

On 17 December 2021, the European Commission adopted a new Commission Notice on the interpretation and application of the UCPD.[65] This Notice clarifies the processes that companies must undertake to make environmental claims.

While the ECR sets out specific requirements for making environmental claims, the UCPD prohibits businesses from using false or misleading claims in their advertising and marketing materials, including environmental claims. The Commission Notice on the UCPD provides guidance regarding the interpretation and application of the provisions of the UCPD in relation to environmental claims, and clarifies how the two regulations should work together.

[64] The New Consumer agenda aims to strengthen consumer protection and drive the green and digital transitions as part of the European Green Deal: https://commission.europa.eu/document/ac73e684-1e7f-4d36-a048-8f8a0b874448_en

[65] https://commission.europa.eu/law/law-topic/consumer-protection-law/unfair-commercial-practices-law/unfair-commercial-practices-directive_en

Published in March 2020, the Proposal for a Directive on Empowering Consumers for the Green Transition, and its accompanying Annex, include amendments that hold significant implications for all businesses importing products into the EU that make 'green' claims of any description. The Directive proposes to further amend the UCPD[66] to counter any lack of reliable information on products' durability and reparability, early obsolescence and greenwashing, with the primary goal of helping consumers make informed choices that drive the transition to a climate-neutral society by 2050.

The proposed Directive aims to:[67]

- Provide information on the existence and length of a producer's commercial guarantee of durability for all types of goods or the absence of such guarantee in the case of energy-using goods.
- Provide information on the availability of free software updates for all goods with digital elements, digital content and digital services.
- Provide information on the repairability of products, through a repairability score or other relevant repair information, where available, for all types of goods.
- Ensure that traders do not mislead consumers about the environmental and social impacts, durability and reparability of products.
- Ensure that a trader can make an environmental claim related to future environmental performance only when this involves clear commitments.
- Ensure that a trader cannot advertise benefits for consumers that are considered a common practice in the relevant market.
- Ensure that a trader can only compare products, including through a sustainability information tool, if they provide information about the method of the comparison, the products and suppliers covered, and the measures to keep the information up to date.
- Ban the display of any sustainability labels not based on a certification scheme or not established by public authorities.
- Ban generic environmental claims used in marketing towards consumers where the excellent environmental performance of the product or trader cannot be demonstrated in accordance with Regulation (EC) 66/2010 (EU Ecolabel),[68] officially recognised eco-labelling schemes in member states, or other applicable Union laws, as relevant to the claim.
- Ban environmental claims about an entire product when these concern only a certain aspect of the product.

[66] The Directive also amends the Consumer Rights Directive 2011/83/EU which protects consumers from unfair business practices

[67] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0143&qid=1649327162410

[68] EU Ecolabel Regulation, which came into effect in 1992, provides a voluntary scheme for the labelling of environmentally friendly products. Products that are labelled with the EU Ecolabel have been rigorously assessed and have been found to have a lower environmental impact than similar products. This helps to prevent greenwashing by ensuring that products that are labelled as environmentally friendly actually meet certain environmental standards.

- Ban any representation of requirements imposed by law on all products within the relevant product category on the Union market as a distinctive feature of the trader's offer.
- Ban certain practices related to the early obsolescence of goods.

The goals of this extensive greenwashing regulatory system are twofold. The first of these is to provide consumer confidence that 'green' or 'eco' products making environmental or sustainability-related claims are backed up by evidence and that these claims are accurate. Without EU-wide standards, the Commission believes that consumers are vulnerable to fraud, and that they require additional information regarding the environmental or sustainability claims of products in order to make effective choices.

This objective also acknowledges the role that consumer preferences are expected to play in driving change on the part of producers towards environmentally responsible products and services.

The second objective of the system is to encourage fair competition on the part of producers in the development and production of environmentally responsible products. In this regard, producers will be required to collect data to verify that products meet environmental claims across their supply chains.

Greenwashing Legislation in New Zealand

While public scrutiny regarding environmental claims on the part of producers is increasing, and companies are increasingly considering and adopting ways to verify their claims through independent scrutiny, there is currently no legislation in New Zealand specifically targeted at combatting greenwashing.

Consumers are protected from misleading claims under the Fair Trading Act (FTA) and by the Advertising Standards Authority (ASA). The FTA makes it illegal for businesses to mislead or deceive consumers regarding the goods and services they sell. The ASA ensures that every advertisement is a responsible one – all advertising and advertisements must be "legal, decent, honest and truthful and respect the principles of fair competition".[69]

In 2020, the New Zealand Commerce Commission released guidance specific to environmental claims.[70] This guidance is intended to help businesses understand their obligations when making environmental claims, including how to avoid breaching the Fair Trading Act.[71] The guidance is not legally binding but rather intended to guide the regulator on how to interpret its powers under the FTA.

The guidance focuses on:

[69] https://www.asa.co.nz/codes/codes/advertising-standards-code/
[70] https://comcom.govt.nz/__data/assets/pdf_file/0017/220247/Environmental-claims-guidance-July-2020.pdf
[71] https://comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims

- Lifecycle claims – including those related to composition (e.g. 100% recycled or 'free of'), production (e.g. made using 100% renewable energy or made from sustainable materials/processes), and disposal (e.g. recyclable or biodegradable).
- Comparative claims – e.g. that the product qualities are better for the environment than a comparative product or range of products.
- Branding – e.g. a brand or company name that represents the product or service that might be misleading if its environmental benefits cannot be proven or are untrue.
- Certification stamps – e.g. the creation of an environmental logo to mislead the consumer or create an impression that the product is independently certified.

Greenwashing and the NZ-EU FTA

There is no direct mention of 'greenwashing' in the free trade agreement. However, under ARTICLE 19.11 – Trade and investment supporting sustainable development, there is a reference to the intentions of the EU's greenwashing legislation.

Under this article, (1.b) "the use of transparent, factual and non-misleading sustainability schemes or other voluntary initiatives" are recognised as having meaningfully contributed to sustainable development.[72] In the same article, the Parties commit to promoting and facilitating trade and investment in (4.c) "goods subject to transparent, factual and non-misleading sustainability assurance schemes such as fair and ethical trade schemes and eco-labels." These promotion and facilitation activities might include: (5.c) "encouraging the uptake of transparent, factual and non-misleading sustainability schemes, especially for SMEs".[73]

Risks to New Zealand Producers

Practices on the part of New Zealand producers that can be classified as greenwashing according to current and emerging EU regulations might result in significant legal exposure for these producers, even if their actions do not conflict with corresponding New Zealand regulations. Potential consequences include litigation and regulatory proceedings, fines, damage claims, confiscation of products or profits, and significant reputational damage.[74]

Of particular importance to New Zealand's land-based primary producers are rules banning the use of generic environmental claims that cannot be effectively demonstrated, and the ban on non-transparent and non-credible sustainability labels or sustainability information tools to back environmental claims.

Broad terms such as climate-friendly, regenerative, carbon neutral and zero carbon will increasingly be scrutinised, and producers will need to collect data to account for a range of metrics, including GHG emissions, waste, water use and energy use, to make any

[72] https://www.mfat.govt.nz/assets/Trade-agreements/EU-NZ-FTA/Text/Consolidated-Text-of-all-Chapters-including-the-Preamble.pdf Page 407.
[73] https://www.mfat.govt.nz/assets/Trade-agreements/EU-NZ-FTA/Text/Consolidated-Text-of-all-Chapters-including-the-Preamble.pdf. Page 408
[74] https://www.lexology.com/library/detail.aspx?g=da5a4c3c-29c5-4e16-a07f-8dfb8d85d9d4

environmentally oriented marketing claim. This will include data collected from each stakeholder in a producer's supply chain and at every stage of a product's life cycle, including its end-of-life recycling or final disposal.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

Organic certification is an assurance scheme verified by a third party that food producers and products meet the standards for organic production. The purpose of organic certification is to ensure that products that claim to be organic use sustainable and environmentally friendly farming practices and are free from synthetic chemicals and other harmful substances.

Certified organic is not a generic environmental claim. The certification process transparently demonstrates, through annual audits, how producers and products meet organic requirements. The process is unique in that it is designed to improve the health of the soil, protect biodiversity, and reduce the environmental impact of farming. In order to do this, producers must follow strict standards that include "minimising the use of external inputs avoiding or excluding the use of synthetic fertilisers and pesticides, antibiotics, growth promotants, genetic modification and irradiation."[75]

Government oversight of organic certification plays an important role in ensuring the integrity and credibility of the organic label. By setting standards, accrediting certification bodies and monitoring compliance, governments can help ensure that organic products are produced using socially and environmentally friendly practices that consumers can trust.

EU Sustainability Label

A Sustainability Food System Framework Initiative has been tasked with integrating sustainability into all food-related policies to support the Farm to Fork Strategy. It is responsible for developing rules concerning the sustainability labelling of food products, minimum criteria for sustainable public food procurement, and the system's governance and monitoring.

The Sustainability Labelling Framework, one of the most significant pieces of work arising from this initiative, will directly affect New Zealand's food exports to the EU.[76]

This Framework will cover the provision of consumer information related to environmental impacts, allowing consumers to make informed purchasing decisions. Products will be graded according to their performance in the following areas:

[75] https://www.mpi.govt.nz/agriculture/organic-product-requirements-in-nz/
[76] https://food.ec.europa.eu/safety/labelling-and-nutrition/food-information-consumers-legislation_en

1. Climate change mitigation.
2. Water impacts.
3. Air impacts.
4. Soil impacts.
5. Biodiversity impacts.
6. Circular economy.

These categories align with the EU's key sustainability strategies that drive the Green Deal, and it is assumed that the evaluation criteria for these categories will correspond with the EU's targets in these areas. They also reflect, to some extent, the 2019 Environmental Impact Analysis conducted by the European Commission ahead of the conclusion of the EU-New Zealand Free Trade Agreement. The Analysis reviewed the potential impacts of the EU-NZ FTA on climate change, air quality, land use and soil quality, ecosystems and biodiversity, water quality and quantity, and waste and waste management.[77]

It would appear highly likely that the implementation of the EU labelling system will result in international trade disputes, with the system being accused of creating technical barriers to trade. In this regard, the European Commission appears to hold the view that the labelling scheme will assist the EU in enforcing environmental criteria that current WTO rules fail to address.

Public consultation on the Labelling Framework was held from 28 April to 21 July 2022.[78] The outcomes of this consultation process will be released in the third quarter of 2023.

Over the past several years, the New Zealand Government has been progressing with its sustainability policy framework. Substantive differences exist between the domestic policy environments within New Zealand and the EU, particularly concerning the six pillars of the proposed EU food labelling scheme.

The following section reviews and compares the current policy environments within the EU and New Zealand, respectively, in the areas of climate change, water quality, air quality, soil health, biodiversity and circular economy. This analysis also investigates the level of inclusion (or lack thereof) of each parameter in the NZ-EU FTA. Finally, the role of organic production in promoting positive outcomes in each of these areas is assessed.

1. Climate Change Mitigation

The issue of climate change has become a key element of public policymaking in all countries as the effects of human activities on the Earth's climate become increasingly

[77] https://beta.op.europa.eu/en/publication-detail/-/publication/938633e3-0aca-11ec-adb1-01aa75ed71a1/language-en/format-PDF/source-202706373
[78] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13174-Sustainable-EU-food-system-new-initiative_en

apparent. For the most part, however, evidence of this inclusion of climate considerations in policymaking resulting in significant reductions of greenhouse gas emissions remains scant.

Climate Change in EU Policy

Amongst major trading nations and trading blocs, the EU has consistently displayed the highest levels of ambition to reduce greenhouse gas emissions and to address the effects of now-unavoidable climate change. These include the goal of climate neutrality with regard to EU emissions by 2050 (adopted in December 2019) and a 55% reduction in emissions by 2030 (adopted in December 2020).

The EU's climate ambitions are primarily expressed in the European Green Deal, which (as described in Chapter 2) is a comprehensive package of policy initiatives that aim to place the continent on a path to achieving climate neutrality by 2050. The Green Deal promotes a holistic and cross-sectoral approach in which all relevant policy areas contribute to this objective. It includes policy initiatives addressing environmental conservation, energy, transport, industry, agriculture and sustainable finance considerations, with strong linkages between each of these.

Key elements of the Green Deal include the European Climate Pact, the 2030 Climate Target Plan, and the development and passing of the European Climate Law.

The 2030 Climate Target Plan includes the Fit for 55 package of policies, which supports the interim objective of a 55% reduction in emissions by 2030. This package aims to revise the EU's existing climate, energy and transport-related legislation and implement new laws that align with the Commission's climate objectives.

The Fit for 55 package includes, amongst others, the following measures:

- A revision of the EU Emissions Trading System (EU ETS), including its extension to shipping, a revision of the rules for aviation emissions and the establishment of a separate emissions trading system for road transport and buildings.
- A revision of the effort-sharing regulations regarding EU member states' emissions reduction targets for sectors falling outside the EU ETS.
- A revision of LULUCF regulations on the inclusion of GHG emissions and removal.
- An amendment of regulations governing CO_2 emission standards for vehicles.
- A revision of the EU directives related to renewable energy, energy efficiency and energy taxes.
- The implementation of a carbon border adjustment mechanism (CBAM).
- Revisions or development of directives related to alternative fuels, aviation fuels and maritime fuels.
- The implementation of a social climate fund.
- A revision of the directive governing the energy performance of buildings.

Contentiously, the Green Deal and the Fit for 55 package also include measures that effectively support natural gas and nuclear energy,[79] with these energy sources included in the EU taxonomy for sustainable activities.[80]

The European Climate Law was adopted in June 2021. This obliges all EU member states to reach both the 2030 and 2050 climate goals and also defines a framework for regulatory and other actions on the part of the EU and member states to reduce emissions and achieve climate neutrality.

In addition to these targets and accompanying obligations, the Climate Law includes a recognition of the need to enhance the EU's ability to sequester carbon through more ambitious LULUCF regulations, as well as a process for setting a 2040 climate target. It also mandates the establishment of a European Scientific Advisory Board on Climate Change that will provide independent scientific advice.

In June 2021, the Council also approved a revised EU strategy on adaptation to climate change. This strategy outlines a long-term vision for the EU to become a climate-resilient society that is fully adapted to the unavoidable impacts of climate change by 2050.

In outlining its ambitions for emissions reductions and adaptation to unavoidable climate change, and developing appropriate accompanying regulatory and policy instruments, the EU has demonstrated an unprecedented degree of global leadership. At the same time, however, the EU's domestically generated emissions account for less than 10% of the global total, with this percentage declining on an annual basis. As a consequence, even the most ambitious internal policies on the part of the EU will prove insufficient to avoid catastrophic levels of global warming.

For this reason, the EU has also incorporated climate change as a key element of its external policies, both in multilateral negotiation fora such as the IPCC, UNFCCC and WTO and in bilateral relations with non-EU countries. This includes free trade agreements such as the NZ-EU FTA.

New Zealand's Climate Change Policy Framework

Similarly to the EU, New Zealand has developed a comprehensive climate change policy framework to reduce greenhouse gas emissions and improve climate resilience across the country. This framework focuses on domestic and international leadership, transitioning to a productive, sustainable, climate-resilient economy, and creating a just and inclusive society.

Principal elements of the framework include the following:

[79] https://www.reuters.com/business/sustainable-business/eu-parliament-vote-green-gas-nuclear-rules-2022-07-06/

[80] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

- The Climate Change Response (Zero Carbon) Amendment Act – passed into law in November 2019, this Act sets a domestic emissions reduction target for 2050, aligned with New Zealand's commitments under the UNFCCC's 2015 Paris Agreement;[81]
- The creation in December 2019 of an independent Climate Change Commission, responsible for providing advice to the government regarding climate change mitigation and adaptation.
- The development of emissions budgets, based on advice received from the Climate Change Commission – the first three of these emissions budgets covering the periods 2022-2025, 20262030 and 2031-2035, were published in May 2022.
- The publication, also in May 2022, of New Zealand's first Emissions Reduction Plan, which describes the methodologies and mechanisms for meeting emissions budgets and achieving the government's 2050 emissions reduction target.
- A revision of the NZETS, aimed at improving the effectiveness of the Scheme to assist the country in reaching its emissions budgets and targets.[82]
- The development of a suite of measures aimed at reducing agricultural emissions – these include the He Waka Eke Noa Primary Sector Climate Action Partnership and, in the food and fibre sectors, the Fit for a Better World strategy, which might be considered as New Zealand's equivalent to the Farm to Fork Strategy.
- The development of a National Adaptation Plan covering the natural environment, urban resilience, infrastructure, communities and the national economy and financial system.[83]
- The creation of a Carbon Neutral Government programme, launched in December 2020, which aims to accelerate emissions reductions in the New Zealand public sector.
- The implementation of a mandatory climate-related financial disclosures regime, applicable to registered financial institutions and certain companies listed on the New Zealand Stock Exchange.

These and other initiatives aim to create a comprehensive suite of inter-related policy interventions that will give effect to the government's ambition of placing New Zealand at the forefront of global action on climate change.

Unfortunately, however, the ambition of the country's government in this regard appears very often not to be matched by that of the country's business sector, with a number of policy initiatives facing varying degrees of resistance, particularly from the country's primary

[81] New Zealand's first Nationally Determined Contribution (NDC) under the Paris Agreement is for a 50% reduction in net GHG emission below gross 2005 levels by 2030 - https://unfccc.int/sites/default/files/NDC/2022-06/New%20Zealand%20NDC%20November%202021.pdf. This represents a critical milestone in the New Zealand government's objective of net zero GHG emission (excluding biogenic methane) by 2050.

[82] The continued exclusion of agricultural emissions, which comprise close to 50% of New Zealand's total GHG emissions, remains a key point of criticism for the ETS, and is widely considered by critics as significantly compromising the credibility of the Scheme as a whole – https://www.mpi.govt.nz/funding-rural-support/environment-and-natural-resources/emissions-trading-scheme/about-the-emissions-trading-scheme/

[83] This Plan is considered as having assumed heightened importance, following the impacts of a number of weather-related events in the first two months of 2023, including the unprecedented levels of rainfall experienced by Auckland at the end of January 2023, and the devastation caused by Cyclone Gabrielle across much of the North Island in February 2023.

industries. This resistance often appears to be positioned in the context of maintaining the international competitiveness of New Zealand's major export sectors.

Climate Change and the NZ-EU FTA

The phrase 'climate change' occurs 16 times in the text of the NZ-EU FTA, and the word 'climate' a total of 27 times. Several of these instances refer to standard regulatory provisions, such as the affirmation of the rights of the parties to regulate within their respective territories to achieve a range of policy objectives, including those related to climate change. Such references occur in the Preamble to the Agreement, as well as in Chapter 10, which relates to Investment Liberalisation and Trade in Services. A similar reference also occurs in the General Provisions section of Chapter 12, relating to Digital Trade.

In addition, Chapter 26 of the Agreement, dealing with Dispute Settlement, includes a number of technical provisions related to the settlement of potential disputes in various climate-related sections of the Agreement.

More substantive mentions of climate change occur in Chapter 19, on Trade and Sustainable Development. In Section 19.1, which provides information on the Context and Objectives of the Agreement, the Parties "recognise the urgent need to address climate change, as outlined in the Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C, as a contribution to the economic, social and environmental objectives of sustainable development".

Article 19.6 deals specifically with the subject of Trade and Climate Change. Paragraph 1 of this article states that the Parties "recognise the importance of taking urgent action to combat climate change and its impacts, and the role of trade in pursuing this objective, consistent with the United Nations Framework Convention on Climate Change done at New York on 9 May 1992 (hereinafter referred to as the UNFCCC), the purpose and goals of the Paris Agreement, and with other MEAs and multilateral instruments in the area of climate change".

In light of this recognition, in Paragraph 4, the Parties commit to:

- Promoting the mutual supportiveness of trade and climate policies and measures, thereby contributing to the transition to a low greenhouse gas emission, resource-efficient and circular economy and to climate-resilient development.
- Facilitating the removal of obstacles to trade and investment in goods and services of particular relevance for climate change mitigation and adaptation, including renewable energy and energy-efficient products and services. Such facilitation might take place through addressing tariff and non-tariff barriers or through the adoption of policy frameworks conducive to the deployment of the best available technologies.
- Promoting emissions trading as an effective policy tool for reducing greenhouse gas emissions efficiently and promoting environmental integrity in the development of international carbon markets.

Furthermore, in Paragraph 5 of Article 19.6, the Parties commit to strengthening their cooperation on trade-related aspects of climate change policies and measures bilaterally and regionally, including with third countries and in international fora, as appropriate. Examples of such international fora include the UNFCCC, the Paris Agreement, the WTO, the Montreal Protocol on Substances that Deplete the Ozone Layer, the International Civil Aviation Organisation and the International Maritime Organisation.

This cooperation is described as potentially including the following actions:

- Policy dialogue and cooperation regarding the implementation of the Paris Agreement, including the promotion of climate resilience, renewable energy, low-carbon technologies, energy efficiency, sustainable transport, sustainable and climate-resilient infrastructure development, emissions monitoring, and emissions actions in relation to third countries as appropriate.
- Policy and technical exchanges regarding the development and implementation of domestic and international carbon pricing mechanisms, including emissions trading and the promotion of effective standards of environmental integrity in their implementation.
- Support for the development and adoption of ambitious and effective greenhouse gas emissions reduction measures by the IMO for ships engaged in international trade.
- Support for an ambitious phase-out of ozone-depleting substances and phase-down of hydrofluorocarbons under the Montreal Protocol, including through measures to control their production, consumption and trade, the introduction of environmentally friendly alternatives to these substances, the updating of safety and other relevant standards, and combating the illegal trade of substances regulated by the Montreal Protocol.

Although not specifically including the phrase ‘climate change’, Article 19.7 of the Agreement deals with the critical climate-related subject of Trade and Fossil Fuel Subsidy Reform. In this Article, the Parties describe a shared objective of “reforming and progressively reducing fossil fuel subsidies and reaffirm their commitment to work to meet this objective in accordance with national circumstances, while taking fully into account the specific needs of populations affected”.

The Parties also commit to strengthening their cooperation on trade-related aspects of fossil fuel subsidy policies and measures bilaterally and in international fora. In recognition of the central role that the WTO might play in the reform of the international fossil fuel subsidy regime, the Parties commit to collaborating on the subject within the WTO and to encouraging other WTO members to advance reform and pursue new fossil fuel subsidy disciplines in the WTO, including through enhanced transparency and reporting, to more effectively evaluate the trade, economic and environmental effects of fossil fuel subsidy programmes.

In Article 19.9 of the Agreement, dealing with Trade and Forests, the Parties recognise deforestation as a major driver of global warming and biodiversity loss and commit to

encouraging the consumption and trade in products from deforestation-free supply chains. They also commit to strengthening their cooperation on “trade-related aspects of sustainable forest management, minimising deforestation and forest degradation, forest conservation, illegal logging, and the role of forests and wood-based products in climate change mitigation and the circular and bioeconomies, bilaterally, regionally and in international fora as appropriate”.

Article 19.11 addresses the subject of Trade and Investment Supporting Sustainable Development. In this Article, the Parties reiterate their commitment under Article 2.5 (dealing with the Elimination of Customs Duties) to eliminate customs duties on environmental products and services originating in the other Party, where these products or services contribute to the achievement of environmental and climate goals, by preventing, limiting, minimising or remediating environmental damage to water, air and soil, or by contributing to the dissemination of technologies that mitigate climate change.

Risks to New Zealand Producers

The various climate-related provisions in the text of the NZ-EU FTA, as described above, appear to provide a substantive basis for bilateral collaboration between the parties, as well as for cooperation in relevant international fora.

What remains to be determined, however, is the extent to which these provisions will shape and influence the future development of domestic and trade-related climate policies, particularly in areas such as emissions trading and CBAMs.

In the event that the EU does in the future apply a CBAM regime to primary sector imports, there would appear to be some risk to New Zealand producers of a decline in the price competitiveness of their products in European markets, particularly if New Zealand’s primary industries remain exempt from any form of domestic emissions payment regime.

By contrast, the inclusion of New Zealand’s primary export-oriented producers in some form of emissions payment scheme (whether via the NZETS, the He Waka Eke Noa initiative or any other system that might be developed in the future), is likely to see these domestic payments being acknowledged or credited in any CBAMs levied on exports to the EU.

With regard to the EU Sustainability Labelling Scheme, there would also appear to be some risk for New Zealand exporters of their products receiving suboptimal ratings due to inadequate climate performance, should these producers be unable to demonstrate declines in the embedded emissions of their products, or should they not be paying the cost of their emissions.

These risks for local producers may increase significantly if New Zealand fails to achieve its domestic emissions reduction objectives or its international commitments under the Paris Agreement.

At the same time, however, the EU's emerging regulatory regime around the climate impacts of imports might provide a significant competitive advantage for New Zealand's primary producers, should they be in a position to substantiate claims regarding low-carbon primary production in New Zealand compared to other countries.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

As indicated above, nearly 50% of New Zealand's total GHG emissions are produced by the agriculture and primary sectors, meaning that the production methods of New Zealand farmers hold significant implications for emissions reduction and climate change mitigation.

Organic agriculture plays an essential role in climate change mitigation by:

- Improving soil health and reducing soil erosion – organic agriculture uses soil conservation and management techniques, including cover cropping, crop rotation and reduced tillage. Organic soils have improved structure and biodiversity, which allows greater carbon sequestration and the ability to withstand greater extremes of flooding and drought. Soil erosion reduces soil carbon sequestration and causes CO_2 to leach from the soil into the atmosphere.
- Avoiding the use of synthetic nitrogen fertilisers – when applied to soil, synthetic nitrogen fertilisers release nitrous oxide (N_2O) into the atmosphere. As a gas, N_2O has approximately 300 times the global warming potential of CO_2.[84] Organic soil management practices eliminate the need for synthetic fertilisers. A study in the EU observed a 40% reduction of N_2O emissions per hectare for organic compared to non-organic systems.[85]
- Not using synthetic chemical pesticides – these substances are increasingly being shown to harm both ecosystems and human health. Organic farming promotes biodiversity by maintaining natural ecosystems and reducing climate change's impact on wildlife.

- Playing an active role in carbon sequestration – as indicated above, organic farming practices encourage the sequestration of carbon in the soil through the use of cover crops, crop rotation and reduced tillage. One of the most comprehensive comparisons of organic and conventional farm soils found that organic soils held 26% more long-term carbon storage potential than conventionally farmed soil.[86]
- Reducing animal methane emissions – organic pastoral farming reduces methane emissions by planting a diversity of pastoral species that can reduce the methane produced in animal rumens and by building healthy soils that allow methanogens (methane-consuming bacteria) to thrive.
- Implementing animal management plans to maintain a high level of animal welfare – organic management plans require livestock to be managed in a way that considers

[84] https://www.epa.gov/ghgemissions/overview-greenhouse-gases
[85] https://www.nature.com/articles/s41598-018-38207-w
[86] https://civileats.com/2017/09/11/new-study-shows-organic-farming-traps-carbon-in-soil-to-combat-climate-change

the health and well-being of the animals and promotes their natural behaviours. This includes providing adequate space, access to the outdoors and opportunities for socialisation and exercise. It also emphasises preventative practices without using hormones, antibiotics or other synthetic medications, and the operation's environmental impact. Organic farms generally maintain lower stocking rates than comparable conventional operations, which reduces methane and N_2O emissions.

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2. Water Impacts

The principal pieces of legislation utilised by the EU to reduce freshwater pollution and repair ecosystems are the Biodiversity Strategy 2030, the Pesticide Reduction Plan and the Water Framework Directive.

Water pollution across the EU occurs primarily due to discharges from urban wastewater treatment and the release of industrial effluents from farming. Nutrient pollution (including nitrogen and phosphorus) from agriculture is the main form of freshwater pollution in the EU.[87]

The Water Framework Directive requires Member States to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater. The directive sets environmental quality standards for various pollutants and requires Member States to establish monitoring programs and management plans for these pollutants.[88] Under the Directive, Member States must achieve “good ecological status” for freshwater bodies by 2027.[89]

At the farmer/grower level, freshwater management is included in the EU’s Common Agricultural Policy. Under the CAP, farmers with farms with larger than 15 hectares of arable land are required to report on their compliance with a range of environmental regulations aimed at protecting the environment and promoting sustainable agriculture practices.

Such reporting includes monitoring and recording water use and pollution discharges into freshwater and implementing measures to reduce the risks of pollution, for example, by using fertilisers and pesticides in ways that minimise their impact on water quality. Additional

[87] https://www.eea.europa.eu/ims/nutrients-in-freshwater-in-europe
[88] https://environment.ec.europa.eu/topics/water/water-framework-directive_en
[89] https://www.mdpi.com/2073-4441/14/3/486

measures to protect watercourses and wetlands, such as maintaining buffer strips along waterways or avoiding certain farming practices in areas with sensitive water resources, may also be required.

New Zealand's Freshwater Policies

In New Zealand, the current policy structure that has been developed appears to have similar priorities and objectives to those of the EU.

Freshwater pollution is one of the most high-profile environmental concerns for New Zealand. According to the Ministry for the Environment, "water quality has been dramatically affected by changes in water usage, agricultural intensification, and climate change."

"Applying pesticides and fertilisers, increasing the number of cattle per hectare, felling and replanting pine trees, and faulty wastewater and stormwater infrastructure are all examples of activities that contribute to water pollution."[90]

The most recent report on the state of New Zealand's freshwater resources is the *Our Freshwater 2020* report, released by the Ministry for the Environment and Stats NZ in August 2020. The report states that the main threat to water quality is nitrogen leaching from agriculture (in particular livestock waste and fertiliser). Nitrogen leaching has affected surface and groundwater quality, particularly in intensively farmed areas.

The report also states that at the time of its publication, only 28% of monitored lakes and rivers met the criteria for ecosystem health, implying that the overwhelming majority of New Zealand's freshwater ecosystems are under stress.[91] Data collected from rivers across the country shows that pollutant concentrations in river water increased between 2 and 15 times in pastoral regions compared to areas lying outside of pastoral regions.[92] Algal blooms occur regularly in otherwise unpolluted water coming from freshly melted ice.

Furthermore, the biological impact of polluted waterways is increasing, with recent studies revealing that 76% of the 51 native species of freshwater fish are either threatened or at risk of extinction.[93]

In an attempt to address these and other issues, the Ministry for the Environment in September 2020 released the National Policy Statement for Freshwater Management (NPS-FM)[94] as part of the government's Essential Freshwater programme of reforms. This programme consists of a number of laws and regulations aimed at halting and reversing the degradation of water (and other) resources by limiting farm intensification, increasing good

[90] https://environment.govt.nz/assets/Publications/Files/our-freshwater-2020-summary.pdf
[91] https://environment.govt.nz/publications/our-freshwater-2020/
[92] https://environment.govt.nz/publications/environment-aotearoa-2019/theme-3-pollution-from-our-activities/
[93] https://www.stats.govt.nz/indicators/extinction-threat-to-indigenous-freshwater-species

[94] https://environment.govt.nz/assets/publications/National-Policy-Statement-for-Freshwater-Management-2020.pdf

practices where intensive winter grazing is required, and improving standards for water quality assessment. The programme also sets limits for the quantity of pollutants that can be discharged into freshwater bodies, including nutrient and sediment runoff from farms. It requires regional councils to develop plans for managing freshwater resources in their regions.

Under the NPS-FM, regional councils, working together with local Māori, are required to set water quality limits, develop plans to achieve them and manage the effects of pollution and contamination. This includes identifying and managing sources of sediment and nutrient runoff that can negatively impact soil health and water quality. The policy also promotes the use of sustainable land management practices, including reducing the impact of pesticides and promoting riparian planting and other soil conservation measures to improve soil quality and reduce erosion. The NPS-FM also requires regional councils to discourage the use of highly toxic pesticides in areas where they are likely to enter freshwater systems.

The package includes a number of new pieces of legislation and/or regulation, including:[95]

- The National Environmental Standards for Freshwater.
- New stock exclusion regulations.
- Amendments to the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.
- The National Policy Statement for Freshwater Management 2020 (NPS-FM 2020), updated in January 2023.
- Amendments to the RMA to provide for a faster freshwater planning process.
- Amendments to the RMA to enable mandatory and enforceable freshwater farm plans.
- The creation of regulations for reporting nitrogen fertiliser sales.

In addition to establishing regional freshwater goals and management plans, regional councils are responsible for monitoring and reporting on the state of freshwater resources, including water quality and quantity, and on the effectiveness of their management actions.

At the farmer/grower level, farmers are required to take proactive approaches to manage on-farm activities to protect and improve freshwater resources. Farmers must comply with regional council plans and report how identified risks are managed, along with reporting nutrient and sediment runoff, water abstraction and effluent discharges. At present, these measures only apply to farms of 20 hectares or more in arable or pastoral use, five hectares or more in horticultural use, or 20 hectares or more in combined use.

Freshwater and the NZ–EU FTA

Freshwater impacts are mentioned in two areas in the EU-NZ Free Trade Agreement.

[95] https://environment.govt.nz/assets/Publications/Files/essential-freshwater-overview-factsheet.pdf

In Article 13.8, which deals with the Assessment of environmental impact, the Parties commit (in line with their respective laws and regulations) to:

- Ensuring that all interested persons, including NGOs, have an early and effective opportunity, and an appropriate time period, to participate in environmental impact assessments as well as an appropriate time period to provide comments on environmental impact assessment reports.
- Taking into account the findings of environmental impact assessments relating to effects on the environment, prior to granting authorisations.
- Making publicly available the outcome findings of environmental impact assessments.
- Identifying and assessing as appropriate the significant effects of projects on:
    - population and human health
    - biodiversity
    - land, soil, water, air and climate
    - cultural heritage and landscape, including the expected effects deriving from the vulnerability of projects to risks of major accidents or disasters as relevant.

Furthermore, in Article 19.11, on *Trade and investment supporting sustainable development*, the Parties affirm their commitments under Article 2.5 (Elimination of customs duties) and in Chapter 10 (Investment liberalisation and trade in services) to eliminate customs duties and other barriers to trade and investment in environmental goods and services. These goods and services are considered as contributing to the achievement of environmental and climate goals by preventing, limiting, minimising or remediating environmental damage to water, air and soil, contributing to the dissemination of technologies that assist in climate change mitigation, and assisting the transition to a circular economy.

Risks for New Zealand Producers

New Zealand and the EU appear to share similar objectives regarding the reduction of agricultural pollution and accompanying improvements in water quality. In both instances, the achievement of these objectives will overwhelmingly depend on changes to agricultural and land use practices and the speed with which farmers can reduce their dependence on agrichemicals such as conventional synthetic fertilisers and pesticides.

In New Zealand, the ongoing trend towards intensification, particularly in beef and dairy farming, holds the potential to hinder the achievement of the government's freshwater objectives. Although freshwater policies may help to reduce impacts on freshwater at an individual farm level, increases in the number and intensity of farms are likely to reduce the overall effectiveness of these policies.

Without embracing lower-emission livestock production systems, which include decreases in herd sizes and reductions in the use of agrichemicals, a significant risk exists that New

Zealand producers will fail to meet the freshwater management standards mandated by the Essential Freshwater programme.

The same risks are likely to apply in other primary sectors, such as horticulture, which rely heavily on irrigation and synthetic chemical pesticides and fertilisers.

In terms of primary sector exports from New Zealand to the EU, the principal risk is likely to lie in the fact that any failures on the part of New Zealand producers to adhere to required domestic water quality or water management standards (or to demonstrate a degree of ongoing improvement in this area) is likely to result in their product receiving suboptimal ratings under the proposed EU Sustainability Labelling Framework.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

Organic agriculture plays an essential role in freshwater health by:

- **Reducing chemical and nutrient pollution** – organic farming excludes synthetic pesticides and herbicides and minimises external inputs. This benefits freshwater ecosystems by reducing chemical pollution. Organic farm management practices also utilise integrated pest management and conservation tillage to build up organic matter in soil and water resources. These practices help reduce nutrient runoff which in excess can cause harmful algal blooms in freshwater systems.
- **Reduced erosion and sedimentation** – organic farming practices work to preserve natural habitats, such as hedgerows, riparian areas and wetlands. In addition, conservation tillage and cover crops promote the growth of plant roots, which creates channels for air and water to move through the soil. This helps to improve soil structure and moisture and increases soil diversity and overall health. This results in more sponge-like soil properties that significantly reduce sedimentation flow in freshwater systems and ultimately help improve water quality and protect aquatic habitats.
- **Reduced nitrate leaching** – organic farming practices use natural nitrogen sources, such as compost, manure and planted legumes, rather than synthetic nitrogen fertilisers. These natural nitrogen sources are incorporated into the soil and released slowly over time, significantly helping to reduce nitrate leaching. Synthetic nitrogen is highly water-soluble and, therefore, very susceptible to leaching when rainfall moves downward through the soil. A Massey University study involving a side-by-side comparison of organic and conventional dairy farms in New Zealand found that conventional dairy farming resulted in more than twice the level of nitrate leaching as organic farming.[96]
- **Aquatic biodiversity conservation** – organic farming promotes and protects biodiversity in aquatic as well as terrestrial environments by reducing the negative impact of synthetic chemical pesticides and fertilisers, conserving riparian zones and wetlands, and prioritising soil's ability to retain water, reducing the risk of water runoff and erosion.

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96 https://www.massey.ac.nz/massey/fms/DCRU10/Annual%20Reports/DairyNZ%20Report%20June%2010.pdf?53E23B185853721598D69FB862F15D8F

3. Air Impacts

Efforts to address air pollution and climate change often involve similar policy measures, such as promoting energy efficiency, reducing reliance on fossil fuels, and promoting the use of renewable energy sources. Addressing air pollution and climate change at the same time can reduce harmful impacts on both human health and the environment.

In the EU, the issue of air pollution is governed by the National Emission Ceilings Directive, which aims to reduce emissions of air pollutants from various sources, including agriculture. The Directive establishes national emission limits for certain air pollutants and helps ensure that Member States are working towards a common goal of reducing emissions and improving air quality. It is linked to the Zero Pollution Action Plan, as well as to various other strategies within the European Green Deal, and to the EU's climate goals.

As indicated above, the EU's Zero Pollution Action Plan covers air, water, soil and consumer products.[97]

According to the World Health Organisation, premature deaths caused by air pollution-related health concerns can include those caused by strokes, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. An estimated 4.2 million premature deaths worldwide in 2019 were caused by exposure to fine particulate matter found in outdoor air pollution.[98]

Although air pollution levels have steadily decreased in the EU, the European Environmental Agency estimates that "at least 238,000 people died prematurely in the EU in 2020 due to air pollution".[99] In order to improve air quality and protect public health, the European Commission in April 2022 adopted proposals to revise measures that address pollution from large industrial installations, including agriculture.

In the EU, agriculture is responsible for 94% of ammonia emissions, 56% of methane emissions, 10% of emissions of volatile organic compounds (VOCs), 19% of nitrogen oxides emissions, and 7% of total nitrous oxides emissions.[100] All these negatively impact human health, and land and water ecosystems – and contribute to climate change.

The new rules adopted by the Commission fall under the Industrial Emissions Directive (IED), which aims to:[101]

1. Ensure full and consistent implementation of the IED across Member States, with tighter permit controls on air and water emissions.

[97] See section XX above for a description of the objectives and outcomes of the Zero Pollution Action Plan
[98] https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health
[99] https://www.eea.europa.eu/highlights/premature-deaths-due-to-air
[100] https://www.eea.europa.eu/highlights/premature-deaths-due-to-air
[101] https://ec.europa.eu/environment/industry/stationary/ied/evaluation.htm

2. Increase investment in new, cleaner technologies taking into account energy use, resource efficiency and water reuse whilst avoiding lock-in to obsolete technologies.
3. Support more sustainable growth of sectors that are key to building a clean, low-carbon and circular economy.
4. Cover additional intensive farming and industrial activities, ensuring that sectors with significant potential for high resource use or pollution also curb environmental damage at source by applying Best Available Techniques.
5. Establish an Innovation Centre for Industrial Transformation and Emissions (INCITE).
6. Integrate the previously separate requirements for de-pollution and de-carbonisation so that future pollution control investments take better account of greenhouse gas emissions, resource efficiency and water reuse.
7. Enhance data transparency and public access to environmental information by making permit summaries available online and providing more opportunities for public participation in the setting and review of permits.

New Zealand's Air Quality Policies

The Ministry for the Environment is responsible for the management of air quality and air pollution in New Zealand, primarily through the National Environmental Standard for Air Quality. This Standard establishes prohibitions and restrictions on discharges from certain activities, quality standards for common air pollutants, standards for wood burners and rules regarding GHG emissions at landfills.

The management of air pollution is also guided by the Resource Management Act 1991, which places the responsibility for the enforcement of air quality standards and monitoring programs with regional councils.

A number of ministries and government agencies collaborate with the Ministry for the Environment to address specific aspects of air pollution, including the Ministry of Health, the Ministry for Primary Industries and the Ministry of Transport.

As is the case in the EU, the principal causes of air pollution from agriculture in New Zealand include:[102]

- Methane from the decomposition of animal waste, as well as the belching and flatulence of livestock. Methane makes up almost three-quarters of New Zealand's agriculture emissions.
- Ammonia from the urine and manure of livestock and nitrogen-based fertilisers.
- Nitrous oxide from nitrogen-based fertilisers, urine and dung from grazing livestock, and burning fossil fuels.
- Nitrogen oxides from the burning of fossil fuels, animal manure and nitrogen-based fertilisers.
- VOCs from pesticides and fertilisers, manure management and crop burning.

[102] https://environment.govt.nz/facts-and-science/climate-change/agriculture-emissions-climate-change/

According to the OECD, New Zealand emits more:

- GHG by tonne/capita
- CO_2 by tonne/capita
- nitrous oxides by kilogram/capita
- VOCs by kilogram/capita, than the European Union[103]

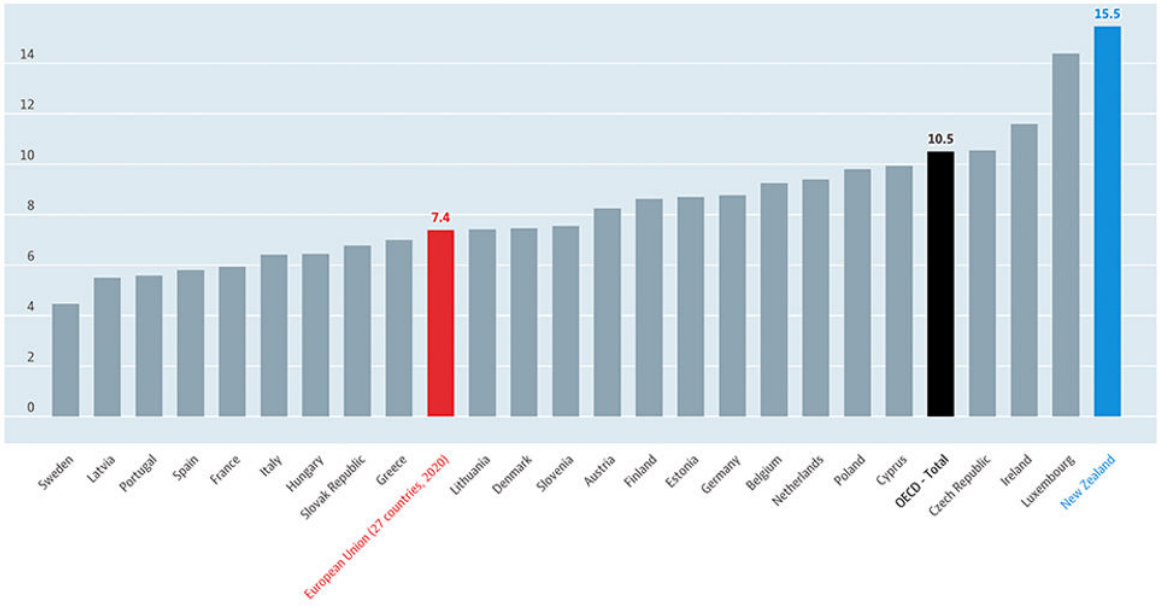
The following OECD Data Air and GHG Emissions graphs illustrate the differences between New Zealand, EU countries and the OECD.

[103] Greenhouse gases refer to the sum of seven gases that have direct effects on climate change: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6) and nitrogen trifluoride (NF3). The data are expressed in CO2 equivalents and refer to gross direct emissions from human activities. CO2 refers to gross direct emissions from fuel combustion only and data are provided by the International Energy Agency. Other air emissions include emissions of sulphur oxides (SOx) and nitrogen oxides (NOx) given as quantities of SO2 and NO2, emissions of carbon monoxide (CO), and emissions of volatile organic compounds (VOC), excluding methane. Air and greenhouse gas emissions are measured in thousand tonnes, tonnes per capita or kilograms per capita except for CO2, which is measured in million tonnes and tonnes per capita. https://data.oecd.org/air/air-and-ghg-emissions.htm

Air and GHG emissions

Greenhouse gas (GHG), Tonnes/capita, 2020 or latest available

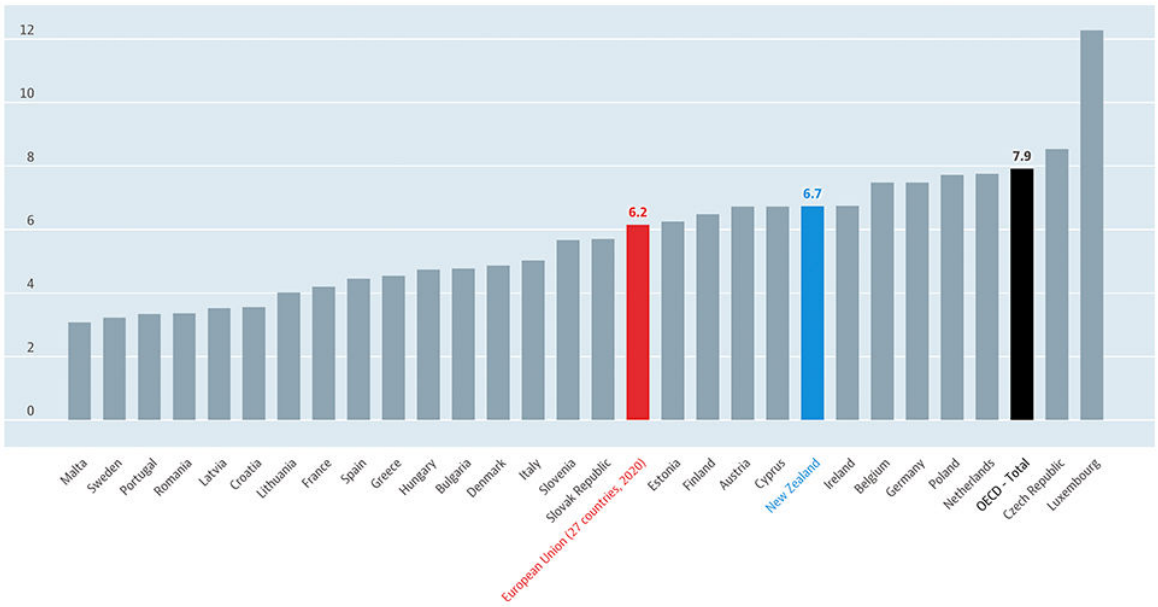
Source: Indicators for CO2 emissions



Air and GHG emissions

Carbon dioxide (CO2), Tonnes/capita, 2021 or latest available

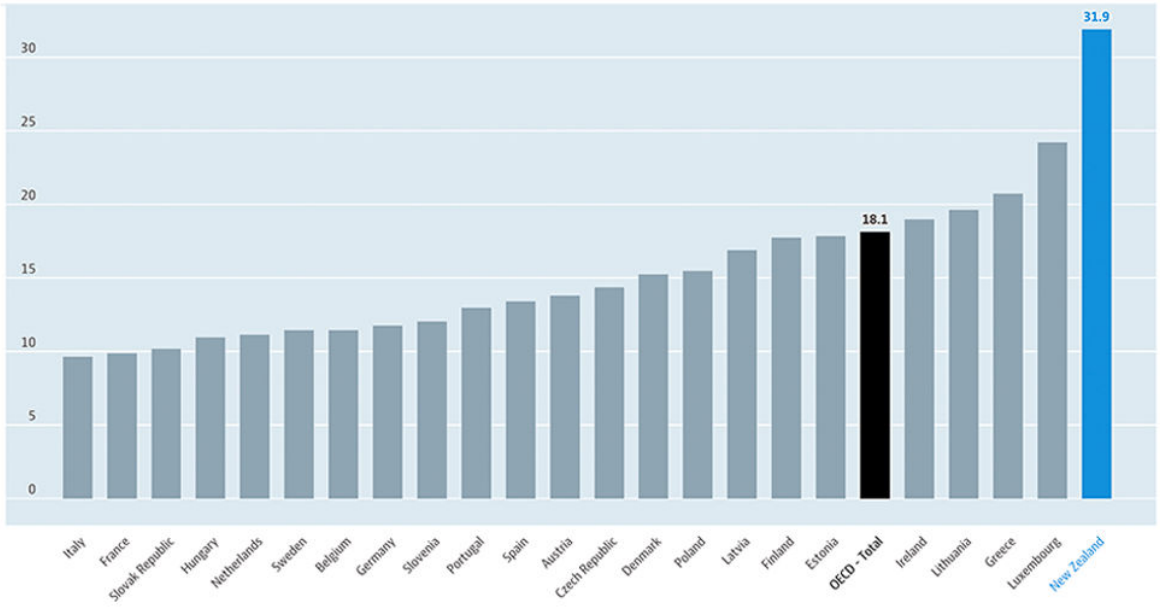
Source: Indicators for CO2 emissions



Air and GHG emissions

Nitrogen oxides (NOx), Kilograms/capita, 2020 or latest available

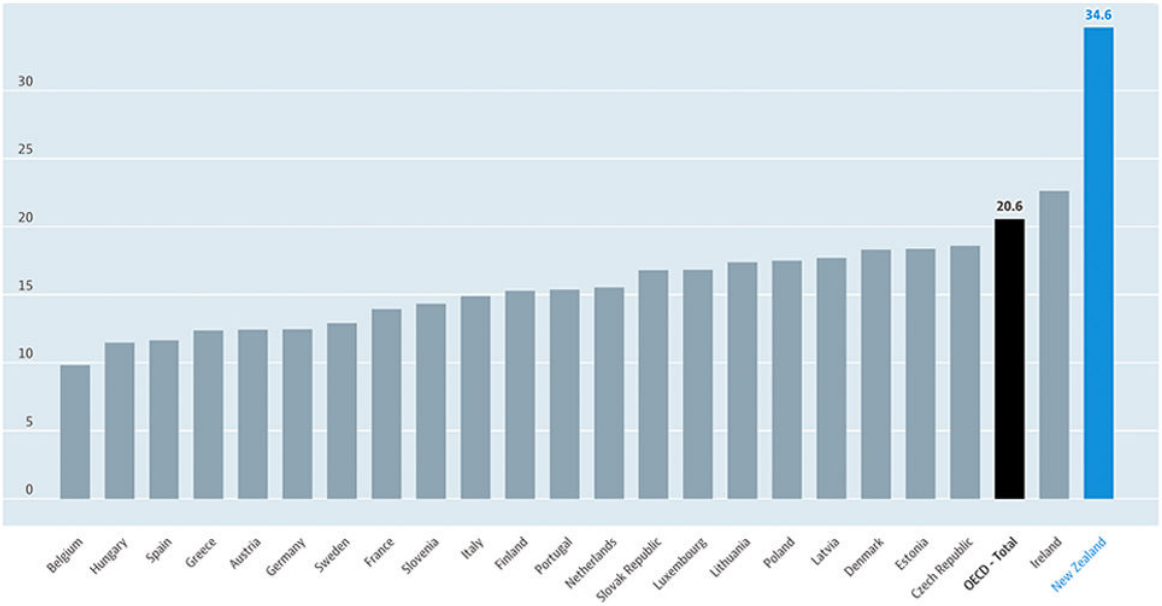
Source: Indicators for CO2 emissions



Air and GHG emissions

Volatile organic compounds (VOC), Kilograms/capita, 2020 or latest available

Source: Indicators for CO2 emissions



Air Quality and the NZ-EU FTA

Similar to freshwater, air quality is mentioned in two Articles of the NZ-EU FTA, namely Article 13.8, dealing with the *Assessment of environmental impact*, and Article 19.11, dealing with *Trade and investment supporting sustainable development.*

In these Articles, the Parties commit to transparency and completeness in their execution of environmental impact assessments and liberalising trade and investment in environmental goods and services.

Impact on New Zealand Producers

Research undertaken by Massey University's Environmental Health Intelligence Unit into the impacts of fine particulate matter and nitrogen dioxide air pollution in New Zealand, suggests that these accounted for 13,155 hospitalisations and an estimated 3,317 premature deaths in 2016.[104] Continued intensive farming has led to increased methane and nitrous oxide emissions, which directly impacts air quality.

With air quality and climate change being intrinsically linked, it is likely to prove increasingly difficult for New Zealand producers to export products to the EU that are associated with any failures to achieve climate and/or air quality standards.

Once again, the EU Sustainability Labelling Scheme is likely to be the primary mechanism through which any failures on the part of producers to meet domestic air quality standards will impact their exports to European markets.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

Organic agriculture contributes to improving air quality in several ways.

- **Avoiding the use of synthetic pesticides, herbicides and fertilisers**, which can release harmful chemicals into the air – a study in the EU observed a 40% reduction of N_2O emissions per hectare for organic compared to non-organic systems.[105]
- **Soil conservation practices** – these reduce the release of dust and other particulate matter into the air, contributing to better air quality.
- **Biodiversity conservation** – intact and well-functioning ecosystems, including trees and wetlands, play a significant role in improving air quality.

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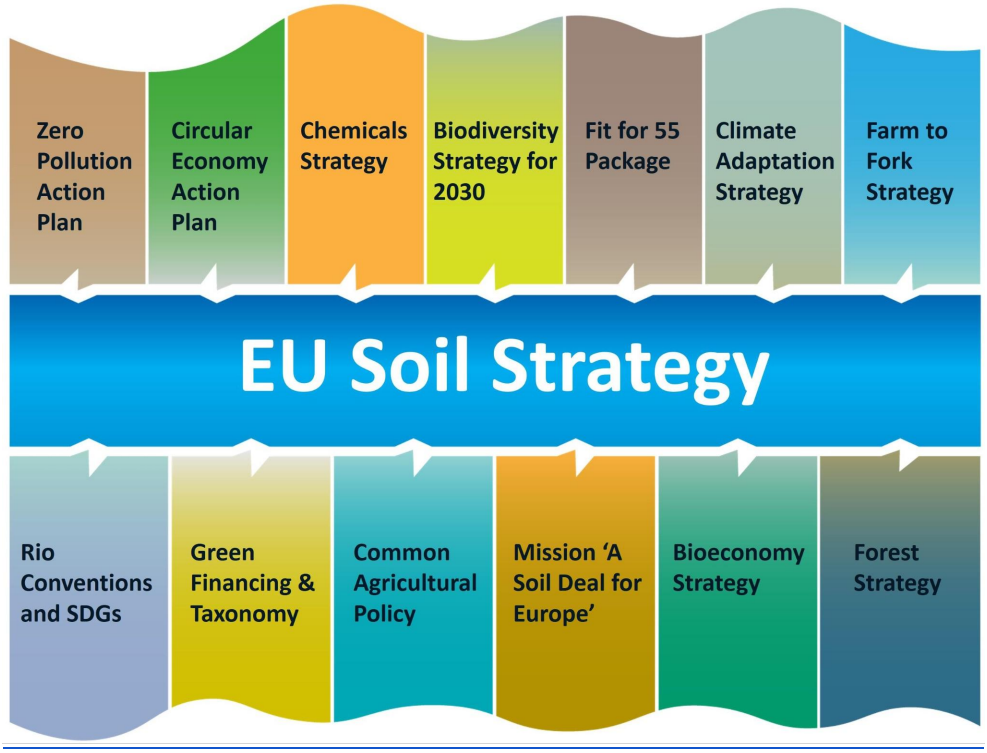
[104] https://www.ehinz.ac.nz/indicators/air-quality/health-effects-of-air-pollution/
[105] https://www.nature.com/articles/s41598-018-38207-w

4. Soil Impacts

Soil is the foundation of agriculture. Healthy soil is essential for growing crops and raising animals, and provides the basis for human food systems. Unhealthy soil cannot efficiently cycle the nutrients essential for plant growth. This cycling of nutrients, including nitrogen, phosphorus and potassium, from the soil to plants and back to the soil is a critical component of ecosystem health and biodiversity maintenance.

Healthy soil also helps to regulate the water cycle by absorbing, storing and releasing water, thereby reducing risks associated with droughts and floods. Soil can act as a carbon sink by storing carbon in the form of organic matter, thereby mitigating climate change by reducing atmospheric carbon dioxide.

The European Environment Agency states that ***"****Climate change has a major impact on soil, and changes in land use and soil can either accelerate or slow down climate change. Without healthier soils and sustainable land and soil management, we cannot tackle the climate crisis, produce enough food and adapt to a changing climate. The answer might lie in preserving and restoring key ecosystems and letting nature capture carbon from the atmosphere."*[106] Soil quality is often most affected by land use changes and agricultural practices.



Source: European Commission

The EU is addressing soil health through the Soil Strategy for 2030, which forms part of the Biodiversity Strategy for 2030. In addition, various elements of the Farm to Fork Strategy,

[106] https://www.eea.europa.eu/signals/signals-2019-content-list/articles/soil-land-and-climate-change

the Zero Pollution Action Plan and others support the achievement of the Soil Strategy's objectives.

The Soil Strategy aims to ensure that, by 2050:[107]

- All EU soil ecosystems are healthy and more resilient and can therefore continue to provide their crucial services.
- There is no net land take, and soil pollution is reduced to levels that are no longer harmful to people's health or ecosystems.
- Protecting soils, managing them sustainably and restoring degraded soils is a common standard.

The Strategy comprises the following key actions:

- Tabling a dedicated legislative proposal on soil health by 2023 to enable the objectives of the EU soil strategy and achieve good soil health by 2050.
- Making sustainable soil management the new normal by proposing a scheme for landowners to get their soils tested for free, promoting sustainable soil management through the CAP and sharing best practices.
- Considering legally binding objectives to limit drainage of wetlands and organic soils and to restore managed and drained peatlands to mitigate and adapt to climate change.
- Investigating streams of excavated soils and assessing the need and potential for a legally binding "soil passport" to boost the circular economy and enhance the reuse of clean soil.
- Restoring degraded soils and remediating contaminated sites.
- Preventing desertification by developing a common methodology to assess desertification and land degradation.
- Increasing research, data and monitoring on soil.
- Mobilising the necessary societal engagement and financial resources.

Key soil-related targets for sustainable food production in the Farm to Fork strategy include:

- Reducing by 50% the overall use and risk of chemical pesticides and reducing by 50% the use of more hazardous pesticides.
- Reducing nutrient losses by at least 50% while ensuring no deterioration in soil fertility; reducing fertiliser use by at least 20%.
- Reducing sales of antimicrobials for farm-fed animals by 50%.
- Achieving at least 25% of the EU's agricultural land under organic farming and a significant increase in organic aquaculture.

Similarly, the Zero Pollution Action Plan established the following targets for soil by 2030:

- Reducing nutrient loss in agricultural lands by 50%
- Reducing the use of pesticides by 50%

[107] https://environment.ec.europa.eu/topics/soil-and-land/soil-strategy_en

- Reducing the use of hazardous pesticides by 50%
- Reducing antibiotic use in animal farming by 50%

Key objectives of the Biodiversity Strategy for 2030 include promoting sustainable land use practices, including protecting soil from erosion, and restoring unhealthy soil.

These soil-related objectives within the various EU Strategies are mutually reinforcing. For instance, to protect biodiversity, farming systems need to reduce the use of pesticides and chemical fertilisers, promote crop rotation and cover crops, and encourage the use of organic farming methods. The Strategies define the correlations between soil quality and its direct and indirect impacts on the environment and human health. Approximately 78 per cent of the global average per capita calorie consumption comes from crops directly grown in soil.[108]

New Zealand's Soil Policies

Over the past several years, soil-specific policies have been introduced by various government departments. In addition to the National Policy Statement for Freshwater Management, both the National Policy Statement for Highly Productive Land (NPS-HPL) and the New Zealand Biodiversity Strategy play a role in New Zealand's suite of policy provisions aimed at maintaining and improving soil quality.

The Biodiversity Strategy sets out a vision for protecting and restoring biodiversity in terrestrial ecosystems and includes actions to promote sustainable land use practices that support healthy soils.

The National Policy Statement for Freshwater Management recognises the role that soil plays in managing freshwater. For instance, soil can be a significant source of contaminants in freshwater systems, particularly when agricultural land is intensively managed. The policy calls for measures to manage contaminants from soil, including the use of best management practices and the adoption of sustainable land use practices.

The NPS-HPL was adopted in September 2022 and aims to ensure the continued availability of New Zealand's highly productive soils for food and fibre production. This objective is to be achieved through a range of measures, including clear and consistent guidance to local councils on how to map and zone highly productive land and manage the subdivision, use and development of this non-renewable resource.

The policies being introduced under the NPS-HPL include the following:[109]

1. Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.

[108] https://www.nature.com/scitable/knowledge/library/the-influence-of-soils-on-human-health-127878980/
[109] https://environment.govt.nz/assets/publications/National-policy-statement-highly-productive-land-sept-22-dated.pdf

2. The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.
3. Highly productive land is mapped and included in regional policy statements and district plans.
4. The use of highly productive land for land-based primary production is prioritised and supported.
5. The urban rezoning of highly productive land is avoided, except as provided in this National Policy Statement.
6. The rezoning and development of highly productive land as rural lifestyle is avoided, except as provided in this National Policy Statement.
7. The subdivision of highly productive land is avoided, except as provided in this National Policy Statement.
8. Highly productive land is protected from inappropriate use and development.
9. Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.

Soil and the NZ-EU FTA

As was the case for freshwater and air quality, soil receives two mentions in the NZ-EU FTA, in Article 13.8, dealing with the *Assessment of environmental impact*, and Article 19.11, dealing with *Trade and investment supporting sustainable development.*

Risks to New Zealand Producers

The New Zealand government recognises the importance of soil conservation and management for sustainable land use and has therefore implemented policies to promote responsible soil management practices in agriculture. However, it would appear that New Zealand lacks a comprehensive policy framework for soil protection and management.

By contrast, the EU appears to have a far more comprehensive focus on sustainable farming practices, including the promotion of organic farming methods. The EU had also set a target for carbon sequestration from soil.[110]

In New Zealand's productive soils, nitrogen and phosphorus concentrations rise because of intensive fertiliser application and manure generation. As a result, soil quality in New Zealand remains under intense pressure from excessive phosphorus levels. High phosphorus concentrations in soil are largely caused by livestock industries. Anticipated future intensification in the production of livestock industries is likely to worsen soil quality by further driving up phosphorus levels. The deterioration in soil quality from these activities will most likely adversely impact water quality and biodiversity.

[110] https://ec.europa.eu/commission/presscorner/detail/en/IP_22_6784

The New Zealand government recognises the importance of soil as a 'crucial building block for New Zealand's agriculture' and acknowledges that it is 'important to protect and monitor land and soil to ensure it remains healthy and productive'.[111] At the same time, however, the government's hands-off approach to regulating synthetic chemical pesticides and fertilisers at a national level has potentially led to their overuse.

Apart from the danger of outright bans on the importation into the EU of products containing traces of pesticides banned in the EU, the differences in approach between the EU and the New Zealand government in the field of soil health once again imply a risk for New Zealand producers of their products receiving suboptimal ratings under the EU Sustainability Labelling Scheme.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

New Zealand's Ministry for the Environment defines soil health as "soil's ongoing ability to function as a living ecosystem that supports plant, animal and human health. Healthy soil supports high biodiversity, and biodiversity is essential for a healthy soil ecosystem".[112]

Soil health is the cornerstone of organic farming practices and the foundation of every organic system. At the heart of healthy soil is organic matter. Organic matter benefits the entire ecosystem by creating an optimal environment for plants by improving soil structure and porosity, thus increasing water-holding capacity (reducing runoff and erosion). The natural fertilisers that organic farmers use to provide essential nutrients for plants, such as compost, add organic matter to soil.

Composting mimics nature's method of decomposition, allowing organic material to break down aerobically, reducing overall waste being sent to landfills, and cutting greenhouse gas emissions.

Studies have shown that soil on organic farms, because of its good structure and the biodiversity of soil life, is better able to withstand the extremes of drought and flood and has been shown to lead to yield advantages.[113]

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[111] https://www.mpi.govt.nz/funding-rural-support/environment-and-natural-resources/land-and-soil-health/

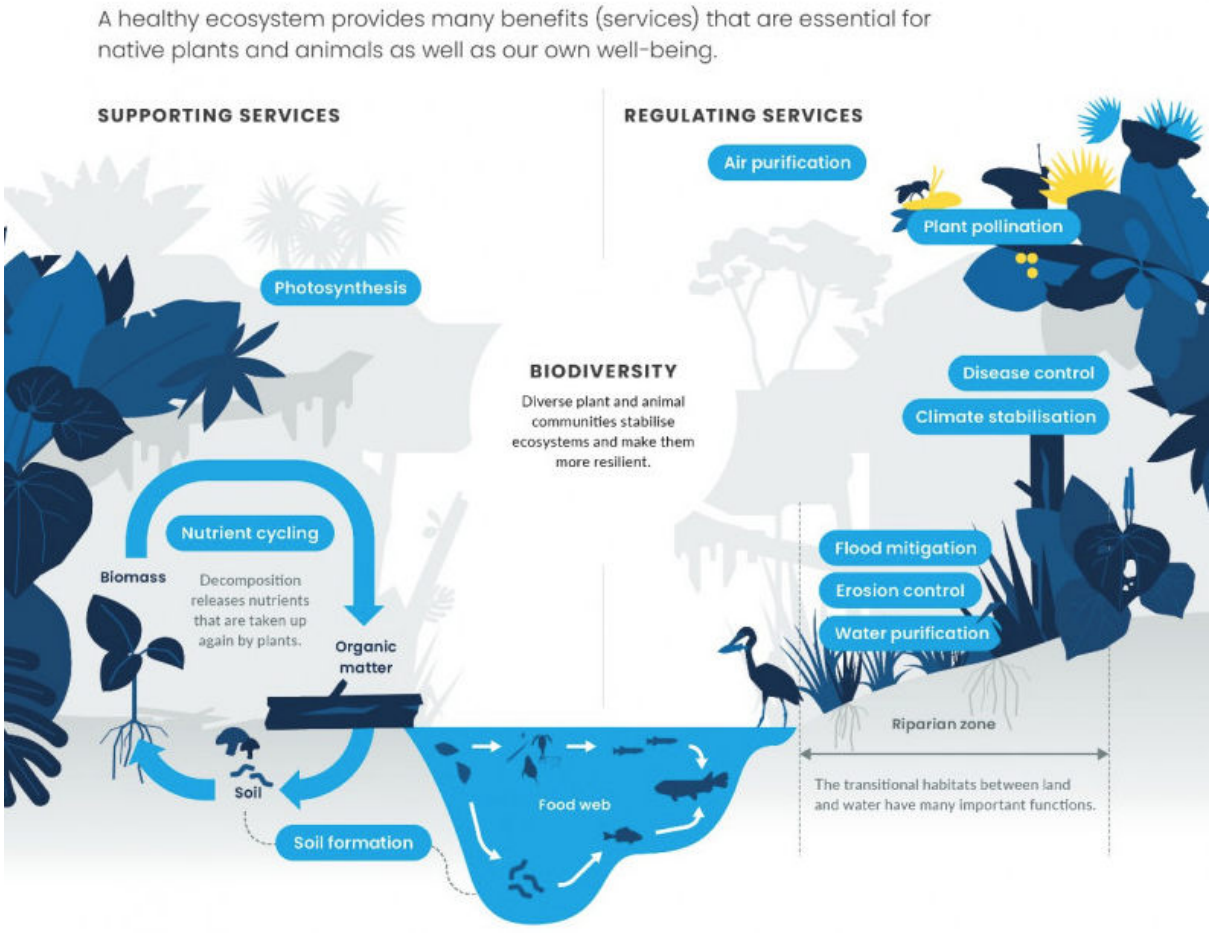
[112] https://environment.govt.nz/facts-and-science/land/science-of-soil-health/

[113] https://www.cambridge.org/core/journals/american-journal-of-alternative-agriculture/article/abs/performance-of-organic-and-conventional-cropping-systems-in-an-extreme-climate-year/C58A4083CDC83AC79FE4304794641B26

5. Biodiversity Impacts

The EU and New Zealand have national biodiversity strategies to address the biodiversity crisis and meet their obligations under international agreements such as the Convention on Biological Diversity (CBD). The respective strategies also align with broader agendas on sustainability and climate change and are intended to contribute to achieving the United Nations Sustainable Development Goals.

Biodiversity Policy in New Zealand[114]



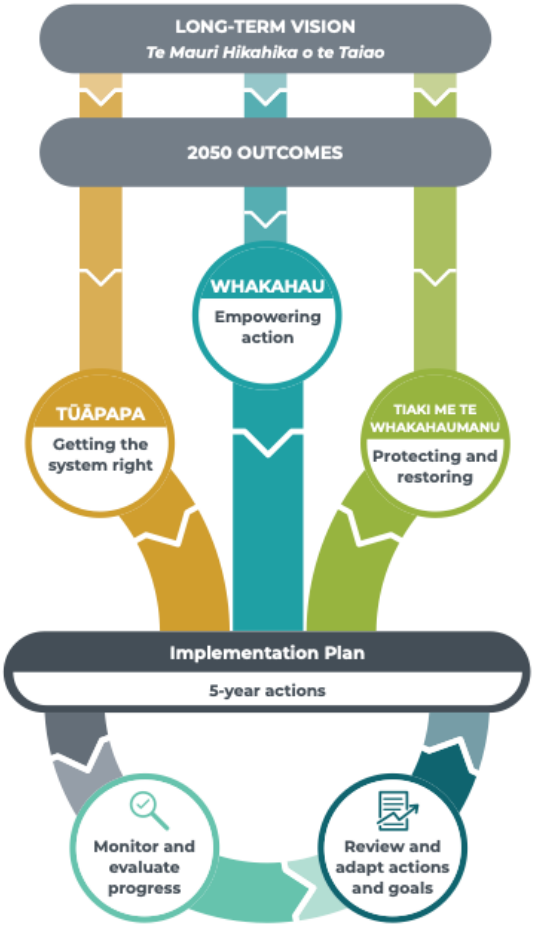
Source: NZ Department of Conservation. "Our shared vision for living with nature."

The Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy and the Biodiversity Act were launched by the Minister of Conservation in 2020 to protect biodiversity, particularly Indigenous biodiversity.

[114] See page 23 above for a discussion on the EU Biodiversity Strategy for 2030.

The principal objective of the Strategy is to halt the decline of New Zealand's biodiversity and restore ecosystems to a healthy state. The Strategy sets out a range of objectives and actions to achieve these goals by 2025. A summary of key targets published by the CBD defines the targets that the Strategy supports as follows:[115]

1. Biodiversity protection is at the heart of economic activity.
   Targets include:
   i. Biodiversity protection is at the heart of economic activity.
   ii. A nature-based brand is central to the economy of Aotearoa New Zealand and is increasing support for nature.
   iii. Economic tools are promoting the protection and restoration of biodiversity for its intrinsic value, as well as for the economic benefits it provides
   iv. Economic activities that have the most significant adverse impacts on biodiversity have been identified, their impacts have been quantified and active measures are in place to reduce these impacts.
   v. Nature-based jobs are providing significant employment and delivering benefits for biodiversity in all regions and on both public and private land.



Source: NZ Department of Conservation

2. Ecosystems and species are protected, restored and resilient, controlling and eradicating pests, weeds, and other invasive species that threaten native biodiversity.
   Targets include:
   i. Prioritised research improving baseline information and knowledge of species and ecosystems, including cumulative effects of pressures on biodiversity.
   ii. Significant progress has been made in identifying, mapping and protecting coastal ecosystems and identifying and mapping marine ecosystems of high biodiversity value.

[115] https://www.cbd.int/countries/targets/?country=nz

iii. A framework has been established to promote ecosystem-based management, protect and enhance the health of marine and coastal ecosystems, and manage them within clear environmental limits.
iv. A protection standard for coastal and marine ecosystems established and implementation underway.
v. There have been no known human-driven extinctions of Indigenous species.
vi. The viability of current and future mahinga kai and cultural harvest of Indigenous species has been assessed to guide future use.

3. Supporting and strengthening Māori-led conservation efforts and co-governance arrangements. To empower Māori to exercise kaitiakitanga and rangatiratanga over their taonga species and ecosystems.

    Targets include:

    i. Te ao Māori perspective is being embedded throughout the biodiversity system, including through the use of cultural practices and tools.
    ii. Innovative Treaty partnership approaches have been developed and are leading the delivery of many biodiversity restoration projects.
    iii. Treaty partners, whānau, hapū, iwi and Māori organisations are better able to practice their responsibilities as rangatira and kaitiaki, including leading and partnering with the Government in decision making about taonga species and the whenua, awa and moana with which they associate.
    iv. Mātauranga Māori is an integral part of biodiversity research and management.
    v. Māori cultural and intellectual property rights and data sovereignty regarding Indigenous biodiversity are being upheld.

4. Increasing public awareness and participation in biodiversity conservation and restoration. All New Zealanders have the skills, knowledge and capability to be effective.

    Targets include:

    i. All New Zealanders have the skills, knowledge and capability to be effective.
    ii. Education and campaigns are ensuring that all New Zealanders are aware of the current biodiversity crisis and the importance of nature and are encouraging people to take action to protect and restore nature and ensure sustainable use.
    iii. An analysis of gaps and future needs, training, capacity-building and job creation are ensuring that enough people have the right skills to protect and manage biodiversity into the future.
    iv. Research is improving our understanding of societal values, norms and beliefs, as well as the motivators, barriers and enablers of action to support biodiversity management and decision making.

5. Improving the knowledge and science base for biodiversity conservation and restoration.

    Targets include:

    i. A national, agreed set of indicators and an effective environmental monitoring and reporting system are informing biodiversity management and decision making.
    ii. National, agreed common data standards and open data agreements are ensuring that everyone has access to a federated repository of biodiversity information.
    iii. A framework for identifying and prioritising high biodiversity value areas has been developed and agreed on.
    iv. The research, science and innovation system is investing in and collaboratively delivering research and rangahau (research) in alignment with an agreed integrated set of biodiversity science priorities that cover ecological, biophysical, social, cultural, economic and other areas.
    v. Innovative solutions to biodiversity issues, including the development of new tools and technologies, are being collaboratively developed and actively sought from a range of sources and deployed on the ground.

6. Developing and implementing effective policy, legislation, and funding systems to support biodiversity conservation and restoration.

    Targets include:

    i. Biodiversity system governance, in partnership with Treaty partners, whānau, hapū, iwi and Māori organisations and informed by multistakeholder involvement, is in place and providing leadership, accountability, and inclusive and transparent decision making.
    ii. Current natural resource legislation has been reviewed to ensure it is effective and comprehensive, recognises cumulative effects, and ensures ongoing biodiversity protection, including climate resilience.
    iii. Costs and value of restoring Indigenous biodiversity have been quantified and are being actively used to inform decision making.

Biodiversity and the NZ–EU FTA

The NZ-EU FTA contains a number of provisions relevant to biodiversity protection and restoration.

In Article 7.4, on *Cooperation to improve the sustainability of food system*s, the Parties commit to cooperation on a range of topics, including organic farming and regenerative agriculture, the efficient use of natural resources and agricultural inputs (including reducing the use of and risk from chemical pesticides and fertilisers), and the environmental and climate impacts of food production (including GHG emissions, carbon sinks and biodiversity loss).

Article 13.8, dealing with the *Assessment of environmental impact*, commits the Parties to transparency and thoroughness in the execution of such EIAs, as required by their respective laws and regulations. This includes an assessment of the impacts of projects on biodiversity.

Article 19.8 deals specifically with the issue of Trade and biological diversity. In this article, the Parties "recognise the importance of conserving and sustainably using biological diversity and the role of trade in pursuing these objectives", consistent with relevant MEAs (multilateral environmental agreements) to which they are a party, including the CBD and the Convention on International Trade in Endangered Species (CITES).

In light of this recognition, the Parties commit to the following:

- Implementing measures to combat illegal wildlife trade, including with respect to third countries as appropriate.
- Promoting the long-term conservation and sustainable use of CITES-listed species, conducting periodic reviews that may result in a recommendation to amend the Appendices to the CITES to ensure that they properly reflect the conservation needs of species subject to international trade.
- Promoting trade in products derived from the sustainable use of biological resources to contribute to the conservation of biodiversity.
- Taking appropriate action to conserve biological diversity when it is subject to pressures linked to trade and investment, in particular, to prevent the spread of invasive alien species.

The Parties also recognise the importance of Indigenous knowledge, innovations and practices that contribute to the conservation and sustainable use of biological diversity and the role of international trade in supporting this.

Finally, the Parties commit to cooperation on trade-related aspects of biodiversity policies and measures bilaterally, regionally and in international fora, as appropriate, including in the CBD and CITES.

In Article 19.9, on Trade and forests, the Parties recognise deforestation as a major driver of global warming and biodiversity loss and commit to encouraging the consumption of and trade in products from deforestation-free supply chains. They also commit to strengthening their cooperation on "trade-related aspects of sustainable forest management, minimising deforestation and forest degradation, forest conservation, illegal logging, and the role of forests and wood-based products in climate change mitigation and the circular and bioeconomies, bilaterally, regionally and in international fora as appropriate."

Risks to New Zealand Producers

It is estimated that New Zealand has 80,000 species of native plants, fungi, and animals, with approximately 44% of these species considered to be endemic.[116] This endemic biodiversity developed over millennia, with species interacting with each other and competing for natural resources.

Recent data indicates that 90% of the original wetlands of New Zealand have been converted to farmland or habitable land.[117] The resulting habitat disturbance has had profound effects on domestic biodiversity – 40 Indigenous land and marine species have become extinct in the last 100 years, 811 species are classified as threatened, and 2,416 species are classified as 'at risk', as of 2019.[118] Other external pressures on Indigenous species include increased competition by invasive alien species and the introduction of predators and herbivores.

While the decline in species and biodiversity is in itself a threat to primary producers, the loss of value from New Zealand's 'clean green' reputation is also at stake.

As indicated in the text of the NZ-EU FTA, the participation of New Zealand and the EU in multilateral fora, such as the CBD and CITES, appears to hold significant opportunities for collaboration in advancing biodiversity conservation on a global scale.

With regard to New Zealand's exports to the EU, however, any deficiencies in New Zealand's protection and regeneration of Indigenous biodiversity once again implies a significant risk for New Zealand producers of less-than-optimal classification of their products under the EU Sustainability Label Scheme.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

One of the key objectives of organic farming is the protection and promotion of biodiversity. Without biodiversity, organic farming systems (and eventually all farming and all terrestrial ecosystems) will break down due to pest and disease pressure, soil erosion and nutrient depletion and reduced resilience from the effects of climate change.

Organic farming promotes biodiversity through various means, including prohibiting synthetic pesticides and fertilisers that harm and kill beneficial organisms such as pollinators, birds and soil microbes. By implementing soil management practices such as crop rotation and intercropping to improve soil health, pest pressure is also reduced.

Organic agriculture also protects and enhances natural habitats on and around farms, so that biodiversity can be maintained in surrounding areas. By introducing crop diversity to

[116] https://www.cbd.int/countries/profile/?country=nz

[117] https://www.cbd.int/countries/profile/?country=nz

[118] https://www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/biodiversity-factsheets/biodiversity-factsheet-land-domain/

maintain a diverse range of plant species, a wide variety of insects and other animals are supported in the ecosystem.

The European Commission states, “land farmed organically has about 30% more biodiversity than land farmed conventionally.”[119]

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6. Circular Economy

Source: European Commission

In broad terms, a circular economy or a circular economic model is defined as one which eliminates waste and pollution circulates products and materials at the highest possible value, and regenerates nature.[120]

Circular economy models are generally differentiated from traditional linear economic models involving resource extraction, transformation, utilisation and disposal. Various partial and industry-specific circular economy models have evolved over the past several decades, with some of the most well-known of these focusing on the recycling of various forms of post-consumer waste.

A number of variations of circular economy models exist, including those focused on biomimicry and, in the case of New Zealand, models incorporating Te Ao Māori principles.

One of the most challenging aspects of circular economy models concerns the principle of ‘decoupling’ economic activity from the consumption of finite material resources. In this regard, circular economy models appear to be premised to a significant degree on high levels of materials recycling and re-use, with minimal inputs of virgin resources.

At a national level, however, such decoupling is often achieved by outsourcing resource-intensive aspects of production and manufacturing to other countries and by similarly exporting waste products (both production and post-consumer waste) offshore for recycling or processing. Overall, empirical evidence of absolute reductions in material use from circular economies remains scant, with examples generally confined to particular industries.

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[119] https://agriculture.ec.europa.eu/farming/organic-farming/organic-action-plan_en

[120] https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

Circular economy models are underpinned by significant levels of transition to renewable energy, which also presents some issues, as large quantities of virgin mineral and material resources will be required to construct renewable energy infrastructure at a scale sufficient to power such a transition.

Despite these challenges, the concept of a circular economy remains valuable as a systems solution framework that can contribute to addressing a range of issues, including climate change, biodiversity loss, waste and pollution.

The EU Circular Economy Action Plans

The EU has been active in the field of circular economic policy development for several years. The first Circular Economy Action Plan (CEAP) was adopted by the European Commission in December 2015, four years before the adoption of the European Green Deal. This Plan comprised 54 discrete actions, covering a range of areas, including circular design and production processes, waste processing, consumer empowerment, materials recovery and closed-loop manufacturing processes and a specific focus on plastics, particularly single-use plastics.

The initial CEAP also included actions related to accelerating the transition to a circular economy, most notably in the fields of innovation and investment and stakeholder engagement.

A revised CEAP was adopted in March 2020 as one of the principal pillars of the Green Deal. A number of the actions included in the initial CEAP were continued in this revised Plan. According to this revised Plan, the EU's transition to a circular economy is intended to "reduce pressure on natural resources and create sustainable growth and employment".[121] It is also a prerequisite to achieving the EU's 2050 climate neutrality target and halting biodiversity loss.

Building on the achievements of its predecessor, the new CEAP includes 35 actions and initiatives across the entire life cycle of products. It targets aspects of product design, manufacturing processes, sustainable consumption and responsible disposal. It also aims to eliminate waste and ensure that resources remain available within the EU economy for as long as possible.

The Plan introduces legislative and non-legislative measures targeting areas where action at the EU level brings significant added value. Measures developed to date include various actions related to batteries, persistent organic pollutants (POPs), waste shipments, textiles, building materials, consumer empowerment and eco-design. Other measures implemented under the CEAP include revisions of the EU Industrial Emissions Directive and the European Pollutant Release and Transfer Register.

A significant milestone was achieved in February 2021 with the creation of the Global Alliance on Circular Economy and Resource Efficiency (GACERE). This initiative was proposed in the revised CEAP adopted in March 2020 and aims to identify knowledge and governance gaps in advancing a global circular economy and partnership initiatives, including within and between major economies.

[121] https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en

The GACERE initiative brings together the EU, a number of other governments, international organisations such as the United Nations Environment Programme (UNEP) and United Nations Industrial Development Organisation (UNIDO), and various relevant networks and organisations such as the Ellen MacArthur Foundation, the Platform for Accelerating the Circular Economy (PACE) and the World Circular Economy Forum.

New Zealand is a member of GACERE, along with the EU and several OECD and developing nations.

The initiative aims to provide global impetus for initiatives related to circular economy transition, resource efficiency and sustainable consumption and production. GACERE members will collaborate and advocate in multilateral fora such as the United Nations General Assembly (UNGA), the United Nations Environment Assembly (UNEA) and in G7/G20.

In terms of the achievements of the CEAP, most recently, in November 2022, the European Commission adopted a number of measures relating to the revision of EU rules on packaging and packaging waste and the adoption of a policy framework regarding biobased, biodegradable and compostable plastics.

From 2023 onward, the Commission plans to adopt various measures governing, amongst other issues, microplastics and green claims made by companies.

The Circular Economy in New Zealand

Unlike the EU, New Zealand has not developed a comprehensive strategy that cuts across all relevant government departments and functions to promote a circular economy model or models. Instead, the term 'circular economy' appears in various contexts across a range of public policy documents, industry plans and other sources.

The website of the Ministry for the Environment / Manatū Mō Te Taiao contains a page on the subject of the circular economy in New Zealand.[122] This includes a definition of the circular economy concept drawn from the Ellen Macarthur Foundation, a rationale for the transition to a circular economy, and various references to waste minimisation and recycling, product stewardship, the reduction of food waste and the government's Rethinking Plastics initiative.

Furthermore, New Zealand's first Emissions Reduction Plan (ERP), published in May 2022, includes a Chapter on the Circular Economy and Bioeconomy.[123] This positions a circular economy, along with a thriving bioeconomy, as supporting economic and social wellbeing in New Zealand and as promoting a balance between the emissions generated by the economy and population on the one hand, and the ability of the environment to store these emissions on the other.

Key outcomes identified for this aspect of the ERP include increased circular resource and energy use, the protection and restoration of ecosystems and ecosystem services (particularly Indigenous biodiversity), more prosperous and climate-resilient individuals,

[122] https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/ohanga-amiomio-circular-economy/

[123] https://environment.govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/circular-economy-and-bioeconomy/

businesses and communities, and maximising the value of renewable bioresources for national wellbeing.

Key future actions will include commencing the development of a circular economy and bioeconomy strategy, investing in data collection and research, integrating circular practices across government, communities and businesses, supporting businesses to move to circular economy business models, developing a circular economy hub, accelerating the supply and uptake of bioenergy, and supporting research and development and investment in the bioeconomy.

Other initiatives relevant to the development of the circular economy in New Zealand include MPI's ***Strategic Intentions 2021-2025*** document[124] and ***Fit for a Better World*** Roadmap.[125]

In addition to these current and proposed national initiatives, several industry-specific initiatives and pieces of research exist related to the promotion of circular economy practices and models in New Zealand. These include eight Sector Groups operated by WasteMINZ, the Waste Management Institute of New Zealand,[126] and various waste minimisation initiatives by New Zealand Winegrowers.[127]

Other industry initiatives also include a range of research publications and submissions to government on the part of industry bodies such as Horticulture New Zealand[128] and Beef and Lamb New Zealand,[129] as well as research papers about the circular economy by bodies such as the Sustainable Business Network[130] and the Kellogg Rural Leadership Trust.[131]

Overall, little action has been undertaken.

Finally, in the academic sphere, several research publications have been completed on the potential application of circular economy models in various spheres of the New Zealand dairy[132] and pastoral farming[133] sectors.

The Circular Economy and the NZ–EU FTA

The final text of the NZ-EU FTA contains only a limited number of references to the circular economy. Specifically, these references are contained in Chapter 19 of the Agreement, which addresses the subject of ***Trade and Sustainable Development***.

Article 19.5, covering ***Multilateral Environmental Agreements and International Environmental Governance***, commits the EU and New Zealand to strengthen their collaboration on trade-related aspects of environmental policies and measures, bilaterally,

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[124] https://www.mpi.govt.nz/dmsdocument/48589/direct

[125] https://www.mpi.govt.nz/dmsdocument/41031-Fit-for-a-Better-World-Accelerating-our-economic-potential and https://fitforabetterworld.org.nz/about/

[126] https://www.wasteminz.org.nz/sector-groups

[127] https://www.nzwine.com/en/sustainability/focus-areas/waste/

[128] https://www.hortnz.co.nz/assets/About-Us/Submissions/HortNZ-submission-on-ERP-27-June-2022-.pdf

[129] https://beeflambnz.com/search?term=circular+economy

[130] https://sustainable.org.nz/media/odjf0zit/sbn_circulareconomyopportunity_forauckland.pdf

[131] https://www.dropbox.com/s/hxif78221f6mgub/Rule%2C%20Alice.pdf?dl=0

[132] https://www.publish.csiro.au/AN/AN21167

[133] https://www.nzgajournal.org.nz/index.php/JoNZG/article/view/426

regionally and in international fora as appropriate. Examples of these international fora mentioned in the text include the United Nations High-level Political Forum for Sustainable Development, the UN Environment Programme, multilateral environmental agreements (MEAs), the OECD, the Food and Agriculture Organisation (FAO) and the World Trade Organisation (WTO).

Cooperation between New Zealand and the EU in this regard might include "policies and measures promoting the mutual supportiveness of trade and environment, including (i) sharing information on policies and practices to encourage the shift to a circular economy, and (ii) promoting, including by removing obstacles to trade and investment, initiatives that contribute to a circular economy."

Chapter 19 of the FTA contains a further reference to the circular economy in Article 19.6, covering ***Trade and Climate Change***. In this Article, the parties recognise the importance of urgent action to combat climate change and its impacts and the role of trade in pursuing this objective, consistent with the United Nations Framework Convention on Climate Change, the purpose, and goals of the Paris Agreement, and with other MEAs and multilateral instruments in the area of climate change.

In light of this recognition, the parties commit to "promoting the mutual supportiveness of trade and climate policies and measures, thereby contributing to the transition to a low greenhouse gas emission, resource-efficient and circular economy and to climate-resilient development".

The final reference to the circular economy in the FTA comes in Article 19.11, which deals with ***Trade and Investment Supporting Sustainable Development***. In this article, the parties refer to their commitments to environmental services and manufacturing activities (covered in Chapter 10 of the FTA, on ***Investment Liberalisation and Trade in Services***). They agree to apply such services to "achieving environmental and climate goals by preventing, limiting, minimising or remediating environmental damage to water, air and soil and by assisting the transition to a circular economy".

Apart from these direct references to the circular economy in the text of the Agreement, several other Chapters contain content that might implicitly support the development of circular economy models, policies and practices.

These include Chapter 7, dealing with ***Sustainable Food Systems***, and specifically Article 7.4, which addresses ***Cooperation to Improve the Sustainability of Food Systems.*** This article stipulates that the parties will "cooperate on topics which may include:

(a) food production methods and practices which aim to improve sustainability, including organic farming and regenerative agriculture, amongst others
(b) the efficient use of natural resources and agricultural inputs, including reducing the use and risk of chemical pesticides and fertilisers, where appropriate
(c) the environmental and climate impacts of food production, including on agricultural greenhouse gas emissions, carbon sinks and biodiversity loss
(d) contingency plans to ensure the security and resilience of food supply chains and trade in times of international crisis
(e) sustainable food processing, transport, wholesale, retail and food services
(f) healthy, sustainable and nutritious diets
(g) the carbon footprint of consumption
(h) food loss and waste, in line with the Sustainable Development Goals Target 12.3

(i) reduction of the adverse environmental effects of policies and measures linked to the food system
(j) Indigenous knowledge, participation, and leadership in food systems, in line with the Parties' respective circumstances."

In many instances, the achievement of these objectives might promote and/or require the development of circular economy models and policies.

Similarly, Article 19.2, dealing with ***Trade and Responsible Business Conduct and Supply Chain Management,*** might also provide opportunities for promoting the adoption of circular economy practices by the business sectors in New Zealand and the EU. Most relevantly, Paragraph 2(b) of this Article requires the parties to "promote corporate social responsibility, responsible business conduct, including responsible supply chain management, by providing supportive policy frameworks that encourage the uptake of relevant practices by businesses".

Finally, Chapter 24 of the Agreement, dealing with ***Institutional Provisions***, stipulates that the parties will create several Specialised Committees, including a Committee on Sustainable Food Systems and a Committee on Trade and Sustainable Development. While the composition, functioning and precise objectives of these Committees remain to be determined, it will hardly prove surprising if the scope of their activities results in the promotion of circular economy models, policies and practices within the parties to the Agreement.

Risks to New Zealand Producers

The relative differences between New Zealand and the EU with regard to the circular economy, in both current levels of policy development and stated levels of ambition with regard to future policies, suggest that New Zealand will need to accelerate its policy development processes in this field, in order to engage on an equal footing with the EU over coming decades. In this regard, New Zealand's participation in multi-national and multilateral initiatives, such as the GACERE, is likely to prove critical in supporting these policy development processes.

Once again, any deficiencies or delays in New Zealand's policy development processes in this area imply a risk for New Zealand products being penalised under the EU Sustainability Labelling Scheme.

The Role of Certified Organic Farming in Mitigating Risks for New Zealand Producers

Organic agriculture contributes to circular economies by minimising waste and resources.

Prioritising healthy soil increases soil fertility and reduces the need for synthetic fertilisers, pesticides and other inputs. Healthy soils also absorb and retain more water, reducing the need for irrigation and preventing soil erosion. These practices can help reduce waste and pollution while contributing to a more resilient food system.

Organic agriculture often uses crop rotation and composting to recycle nutrients, keeping them within the farm ecosystem rather than relying on external inputs. This can once again reduce waste and save money while at the same time reducing the environmental impact of agriculture.

Conclusion

The measures discussed above are likely to hold significant implications for New Zealand's primary sector exports to the EU. To maintain and/or expand their access to European markets, New Zealand producers will, in several instances, be required to comply with significantly tighter EU regulations than those they face in their production environment in New Zealand.

In this regard, there appears to be ample evidence of relatively siloed policymaking taking place with various branches of the New Zealand government, sometimes even within the same Ministry or Department.

Based on the information presented above, one of the most pressing issues for both New Zealand producers and policymakers to address is pesticide use. More specifically, the differing levels of ambition displayed by New Zealand and the EU in reducing pesticide use are likely to significantly reduce market access and sales performance for New Zealand producers into European markets in the future. This may first arise due to outright bans of New Zealand products containing residues of pesticides banned in the EU.

Secondly, even where such products are not banned outright, the use of these banned pesticides is likely to lead to a situation in which products that are treated with such pesticides receive a lower rating under the EU Sustainability Labelling Scheme than might otherwise be the case, due to the negative impacts of these pesticides on soil health, water quality, air quality, biodiversity and other metrics included in the Scheme.

Furthermore, the risks to New Zealand producers will apply not only in the case of products directly exported to the EU but also to products used in the supply chains of these producers, as is the case for potential import bans into the EU of products associated with deforestation.

It is also likely that in certain instances, the differing levels of ambition displayed by policymakers in the EU and New Zealand in these areas might result in New Zealand producers being required to incur significant costs for independent third-party verification of certain characteristics of their products to access European markets.

While it is highly likely that many of the measures being proposed and/or developed by the EU will be the subject of disputes in the WTO or other relevant multilateral fora, several of

these measures will apply to both domestic producers in the EU and overseas producers, making them less likely to be considered as prejudicial to exporters to the EU. Furthermore, EU litigators are likely to take the position that the policies being developed and implemented are intended to promote critical environmental and social outcomes that have historically been compromised or undermined by unfettered free trade.

Chapter 5: Organic Agriculture

Organics in Europe

Certification of organic products was developed in several European countries in the 1970s but has been regulated at the EU level since 1991. Currently, more than 75 countries utilise internationally recognised organic certification schemes that help to ensure the validity of organic claims and build trust in organic labels.[134]

Organic agriculture is seen by the EU as central to increasing sustainable agriculture.

Organic farming and production was first regulated at the EU level with the adoption of Council Regulation (EEC) 2092/91. The EU's first organic legislation was developed from IFOAM's organic principles[135], defined organics and established rules for producing and labelling organic products. Since then, EU organic legislation has undergone two significant updates, one in 2007 and the other in 2018, with the adoption of Regulation (EU) 2018/848.

This Regulation, also known as the EU Organic Products and Labelling Regulation, recognises the key role that organic agriculture plays in the achievement of its sustainability goals and demonstrates Europe's commitment to its uptake. Article 1.1 of the Regulation states that:

> *Organic production is an overall system of farm management and food production that combines best environmental and climate action practices, a high level of biodiversity, the preservation of natural resources and the application of high animal welfare standards and high production standards in line with the demand of a growing number of consumers for products produced using natural substances and processes. Organic production thus plays a dual societal role, where, on the one hand, it provides for a specific market responding to consumer demand for organic products and, on the other hand, it delivers publicly available goods that contribute to the protection of the environment and animal welfare, as well as to rural development.*[136]

Importantly, Regulation (EU) 2018/848 recognises organic agriculture as a public good. The many environmental and societal benefits of organic farming are therefore acknowledged as going beyond economic self-interest; instead, organic agriculture is acknowledged as having positive effects on society as a whole.

The Regulation acknowledges that organic farming helps to preserve natural resources, safeguards biodiversity, and reduces harmful environmental effects such as soil erosion,

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[134] https://knowledge4policy.ec.europa.eu/publication/world-organic-agriculture-statistics-emerging-trends-2022_en

[135] See Appendix 1 - Organic Agriculture

[136] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018R0848

pollution, and GHG emissions. These advantages, which have a favourable impact on both the environment and the health of humans and animals, are often not fully represented in the market prices of organic products.

Organic farming benefits the environment and contributes to rural development, social cohesion, and the preservation of traditional farming methods and cultural landscapes. These social and cultural benefits are also seen as public goods, as they enhance the wellbeing of local communities and society.

The European Commission's ambition of at least 25% of the EU's agricultural land under organic farming by 2030 is a testament to its confidence in the benefits of organic agriculture. In addition, its Organic Action Plan provides the blueprint to achieve this goal.

Both Regulation (EU) 2018/848 and the Organic Action Plan create opportunities for New Zealand's land-based primary producers.

EU Organic Policies Impact on Consumer Demand

A clear connection exists between the EU's strategy to increase the production of organic food on the one hand, and increased consumer demand on the other.

The EU Organic Action Plan is broken down into "three interlinked axes that reflect the structure of the food supply chain and the Green Deal's sustainability objectives".[137]

Source: EU Organic logo. European Commission

1. Stimulate demand and ensure consumer trust.
2. Stimulate conversion and reinforce the entire value chain.
3. Organics leading by example: improve the contribution of organic farming to environmental sustainability.

The Organic Action Plan plays an important role in increasing consumer demand for organic products in several ways, including:

1. Raising awareness of the benefits of organic food and farming among consumers, retailers, and other stakeholders. By highlighting organic food's health, environmental and social benefits, the Plan helps increase consumer awareness of and interest in these products.

[137] https://agriculture.ec.europa.eu/farming/organic-farming/organic-action-plan_en

2. Improving the supply and availability of organic food. This includes support for organic farming and processing, as well as for measures to improve the distribution and marketing of organic products. By increasing the availability and visibility of organic food in the market (within the EU and abroad), the Plan makes it easier for consumers to access and select these products. Actions include promoting the EU organic logo, promoting organic canteens and increasing the use of green public procurement (mandatory minimum thresholds for organics in sustainable public food procurement will be established in 2023).[138]

Source: IFOAM Europe

3. Strengthening consumer confidence, including through strengthening the regulatory framework for organic food. This involves measures such as improving control systems and traceability and enforcing stricter standards for labelling and certification of organic products.
4. By increasing consumer confidence in the authenticity and quality of organic products, the Plan aims to build trust and loyalty among consumers. Actions also include increasing budget allocations for organics as part of agricultural promotions in targeted third-country growth markets.
5. Encouraging research and innovation in organic farming and processing. Such research and innovation help to improve organic products' quality, diversity and sustainability. By encouraging innovation, the Plan helps to create new and exciting

138 https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=EU%20Commission%20Unveils%20EU%20Organic%20Action%20Plan%20_Brussels%20USEU_European%20Union_04-03-2021

products that appeal to consumer preferences and demand. This action includes facilitating the contribution of the private sector in this area.

In order to supply the growing demand for organic products, the EU aims to utilise the Common Agricultural Policy 2023-2027 to stimulate conversion to organic farming. Member States are to develop and implement their own organic strategies or plans through the CAP. While each plan will differ (as does the percentage of land under organic production in each Member State) the CAP includes cohesive policies to increase organic conversion. These include:

- Financial assistance through rural development commitments and eco-schemes[139]
- Technical assistance and the exchange of best practices and innovations
- Farm advisory services and methods to promote knowledge exchange
- Regular sector analysis; and
- Investment in local production and shorter distribution channels.

To improve organics' contribution to environmental sustainability, the European Council has earmarked funding in the amount of several billion Euro from Horizon Europe[140] to advance research and innovation in the field.

The Plan helps to create a more favourable environment for organic food and farming, which helps drive market growth and supports the long-term sustainability of the sector.

Organics in New Zealand

Organic products and organic production are gaining popularity in New Zealand, albeit at a slower rate than in the EU and several other (mainly OECD) countries. Despite the challenges presented by COVID-19 and the resulting supply chain disruptions, sales of New Zealand organic products have increased both domestically and in the global market.

According to the 2020/21 New Zealand Organic Sector Market Report,[141] the value of the country's organic market is conservatively estimated at $723 million, an increase of $123 million, or a compound annual growth rate (CAGR) of 6.4% since 2017. This market value is split between exports at 58% ($421 million) and the domestic market at 42% ($302 million).

> *Growing demand has been met by growing production. The number of certified organic operators has risen by 105, or 9% since 2017, while the number of certified*

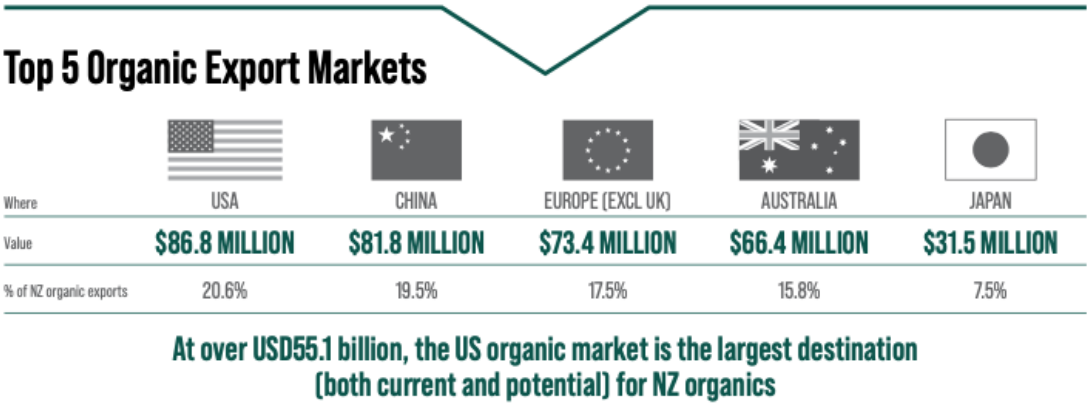
[139] At least 25% of the CAP 2023-27 budget is allocated to eco-schemes, which are legally-entitled payments made to farmers who initiate climate-and environment-friendly farming practices and approaches (such as organic farming, agro-ecology, carbon farming, etc.) as well as animal welfare improvements. https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27_en

[140] Horizon Europe is the EU's key funding programme for research and innovation with a budget of €95.5 billion.

[141] https://www.oanz.org/market-reports

operations has increased by 198, or 12%. There are over 300 operations in horticulture, followed by 200 in viticulture and 100 in dairy. There are approximately 86,000 ha in organic production, with 54,984 hectares in livestock land use, of which 40% is dairy. A further 6,000 ha is under conversion for dairy, wine and horticultural production, another indication of increasing demand.[142]

New Zealand's top five export destinations are the USA, China, European, Australia and Japan.



Source: 2020/21 Mew Zealand Organic Sector Market Report

The two fastest-growing sectors in organics in New Zealand are dairy and wine. Organic dairy is the largest organic sector, with exports of $153.8 million, up 55% from 2017. The organic wine sector has experienced growth of 40% in exports and 33% in the domestic market since 2017, to reach a market size of $102 million, significantly outpacing NZ's total wine market growth.

Source: 2020/21 Mew Zealand Organic Sector Market Report

Recognising the need to legally protect the term 'organic' and to continue trading certified organic products, MPI has initiated the development of a National Organic Standard with accompanying regulations to build a robust domestic regime for organic products.

According to MPI, this revised organic regime will:[143]

[142] https://www.oanz.org/market-reports
[143] https://www.mpi.govt.nz/agriculture/organic-product-requirements-in-nz/changes-to-organic-products-law/

- Increase consumer confidence in buying products labelled as organic.
- Increase certainty for businesses claiming products as organic.
- Support New Zealand's FTA negotiations with the EU.
- Help satisfy regulatory / certification requirements around organic products in the EU and other trading partners.
- Facilitate access to new markets for New Zealand's premium organic products.

In this context, a number of factors are likely to affect the processes and timeframes for developing New Zealand's National Organic Standard.

The EU's most recently updated regulation on organics, Regulation (EU) 2018/848, reflects the evolution of the rapidly growing organic sector. The Regulation updated the rules regarding fair competition for farmers, strengthening consumer trust and preventing fraud.

Article 48 of the Regulation is essential to New Zealand in the development process of the National Organics Standard, as it outlines the rules for recognising the equivalence of organic products from countries outside of the EU. In short, Article 48 states that all countries with existing National Organic Standards must either renegotiate this equivalence, or for those countries with new legislation under development, such as New Zealand, must negotiate equivalence of their new or revised National Standards with the EU before 31 December 2025, or risk losing market access to the EU.

New Zealand's negotiators are currently awaiting the opportunity to negotiate the equivalence of its organic legislation with their EU counterparts; however, it is not yet clear when they might be invited to do so. In the interim, New Zealand is expected to develop a "robust domestic system for organics". In order to adhere to the EU's timeline, MPI must complete this process by the end of 2024.

The term "robust organic system" is not defined by the EU, and the timeframe within which this must be developed is also relatively short. This raises several questions regarding the level of resources allocated by MPI to this process and whether these will be sufficient to complete the process within the required timeframe.

Critically, the EU's definition of a "robust domestic system for organics" does not include any determinations or requirements related to the inclusion (or lack thereof) of Indigenous values or knowledge systems. This means that any attempts on the part of MPI to exclude traditional Māori organic knowledge and practices, for example, as exemplified by the Hua Parakore Māori organic verification system, is not driven by any requirements on the part of the EU.

The section below describes the current situation in this regard. This content has been provided by Te Waka Kai Ora, OANZ's partner organisation under Te Tiriti o Waitangi.

Hua Parakore and the colonial erasure of the Hua Parakore Māori organic verification and validation system in Aotearoa

Introduction

This kaupapa Māori (Māori focused) case study shines light on Indigenous Māori values as they relate to organic food, agriculture, the environment and social justice issues. Since its establishment in 2001, the national Māori organics authority, Te Waka Kai Ora, has worked tirelessly to ensure that kaupapa Māori values have a place in the organics landscape of Aotearoa. The purpose of this case study is to highlight the distinctiveness of the Hua Parakore Māori organic verification system and the potential impacts to Māori of subsequent free trade agreements (FTAs) between the EU and Aotearoa that are shaped by the European Union (EU) Farm to Fork Strategy, which is at the heart of what is known as the European Green Deal.

This European Green Deal strives to create the first continent to be climate-neutral, and it hopes to produce a ripple effect across the globe, to build 'competitive sustainability' that works for both people and the planet. While there are benefits to the EU's leadership in relation to sustainable food systems, climate change mitigation, equitable labour conditions and protection of biodiversity, there are also risks if Indigenous experiences are once again overlooked in the search for more viable food and environmental futures based on western knowledge and paradigms. As we will argue, Māori worldviews and Indigenous organics verification processes have a role to play in helping to shape more sustainable food production and consumption practices and offer a unique distinctiveness to New Zealand organics on the world stage.

Background

Food, farming and agriculture are core to Māori identities and shape who we are, providing pathways for expressing kaitiakitanga, mana motuhake and the diverse realities that Māori experience and occupy in Aotearoa. The popular whakatauki, 'He kai te rongoā, he rongoā te kai' translates as 'food is medicine and medicine is food', and succinctly describes the role of food or kai for Māori, not only as nutrition but also as a rongoā – a pathway for healing both people and the land. The rongoā (healing) aspects are also derived from the connection with tūpuna (ancestral) landscapes and knowledge as well as the realm of Atua (deity). Māori whakapapa (have genealogical connections) to Ranginui (Sky Father) and Papatūānuku (Earth Mother) are whanaunga (family) to the winds, seas, rivers, mountains and lands that make up Aotearoa. Māori have cultural obligations to act as kaitiaki (guardians) to the natural world. Esteemed kaumatua (elder) Maanu Paul described what it is to be a good kaitiaki (caretaker) of soil:

> We start from a Māori set of values and respect the interconnectedness, not only between humans and the terrestrial, but also with the celestial. With that comes the recognition that the papa is a finite asset.[144]

As such, the banal activities of food, farming and agriculture take on new meanings when the interconnected nature of tāngata (humans) and whenua (land) are prioritised. The Hua Parakore is more than an organic food system free of pesticides and chemicals, it reflects Indigenous worldviews, values and relationships that exceed the bounds of western knowledge systems.

Colonisation

Prior to colonisation, the diet of Māori was derived from the lands, forests, waters and oceans of Aotearoa, with the cultivation of crops such as kūmara important for the addition of carbohydrates to the diet but more so for the connection to tūpuna (ancestors) and the voyages of waka (ocean voyaging vessels) across Te Moananui a Kiwa (the Pacific) to settle in Aotearoa. The kūmara is a taonga (treasure) from these early migrations brought to Aotearoa to play an important part in early Māori diets and survival. It is for these reasons that this food is considered a taonga kai (treasured food).

The disruption and erosion of Indigenous Māori food ways was part of the process of colonisation in the early 1800s. Māori were displaced from their traditional food sources, and access to food from the cultural landscapes of their tūpuna was severed. The introduction of new foods to Māori began, as did the beginning of non-communicable diseases and the theft of land to make way for new colonial food ways.

Agricultural Colonisation in Aotearoa

Agricultural colonisation is part of the modern-day fabric of Aotearoa New Zealand's food story but it is also one that is very rarely told. The denuded landscapes and the rolling pastoral hills of Aotearoa soon resembled the landscapes of the colonial 'Motherland' as the forested realms of Tane Mahuta were felled and cleared to make way to produce typical colonial foods – sheep and beef.

The impacts of agricultural colonisation are multifaceted, and while the purpose of this case study is not to unpack all of these aspects, it is important to note the fracturing and displacement this new form of agriculture had on whānau, hapū and iwi in terms of changing diets, the relationships with Te Ao Turoa and the introduction of farming systems that were nothing like early Māori practices.

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[144] Spraggs, K.R. 2020. A Vision for Soil and Food-Growing with Maanu Paul. *Te Mahi Oneone Hua Parakore: a Māori Soil Sovereignty and Wellbeing Handbook.* Jessica Hutchings and Jo Smith Eds. Christchurch: Freerange Press. 78-89.

It must be noted that Māori were in many ways the handmaid in the early days of agricultural colonisation, providing labour, which conveniently came in the form of whānau groupings. In order to retain our relationships with the land, our tūpuna adopted these new colonial farming practices as a way to make a livelihood and to also express their whanaungatanga connection to their tūrangawaewae (cultural homelands). It is important to recall this history of agriculture in New Zealand as one that has displaced Māori from their whenua (land). This is noted in the startling figures of Māori land theft through colonisation:

> [F]rom 1860, when Māori held 80 per cent of land, its extent fell to 40 per cent in 1890, then to 27 per cent in 1910, 9 per cent in 1939, and to only about 4 per cent by the year 2000.[145]

The impact of agricultural colonisation continues today in the form of globalised free trade agreements, the search for equivalence standards, and the harmonisation of agricultural standards across nation states. As Hugh Campbell has argued, Aotearoa is an export-led nation state that has consistently overlooked the value and benefit of Māori land-use practices:

> In a wider world where Indigenous and local foods are in the ascendancy New Zealand has the distinction of being one of the most export-oriented food producers in the world – exporting over 90 percent of the food that is produced! At the same time, it displays little elaboration of Indigenous cuisine in mainstream food culture and commerce. The once abundant and variable forms of food and fibre production undertaken by Indigenous Māori now inhabit a tiny fringe of land-use. The country's relentless pursuit of agricultural exports is built on profound discontinuity with past land-use.[146]

Nonetheless, Māori-led agricultural enterprises do exist and contribute to what former Minister of Māori Affairs Pita Sharples has called the Taniwha Economy, a 'sleeping giant' based on Māori-owned fisheries, plantation forests and large, collectively-owned farms run by iwi (tribes) (Pawson, 157). Since the 1990s and 2000s there has been a growing recognition that Māori values and ways of conducting business could have a flow-on effect for the New Zealand brand in global markets:

> If effectively fostered, points of difference offered by Māori enterprise could create prospects for the general New Zealand brand and its associated particular brands both domestically and globally, by providing a point of entry into new markets.[147]

Yet many Māori agribusinesses still farm using conventional industrialised methods of food production, and face the challenge of balancing the values attached to whenua as a source of identity and obligation, and the economic and financial objectives of iwi.

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[145] Pawson, E. (Ed.) 2018. *The New Biological Economy. How New Zealanders are Creating Value from the Land*. Auckland University Press. P. 158.
[146] Campbell, H. (2020), F*arming Inside Invisible Worlds: Modernist Agriculture and Its Consequences*. Bloomsbury Academic: London. p. 2.
[147] Pawson, E. (Ed.) (2018) *The New Biological Economy. How New Zealanders are Creating Value from the Land*. Auckland University Press. p. 169.

The EU Farm to Fork Strategy is the latest free trade agreement in a string of agreements since the World trade Organisation (WTO) was established in 1995 and was the biggest reform of international trade since WW2. Prior to the WTO, trade in goods was regulated by the General Agreements on Tariffs and Trade, otherwise known as GATT; whereas GATT mainly dealt in goods, the WTO also covered service and intellectual property rights, opening the way for patents on nature and the misappropriation of Indigenous cultural and intellectual property rights. The establishment of the WTO also created new procedures for the settlement of disputes that is more than often not in the interests of Indigenous peoples, peasant communities, the environment, communities of colour and women.

Indigenous Peoples, Globalisation and Free Trade

There is a long history of Indigenous peoples and women of colour, in particular from the developing South, opposing GATT and the WTO going back to the early 1990s. This opposition is all a part of a continuing resistance to colonisation, and came off the back of a failed Green revolution that saw thousands of farmers' livelihoods in the global South fractured by the widespread development of mechanised agriculture, with GMOs and chemical and pesticide use pushed by corporate agriculture in the name of profit. In a short space of time, thousands of years of intergenerational farmer experience from across cultures and continents was replaced with reductionist and mechanised knowledge forms that did not take account of the inherent rights of nature nor hold an interconnected worldview – a core standpoint for Indigenous peoples. For many, globalisation was regarded as colonisation on a global scale.

The consequences of this globalisation are now playing out in the everyday lives of all global citizens and the environment – our rapid consumption patterns, resulting from 30 years of excess consumerism and unfettered growth and greed have led to what is being described as the sixth extinction event. It is now not uncommon to see popular uprisings and protests against the concentration of power and wealth and the unjust nature of capitalism. Free trade agreements play an important global role in setting the conditions for production and capitalism in ways such that the notion of the much-touted 'trickle-down effect' never starts, let alone trickles down. We recall Paris, the 1999 Seattle WTO protests (sometimes referred to as the Battle of Seattle) and the more recent protests against the Trans-Pacific Partnership Agreement (TPPA) that resulted in the filing of the Treaty of Waitangi WAI 2522 claim. Free trade agreements have always raised a range of issues for Māori, with regard to secrecy clauses, erosion of sovereign rights of Indigenous peoples and their environments, the ongoing commodification of nature, and the concentration of power and wealth in the hands of fewer and fewer corporations and government players.

EU Farm to Fork Strategy and FTA

The EU Farm to Fork Strategy is part of the wider European Green Deal, a set of policy initiatives approved in 2020 by the European Commission including Biodiversity, and Zero Pollution Strategies. The Deal aspires to create the first climate-neutral continent by 2050 by making climate, energy, transport and taxation policies fit for the purpose of reducing net

greenhouse gas emissions. In the wording of their website, the Green Deal “will transform the EU into a modern, resource-efficient and competitive economy”. Not only will the EU no longer produce net greenhouse gas emissions by 2050, but economic growth will be “decoupled from resource use” and “no person and no place [will be] left behind”.

At the heart of the Green Deal sits the Farm to Fork Strategy aimed at delivering a fair and healthy food system “for people, society and the planet”. The EU’s overall goals are:

- Ensure food security in the face of climate change and biodiversity loss.
- Reduce the environmental and climate footprint of the EU food system.
- Strengthen the EU food system’s resilience.
- Lead a global transition towards competitive sustainability from farm to fork.

This final point (promoting a global transition) speaks to the ways in which the EU aspires to influence those outside their continent. The term Green Alliances relates to those nations who can conform to the standards and practices set by the EU.

> The EU will support the global transition to sustainable agri-food systems, in line with the objectives of this strategy and the SDGs. Through its external policies, including international cooperation and trade policy, the EU will pursue the development of Green Alliances on sustainable food systems with all its partners in bilateral, regional and multilateral fora. (FTFS Action Plan, p.18).

All future trade deals with the EU have a significant ‘sustainable food system’ component in line with the Action Plan. New Zealand-based organic products have great potential in this market and the government now seeks to leverage that potential. The Organic Products and Production Bill currently before the New Zealand parliament is one example of this government’s attempt to continue and/or increase trade with the EU in a Green Deal era, through harmonising government-to-government end-to-end certification and approval processes that meet new EU equivalence standards. Yet this may come at great cost to the distinctive histories of organics in Aotearoa, including the Hua Parakore verification system, as well as impact upon Tiriti-based relationships and agreements.

EU Farm to Fork and the FTA – What Does This Mean for the Hua Parakore?

The European Green Deal strives to create the first continent to be climate-neutral, and it hopes to produce a ripple effect across the globe, to build ‘competitive sustainability’ that works for both people and the planet. Enabling the transition to organic food production at the level of a continent, let alone a nation, is an ambitious task. As we have seen with the recent legislative reforms around organics in this country, global partners seek deals with public authorities and these exchanges help shape subsequent domestic arrangements. In the case study discussed here, these domestic conditions include Tiriti o Waitangi and Crown obligations to uphold Māori rights and interests.

Within Aotearoa we have four organic standards alongside the first Indigenous organics verification system Hua Parakore. OANZ and Te Waka Kai Ora are Tiriti partners and

acknowledge the distinctive opportunities of a decolonised Aotearoa, in terms of equitable and Tiriti-based food futures. The current Bill under discussion will disestablish these verification systems to provide one overall system for Aotearoa. This is the government's response to EU regulations around organics, and the need to have a public authority confirm that the environmental and health measures of the trade partner are equivalent to EU standards. This rule of equivalence requires a domestic public authority to confirm the quality and standard of the organic product that will enter the EU market. This has led to a review of NZ organics. The problem with this solution is that the Crown then assumes that it is the only public authority that can assess the quality of an organic product. This is counter to a Tiriti-based approach not only to trade deals, but also to the cultural and intellectual property rights of Māori in relation to our taonga, including flora and fauna.

Te Waka Kai Ora is the national authority on Māori organics and is formally recognised as such. The launch of the Hua Parakore system in 2011 was a significant moment of bringing Indigeneity and kaupapa Māori to the organics landscape in Aotearoa. The Hua Parakore championed by the organisation is based on tūpuna wisdom and mātauranga Māori. Hua Parakore reminds us of our own world views, values and ways of knowing and doing, knowledge systems held within our cultural and environmental landscapes. These things are taonga, and the Tribunal response to the WAI262 Claim related to Indigenous flora and fauna *Ko Aotearoa Tēnei* attests to this standpoint.[148]

Te Waka Kai Ora joined the WAI 262 claim as claimants in 2007. These are taonga that require protection the Waitangi Tribunal subsequently found in the 2011 report *Ko Aotearoa Tēnei.* Yet the current legislative responses from the Crown ignore Indigenous perspectives and the recommendations of the Tribunal. The Hua Parakore requires no Crown recognition to be its sovereign self. There is more than one public authority in a Tiriti-based society, which means that Hua Parakore growers will be shut out of future trade opportunities with the EU under current proposed legislative changes.

Matua Percy Tipene and other kaumātua (elders) spent many hours talking with MPI, OANZ and MAFF to ensure that Māori voices were heard in the relevant public and civic forums. Current members of Te Waka Kai Ora spend unpaid hours engaging with MPI staff about the most recent legislative shifts, with few tangible benefits. A key sticking point is that Hua Parakore is a taonga that requires protection under Tiriti and should therefore help shape current discussions regarding New Zealand-based organics and FTFS regulations. Encompassed in this Green Alliance then, between the New Zealand government (represented through MPI) and EU members is a potentially productive global alliance that once again tramples on the mana (authority) of tāngata whenua (Māori as the Indigenous peoples) as protected under te Tiriti o Waitangi and He Whakaputanga o Te Rangatiratanga o Nu Tireni.

[148] *Ko Aotearoa Tēnei: Report on the WAI 262 Claim.* See*:* https://waitangitribunal.govt.nz/news/ko-aotearoa-tenei-report-on-the-wai-262-claim-released/

Te Waka Kai Ora Submission on the Organic Products Bill

Te Waka Kai Ora are kaitiaki (caretakers) of Hua Parakore, a tikanga-based (Māori cultural) validation and verification system for pure food production that also acts as a korowai (cloak) to all organics standards in Aotearoa. In the words of a founding kaumatua (elder), Te Iwi Puihi Tipene of Ngāti Hine:

> "Hua Parakore is an integrity-based process about authenticating Māori seeds, Māori grown, Māori verified, Māori marketed and Māori exported. Hua Parakore is a Māori point of difference."

The development of Hua Parakore involved the strategic alignment of Hua Parakore principles with the NZ Organic Standard for Production so that Hua Parakore growers had the ability to call themselves both Hua Parakore *and* organic within the domestic market. The proposed Organic Products and Production Bill tramples on the work that has been done by Māori to protect our taonga and our rights as Māori as guaranteed under Te Tiriti o Waitangi. In their submission to the Bill, Te Waka Kai Ora made the following points:

- There is no provision in the Bill to protect the rights of Māori and our tāonga (treasures) meaning that the Government has failed to act as a Treaty partner.
- Hua Parakore and Organics dual certification methods meet the current needs of food growers and accommodate spiritual and cultural dimensions not included in conventional organics standards.
- Te Waka Kai Ora were additional claimants to the WAI262 Claim concerning tino rangatiratanga over flora and fauna. This Bill fails to align with the findings of the Tribunal report, *Ko Aotearoa Tēnei*. There is also no provision for Māori cultural and intellectual property rights.
- The Bill also appears to contravene the United Nations Declaration of the Rights of Indigenous Peoples which protects traditional agricultural practices and trade.

The negative impacts on Māori māra kai (food growing) practices include the restriction of Māori rights to uphold māra kai (food growing) and organics practices. The contribution māra kai (food growing) practices make to Māori economic and cultural wellbeing are also put at risk through this Bill. There could be restrictions on Māori capacity to trade in organics.

Most significantly, the Bill puts at risk the significant research and development investment that supports Hua Parakore processes. Te Waka Kai Ora do not have the resourcing to redo these processes, nor is it appropriate that a Crown entity should play the role of approving validation certificates related to Māori as this contravenes our rangatiratanga (authority and self-determination) and by Māori, for the Māori standpoint.

The role Hua Parakore plays as a korowai (cloak) for other NZ-based organic standards will also be erased with this current Bill, creating a monocultural organics landscape empty of the wisdom and experiences of tāngata whenua (and without the unique point of difference offered by Hua Parakore). There are also no provisions to ensure that Aotearoa remains GE- and GMO-free. Instead, this Bill continues the work of colonisation as it contravenes Te Tiriti o Waitangi.

Te Waka Kai Ora a Claimant Group to WAI 262

Te Waka Kai Ora concerns regarding the Organics Bill need to be understood within the wider landscape of Tiriti breaches and the groundbreaking Indigenous Flora and Fauna Claim WAI262.[149] WAI262 was the first whole-of-government inquiry into more than 20 government agencies and was lodged in 1991 by six claimants representing six different iwi. The claim was ignited by the Plant Varieties Act of 1987 which allowed commercial plant breeders to gain ownership rights to new plant species, including Indigenous plants. Māori consent or consultation about the Act was deemed unnecessary.

The following year Māori attendees at an ethnobotany conference heard that the Crown had given ancient kūmara seeds brought by Māori to Aotearoa from Hawaiki, to a research institute in Japan who were interested in patenting the seeds. This raised further concerns about Māori rights and interests and the exclusion of Māori from the benefits of research and commercialisation. The drafting of the Claim was also informed by a parallel international development, the drafting of the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) which champions the rights of Indigenous Peoples to self-determination and sovereignty. The opening pages of the WAI262 claim emphasise the importance of Māori control over Māori things:

> Iwi hold all rights relating to the protection, control, conservation, management, treatment, propagation, sale, dispersal, utilisation and restrictions on the use of Indigenous flora and fauna and the genetic resources contained therein.[150]

During the second round of hearings in 2006 the Tribunal allowed new claimants to make their case. Te Waka Kai Ora lodged a claim with the Waitangi Tribunal related to the Crown's Australia-New Zealand Therapeutic Products Authority (ANZTPA) agreement. This agreement sought to regulate therapeutic products including traditional medicines. The agreement was developed with no input from Māori and risked restricting Māori capacity to develop commercial rongoā products. Our claim also included the failure of the Crown to protect Māori organic food production and its continuing support for harmful pesticides and herbicides. The claim was admitted to the Tribunal in 2006 and included the following concerns:

- That the Crown has failed to actively protect Māori lands, waterways, flora and fauna in their organic and sustainable state.
- That the Crown has failed to protect Hua Māori, Hua Parakore and Hua Whenua as Māori sources of kai, beverages and medicines.
- That the Crown has failed to protect the Māori economy based on Hua Parakore sustainable organic production methods.
- That the Crown has failed to protect the transmission of mātauranga Māori by excluding Māori science, technology and pedagogies from the NZ education system.
- That the Crown has failed to ban organochlorine-based products.

[149] Te Waka Kai Ora. 2022. He Kai Te Rongoā He Rongoā Te Kai: Report into the Evidence Presented by Te Waka Kai Ora to the Waitangi Tribunal's Inquiry to the WAI 262 Claim. Papawhakaritorito Trust: Kaitoke.
[150] https://www.wai262.nz/

- That the Crown have failed to protect Māori health and wellbeing by failing to protect our lands, waters, flora and fauna.
- That the Crown has failed to support the development of infrastructure to support Hua Māori, Hua Parakore and Hua Whenua.

The Crown has yet to respond to these issues. It has been 31 years since the WAI262 Claim was lodged. It has taken twenty years for the Crown to report back on the WAI262 Claim in the form of *Ko Aotearoa Tēnei*. It then took another eight years for the Crown to respond. Despite the passage of time the Crown has made little progress in addressing the issues raised by claimants or the recommendations made by the Tribunal.

The Crown is in breach of Tiriti

The Organic Products and Production Bill currently under discussion risks repeating Treaty breaches of the past by refusing to engage with Māori on the drafting of the legislation and by assuming it is the best (and only) public authority to approve equivalency organic standards. The Bill thus repeats the erasure of Indigenous rights and interests found in other Crown policies and agreements such as the ANZTPA agreement and the Plant Varieties Act of 1987 and will most likely lead to the lodgement of a new claim to the Tribunal.

In addition, the Bill overlooks the existing Tiriti partnership between OANZ and Te Waka Kai Ora and diminishes the potential for developing Treaty-led food system processes for Aotearoa. In addition, the Crown fails to recognise that the OANZ/TWKO treaty partnership offers a unique point of difference for organics in a global market.

Where to next and pathways forward

Te Waka Kai Ora offers the following suggestions on the next steps needed for the Crown to address our concerns related to the Organic Products and Production Bill:

Acknowledge the Mana (Authority) of Te Waka Kai Ora

It is imperative that Te Waka Kai Ora continues to be recognised as the kaupapa Māori korowai of excellence for organics and organic regenerative agriculture in Aotearoa. Any proposed new organics system should be verified by Te Waka Kai Ora as the entity that holds the whakapapa of Hua Parakore. This approach will ensure the new Organics Bill complies with Tiriti-led practices.

Acknowledgement of the mana of Te Waka Kai Ora as the Māori organics authority (a public authority) in Aotearoa requires the Crown to engage with Te Waka Kai Ora as trade partners in the negotiation of any subsequent free trade agreements, particularly those that relate to agriculture, organics, and genetically modified organisms (GMOs) as these are critical areas of interest for Te Waka Kai Ora.

Resource Te Waka Kai Ora to Adjust the Hua Parakore Process to Align with the Bill and Proposed Organic Regulations Where Possible

It is important that the prior work undertaken by Te Waka Kai Ora over the last two decades is not erased by the Crown in the passing of the new legislation and development of new organic regulations. To erase the Hua Parakore from the organics landscape through the development of new regulations would be a direct breach of Te Tiriti o Waitangi. To ensure this breach does not occur we recommended that the Crown financially resource Te Waka Kai Ora to:

1) ensure representation is included in the development of the new organics bill and subsequent regulations, and
2) that funding is made available to support Te Waka Kai Ora to adapt the Hua Parakore system to work within the proposed Bill and new organic regulations

On-going Treaty Partnership and Baseline Funding for Te Waka Kai Ora and Hua Parakore

Treaty partnership requires active participation, protection and resourcing. It is imperative that the Crown provide baseline funding for Te Waka Kai Ora so that the place of Māori and Indigenous organics and the Hua Parakore is protected. This is critical at the time of climate crisis and soil degradation as Hua Parakore offers a distinct kaupapa Māori transition pathway for conventional Māori food and farming that can contribute to offsetting GHG emissions. This was at the heart of the Te Waka Kai Ora WAI262 claim to the Waitangi Tribunal.

Chapter 6: The EU Organic Opportunity

The EU Organic Market

The EU market for organic food products increased by 12%, reaching $58.6 billion in 2021.[151] Europe is the second-largest organic food market in the world after the United States ($63 billion in 2021).[152] Germany represents the largest market, followed by France. Denmark, Switzerland and Sweden have the highest per capita spending on organic products.

Increasing the production and consumption of organic food is a priority for the European Union. Its quest to transition at least 25% of the EU's agricultural land under organic farming by 2030 supports the EU's transition to a climate-neutral continent by 2050.

The Organic Market Opportunity for New Zealand's Land-Based Primary Producers

The EU's commitment to increasing the use of organic farming methods and increasing the proportion of land used for organic farming to 25% by 2030 will have a significant impact on New Zealand's land-based primary production sectors. The EU consumer is well aware of organics and has a preference for sustainable products from verifiable sources. This trend will further increase as the EU reaches its 25% target, and climate change, environmental damage and biodiversity losses continue to shape consumer preferences.

This will further be backed by the EU's greenwashing legislation, food labelling frameworks, and bans on products associated with illegal pesticides and deforestation.

In 2020, the EU imported 2.79 million tonnes of organic agri-food products, with tropical fruit, nuts and spices representing 30% of the volume.

In order to quantify the scale of export opportunities that might exist for organic exports from New Zealand to the EU, OANZ commissioned modelling of the potential effects of emerging EU policies on the 'untapped potential' for increased NZ exports into the EU in a number of case study products. The two case study sectors selected for this modelling are wine and dairy.

This modelling was undertaken by TRADE Research Advisory (Pty) Ltd (hereafter referred to as Trade Advisory), a subsidiary company of the North-West University, South Africa,

151 https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=EU%20Consumers%20save%20on%20food%20and%20buy%20less%20organic%20in%202022_Berlin_European%20Union_E42023-0005.pdf

152 https://ota.com/market-analysis/organic-industry-survey/organic-industry-survey

specialising in international trade and economic development. Trade Advisory works in association with the WTO Chairs programme in South Africa and has developed a methodology[153] to identify export opportunities for a company or country to pursue export growth and diversification strategies. The methodology is used to identify realistic export opportunities for countries, regions and industry sectors or individual companies in the form of high-potential product-market combinations.

While the TRADE-DSM® methodology allows for the identification of 'untapped' potential in possible target markets for products produced and exported from a home market (in this instance New Zealand), the underlying fundamental global trade data applied as the basis of the approach is based on the Harmonised System of product tariff codes, or the HS system.[154] The challenge is that the HS Code system does not explicitly distinguish between products based on production process characteristics, such as whether a product is organically produced or certified as organic, or not.

While the design and rules of the HS system allow a country to implement additional 'national level' detailed product definitions (more detailed than the internationally comparable HS 6-digit definitions, and for example consisting of 8, 10 or more digits), a cursory analysis shows that while the EU's own national coding level extends to 10 digit level, no explicit references can be found to organic processing in these definitions, either in general or specifically in the product codes related to wine and dairy products.

This high-level search further indicated the only countries that currently include some product definitions related to organically produced goods are the USA and Canada. For the case study commodities included in this report, only the USA distinguishes between conventionally and organically produced wine in their national-level HS codes.

As a result, the challenge facing Trade Advisory in executing this assignment and investigating the 'untapped' potential that exists for organic exports from New Zealand to the EU for these particular products is that no explicit information or statistical data is collected by any national and international trade data systems to facilitate this analysis.

The analysis approach adopted by Trade Advisory is therefore based on a 'scenario' approach that informs decision-making regarding export potential based on percentage-driven 'bands' of potential - effectively modelling a situation in which an increasing

[153] Also known as the TRADE-DSM® (Decision Support Model) methodology. TRADE-DSM is a registered trade mark of TRADE (an acronym for Trade and Development), a research focus area at the North-West University, specialising in the fields of international trade and economic development.

[154]The HS system is an internationally standardised system of names and numbers used to classify traded products. The system came into effect for the first time in 1988 and has since been developed and maintained by the World Customs Organization (WCO) (formerly the Customs Co-operation Council). The WCO is an independent, intergovernmental organisation with over 200 member countries. It is headquartered in Brussels, Belgium. The lowest level of internationally consistent codes applied according to the system is at the HS6-digit product level; however, individual countries may extend the coding system as required. Some countries, such as the United States of America and also New Zealand, apply a 10-digit classification to products. In this study, however, only the HS6-digit product-level detail is applied since the modelling can only be conducted at this level.

percentage of New Zealand's potential exports to the EU in the case study sectors are (hypothetically) converted from conventional to certified organic products.[155]

New Zealand Wine

In the case of the New Zealand wine industry, OANZ has partnered with New Zealand Winegrowers and the organisation's Sustainable Winegrowing NZ (SWINZ) programme to use the local wine industry as a case study for this project.

In undertaking this case study, the 6-digit HS codes relevant to the wine industry and to wine exports from New Zealand to the EU are as follows:

- HS220421 – Wine of fresh grapes, including fortified wines, and grape must whose fermentation has been arrested by the addition of alcohol, in containers of less than or equal to 2 litres (excluding sparkling wine)
- HS220422 – Wine of fresh grapes, including fortified wines, and grape must whose fermentation has been arrested by the addition of alcohol, in containers of more than 2 litres but less than or equal to 10 litres (excluding sparkling wine)[156]
- HS220429 – Wine of fresh grapes, including fortified wines, and grape must whose fermentation has been arrested by the addition of alcohol in containers of greater than 10 litres (excluding sparkling wine).

Based on current circumstances and export practices in the New Zealand wine industry, the analysis below will focus on H220421 (hereafter also referred to as "bottled wine") and HS220429 (hereafter referred to as "bulk wine").

HS220421 - Wine in containers of less than or equal to two litres

The analysis undertaken by Trade Advisory shows that for bottled wine (HS22041), total import values into the EU27 markets between 2015 and 2021 increased steadily (in NZ$ terms). In 2021 (the last year for which finalised international trade data is available), the total value of imports of bottled wine globally exceeded NZ$40 billion, with approximately NZ$12bn of this total imported into the EU. The value of EU imports from New Zealand in this category totalled approximately NZ$150m.[157]

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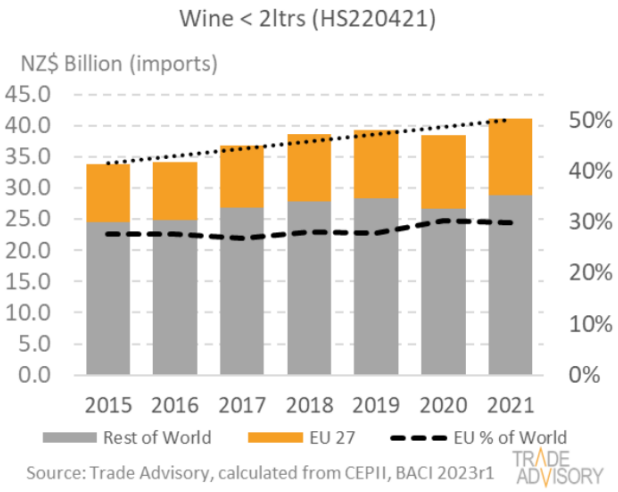
[155] Comprehensive reports detailing the modelling undertaken by Trade Advisory for this project, including the methodology applied, are available from OANZ.

[156] HS 220422 was only introduced in the 2017 revision of the HS Code nomenclature, by splitting and changing the definition of HS 220429, from "wine in containers of > 2 l (excl. sparkling wine)" to "wine in containers of > 2 l but <= 10 l (excl. sparkling wine)" i.e. HS220422 revised, and "wine in containers of > 10 l (excl. sparkling wine)" - i.e. HS220429 revised. As a result, the revised HS 220422 code will only have a limited set of historical data, dating from 2017 onward.

[157] All international trade figures quoted in this report are sourced from the following major trade data sources:

Stats NZ bulk data downloading facilities, downloaded 02/02/2023 - for NZ exports at 10-digit HS-code level - https://www.stats.govt.nz/large-datasets/csv-files-for-download/overseas-merchandise-trade-datasets



In terms of evaluating the opportunity that might exist for exports of New Zealand wine in general and certified organic wine in particular, Trade Advisory, in the first instance, made use of the TRADE-DSM® methodology to determine the untapped potential that exists in the EU for bottled New Zealand wine (i.e. HS220421).

Based on this analysis, the total value of the realistic market opportunities for New Zealand into the EU is approximately NZ$1.5 billion,[158] with the majority of this potential lying in the following EU Member States:

- Germany - NZ$438m
- Netherlands - NZ$227m
- Belgium / Luxembourg - NZ$168m
- Denmark - NZ$104m
- Sweden - NZ$86m

Having established the scope of the market potential for bottled wine in the EU market, Trade Advisory then modelled a (hypothetical) increase in the percentage of total imports of bottled wine into the EU that is certified as organic. This hypothetical increase in organic wine exports is based on an assumption of changing consumer preferences in the EU for imported wine, in line with increased conversion of locally produced wine from conventional to organic, driven (in part) by the EU Farm to Fork Strategy's target of 25% of agricultural land under organic production by 2030.

Eurostat bulk data downloading facilities, downloaded 02/02/2023 - for EU imports at 10-digit HS Code level - https://ec.europa.eu/eurostat/web/main/data/database

CEPII BACI HS 6-digit 2022 revision - a reconciled version of UN COMTRADE merchandise trade database provided by CEPII (Centre d'Études Prospectives et d'Informations Internationales) - http://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele_item.asp?id=37

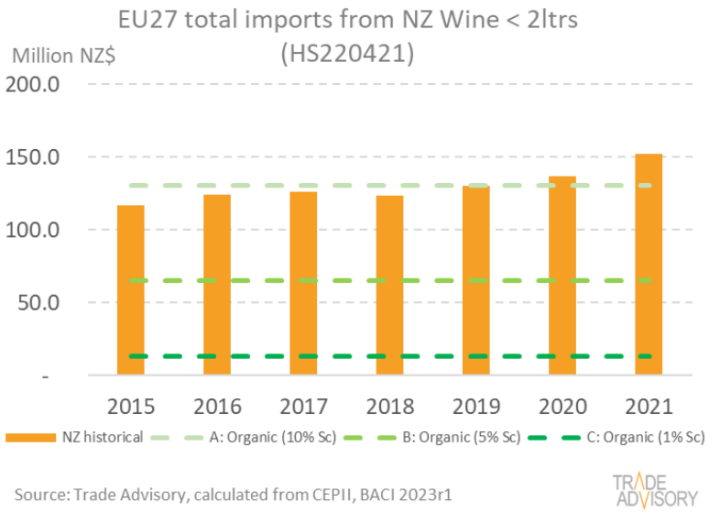
International Trade Centre (ITC) TradeMap trade statistics - https://www.trademap.org

International Trade Centre (ITC) Market Access Map (MacMap) for tariffs and quotas - https://www.macmap.org

[158] It is important to note that these market opportunity figures are based purely on a demand-side analysis of EU import markets under the TRADE-DSM® methodology, in terms of the potential for products from New Zealand (in this case bottled wine) to replace products imported into the EU from other producer nations . These figures take no account of the supply side of the export equation, for example whether New Zealand producers have the ability or production capacity to take advantage of these opportunities.

The estimates for untapped potential into the 17 EU countries for organic bottled wine from New Zealand are based on assumptions of an increasing percentage of this wine being certified as organic. Modelling percentages of 1%, 5% and 10% of the overall untapped import demand in the EU being supplied from certified organic producers provide the following results – a figure of 1% of the total untapped import potential into the EU for New Zealand bottled wine being converted to certified organic imports equates to NZ$13m, while a figure of 5% equates to potential organic imports of NZ$65m. If the demand for imported organic wine reaches 10% of the total untapped potential revealed by the TRADE-DSM® methodology for New Zealand bottled wine into the EU, this translates into a further export potential of NZ$65m for a total in excess of NZ$130m.

These figures effectively imply that under the most optimistic scenario of a 10% conversion of EU demand for bottled wine from conventional to organic, the potential export value of organic wine alone from New Zealand into the EU, at NZ$130m, is 87% of the value of total New Zealand bottled wine exports to the EU in 2021 (NZ$150m).



As indicated above, this scenario makes no assumptions regarding the ability of the New Zealand wine industry to supply this untapped demand or the potential rate of conversion of New Zealand vineyards and wine output from conventional to organic – rather, it is purely indicative of the estimated potential that exists in the EU for imports of organic bottled wine from New Zealand.

Based on current export patterns of bottled wine from New Zealand,[159] the largest and fastest-growing market for local exporters is the USA. As a result, it appears likely that despite the significant opportunity for imports of organic wine from New Zealand into the EU, New Zealand producers will continue to target the US market over the next several years, and this market can absorb any additional production in New Zealand.

HS220429 - wine in containers of greater than 10 litres

In general, imports and exports classified as HS220429, wine in containers larger than 10 litres, can be understood as primarily consisting of wine exported from its country of origin in

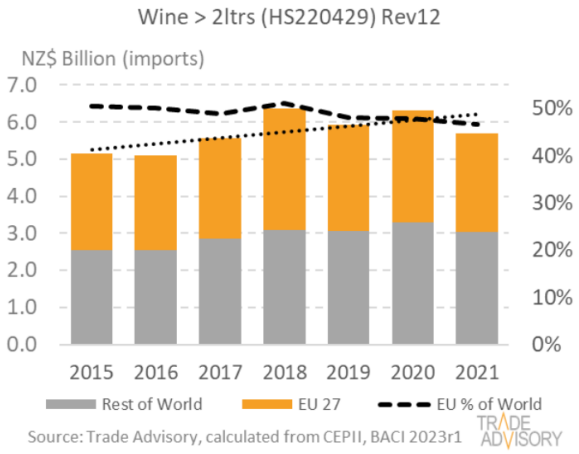
[159] https://www.nzwine.com/media/22749/nzw-annual-report-2022.pdf

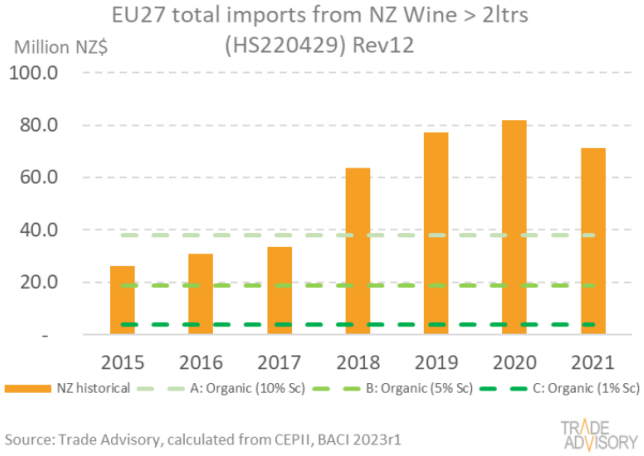
bulk volume (usually in tanks or containers) and bottled in the destination country. In certain instances, such wine might be exported in bulk from the country of origin to a third country, where it is bottled, to take advantage of lower bottling costs or other economies of scale before being reexported to its final market.

Bulk wine imports globally in 2021 totalled approximately NZ$5.5bn, with imports into the EU accounting for approximately $2.5bn of this total. Imports of bulk wine into the EU from New Zealand totalled around NZ$70m, down from over $80m in 2020.

Making use of the same methodology as for bottled wine, Trade Advisory calculated the total untapped potential for bulk wine imports into the EU at NZ$386m. The majority of this untapped potential occurs in the following EU Member States:

- Germany - NZ$125m
- France - NZ$65m
- Sweden - NZ$32m
- Belgium / Luxembourg - NZ$28m
- Portugal - NZ$26m





Modelling the assumed increase in the percentage of bulk wine imported into the EU being certified as organic at 1%, 5% and 10%, the potential for New Zealand bulk wine is as follows: NZ$4m at 1%, NZ$19m at 5%, and NZ$38m at 10%. This compares with total New Zealand exports of bulk wine into the EU of $70m in 2021.

In other words, the import potential for bulk organic wine from New Zealand into the EU is more than 50% of total bulk wine imports from New Zealand into the EU (both conventional and organic) in 2021.

New Zealand Dairy

For the case study on the New Zealand dairy sector, OANZ partnered with Fonterra, New Zealand's national dairy co-operative and the country's major exporter of dairy products.

The same methodology was applied to the dairy sector, as was the case for New Zealand wine exports to the EU.

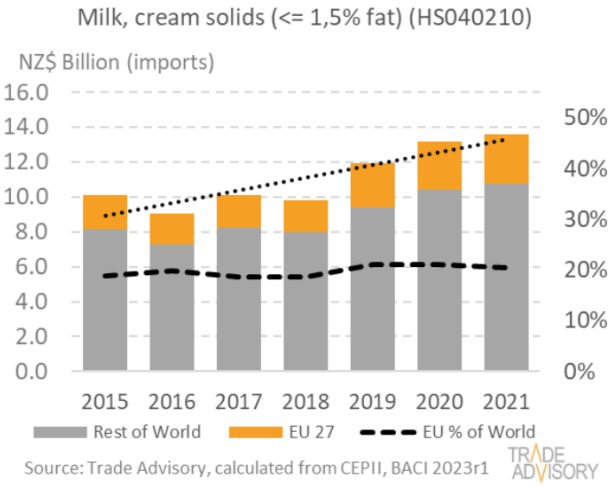
Based on input received from Fonterra, the 6-digit HS codes most relevant to New Zealand dairy exports to the EU were identified as follows:

- HS040210 – Dairy produce: milk and cream, concentrated or containing added sugar or other sweetening matter, in powder, granules or other solid forms, of fat content not exceeding 1.5% (by weight)
- HS040221 – Dairy produce: milk and cream, concentrated, not containing added sugar or other sweetening matter, in powder, granules or other solid forms, of a fat content exceeding 1.5% (by weight)
- HS040229 – Dairy produce: milk and cream, containing added sugar or other sweetening matter, in powder, granules or other solid forms, of a fat content exceeding 1.5% (by weight)
- HS350110 – Albuminoidal substances; modified starches; glues; enzymes – Casein
- HS350190 – Albuminoidal substances; modified starches; glues; enzymes – Casein, caseinates and other casein derivatives; casein glues
- HS350220 – Albumins (including concentrates of two or more whey proteins, containing by mass more than 80 per cent whey proteins, calculated on the dry matter), albuminates and other albumin derivatives: Milk albumin, including concentrates of two or more whey proteins

HS040210 - Milk powder, less than or equal to 1.5% fat content (by weight)[160]

Over the period 2015-2021, total imports of skim milk powder into the EU increased steadily, reaching a value of NZ$2.8bn in 2021. Imports from New Zealand into the EU are relatively negligible, at NZ$1.1m in 2021.

[160] Hereafter referred to as "skim milk powder"



The TRADE-DSM® methodology estimates the total untapped potential of imports of the product from New Zealand into the EU at NZ$370m, with this potential lying primarily in the following countries:

- Netherlands - NZ$112m
- Italy - NZ$46m
- Belgium-Luxembourg - NZ$37m
- Germany - NZ$27m

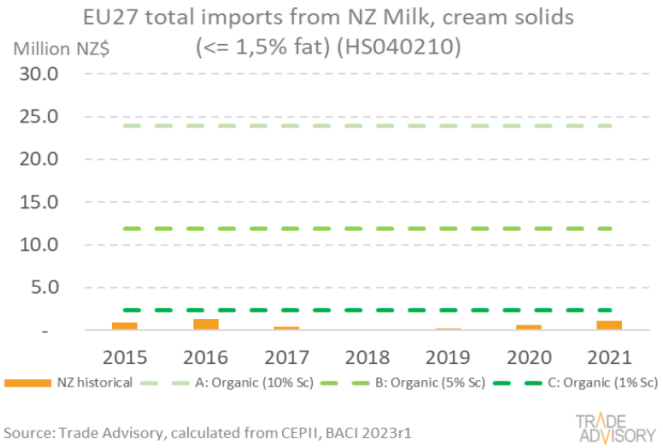
Modelling an assumed increase in the percentage of skim milk imported into the EU being certified as organic, at 1%, 5% and 10%, the potential for New Zealand organic skim milk powder is as follows: NZ$2m at 1%, NZ$12m at 5%, and NZ$24m at 10%.

These figures dwarf the current value of total New Zealand exports of conventional non-organic skim milk powder into the EU of NZ$1.1m in 2021.

At first glance, this modelling result might appear counterintuitive. It must, however, be borne in mind that the figures for untapped export potential from New Zealand into the various EU countries are based on existing import patterns for the product into these countries and the (largely theoretical) potential that exists for New Zealand producers to displace exporters from other countries into these markets. This potential is based on a range of factors, including total market size, import growth from year to year, relative differences in export

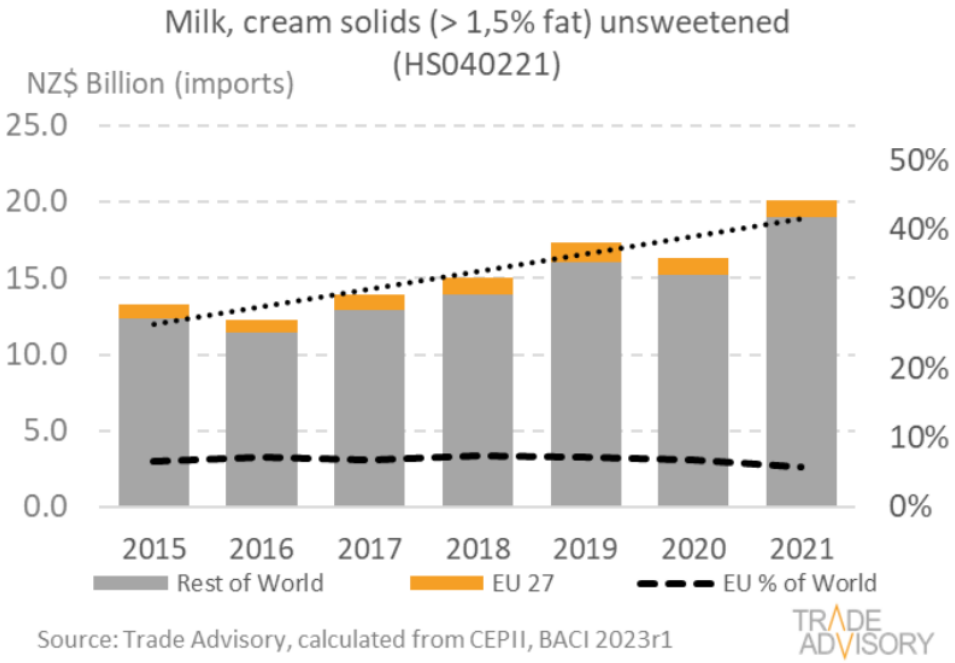
prices between countries (on a unitary import value basis), import duty differentials and logistics costs.

Similarly, the modelling of untapped export potential is once again purely a demand-side exercise and is not constrained by supply-side factors such as total production capacity in New Zealand, existing export patterns or the ability of New Zealand producers to convert production from conventional to certified organic.



HS040221 – Milk powder, with greater than 1.5% fat content (by weight)[161]

Global imports of whole milk powder grew steadily between 2015 and 2021, reaching NZ$20bn in 2021. Imports of the product into the EU were a relatively small component of this figure, at NZ$1.2bn. Imports into the EU from New Zealand were once again negligible, at NZ$5.4m in 2021 (this figure has declined sharply from over NZ$20m in 2019).



The total untapped potential for whole milk powder imports from New Zealand into the EU is estimated at NZ$174m, primarily in the following countries:

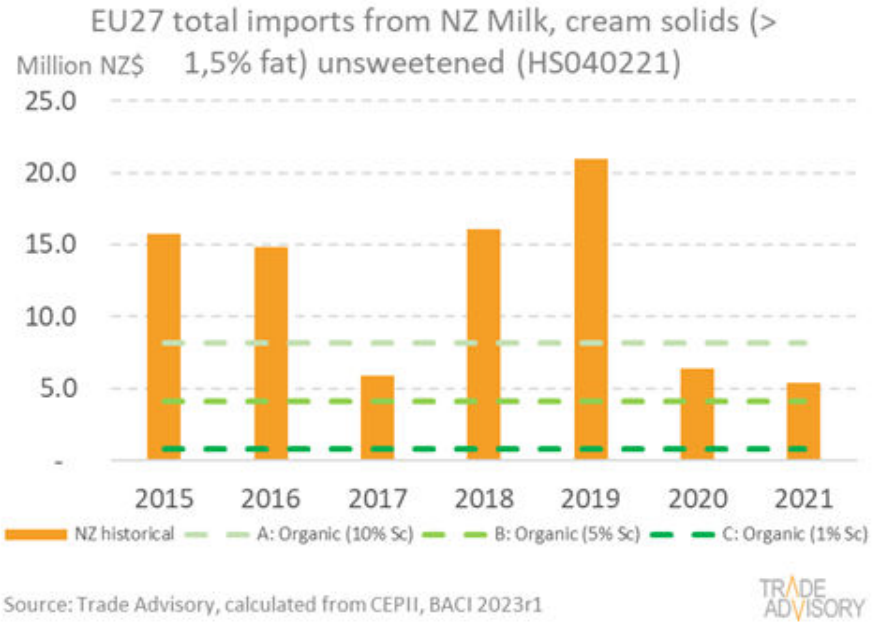
[161] Hereafter referred to as "whole milk powder"

- Germany - NZ$29m
- Italy - NZ$22m
- Poland - NZ$10m
- Spain - NZ$8m

The modelling exercise for an increasing percentage of organic whole milk powder being imported into the EU displays the following potential for organic producers in New Zealand: NZ$1m at 1%, NZ$4m at 5%, and NZ$8m at 10%.

Once again, this result implies that if 10% of the EU's demand for whole milk powder shifts from conventional to organic, the untapped potential for EU imports of the product from New Zealand (NZ$8m) will exceed the total value of the EU's whole milk imports from New Zealand in 2021 (NZ$5.4m).

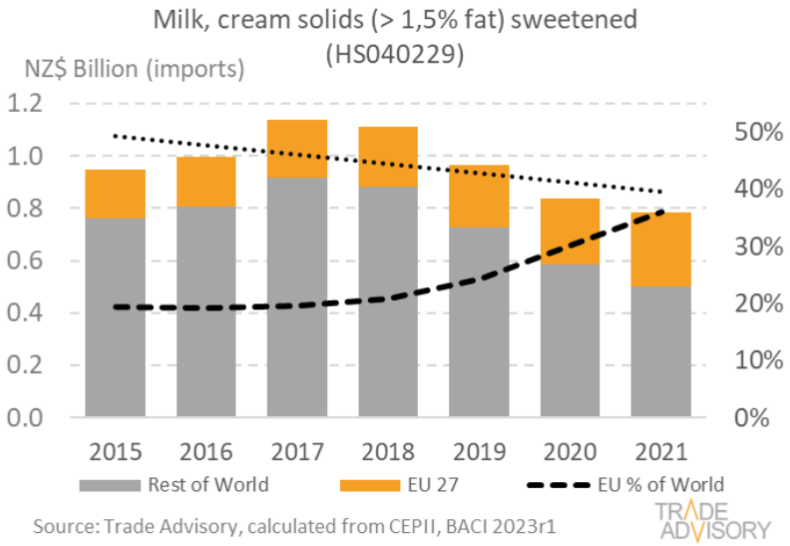
The difference in the untapped potential figures for New Zealand exports into the EU for skim milk powder (NZ$370m) and whole milk powder (NZ$174m), can likely be ascribed to relative differences in the competitiveness of global producers of these products (including producers within the EU), differing import patterns for the two products into the EU, and various other factors.



<u>HS040229 – Milk powder, with greater than 1.5% fat content (by weight), sweetened</u>[162]

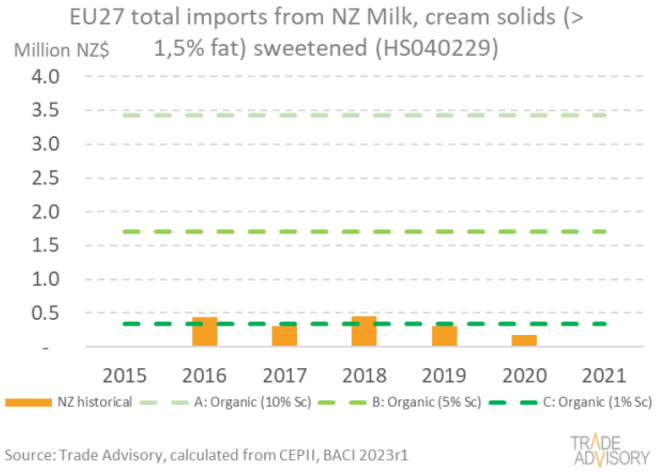
Total imports of sweetened whole milk powder into the EU (in NZ$ terms) have been declining since 2018, in line with the trend for global imports of the product. At the same time, however, EU imports have increased as a percentage of global imports, from a low of 22% in 2017 to 30% in 2021. In 2021, imports of HS040229 into the EU were valued at NZ$283m. Imports of the product from New Zealand into the EU were negligible, at only NZ$5,000, down from $450,000 in 2018.

[162] Hereafter referred to as "sweetened whole milk powder"



The untapped market potential for sweetened whole milk powder into the EU is valued at NZ$38m, distributed amongst major markets as follows:

- France - NZ$10m
- Germany - NZ$7m
- Italy - NZ$4m
- Netherlands - NZ$4m



The estimates of untapped potential for imports of sweetened whole milk from New Zealand into the EU, at the various levels of modelled demand in the EU for certified organic versions of the product, are as follows: NZ$400,000 at 1%, NZ$1.8m at 5%, and NZ$3.5m at 10%.

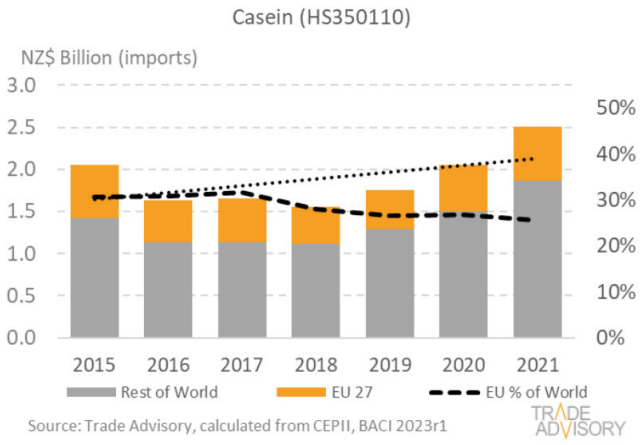
This once again suggests that the untapped potential for imports of this product from New Zealand into the EU is far greater than the current import value (as of 2021).

HS350110 - Casein

Casein is the principal protein in cow's milk and is used in processed food, paints and adhesives.

This product appears to present a very different profile, in terms of both historic exports from New Zealand into the EU, and untapped export potential, than was the case for the preceding group of products.

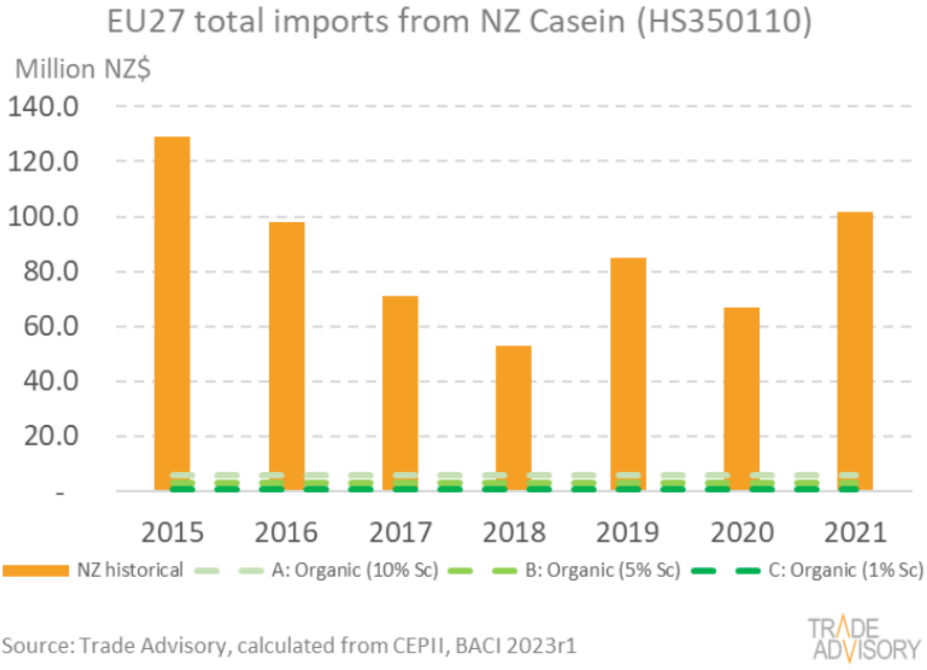
An analysis of import values from 2015 to 2021 shows that total imports of casein into the EU have been increasing in absolute value terms since 2018. As a percentage of global import demand, however, imports into the EU have decreased from 31.6% in 2017 to 25.6% in 2021. The value of total Imports into the EU-27 in 2021 was NZ$640m. Imports from New Zealand into the EU were relatively significant, at NZ$102m.



In total, the EU represents approximately NZ$59m in untapped potential for imports of casein from New Zealand. This potential resides primarily in the following countries:

- Germany - NZ$13m
- Netherlands - NZ$13M
- Poland - NZ$11m
- Spain - NZ$10m
- Italy - NZ$10m

Modelling the conversion of EU demand for the product to certified organic production at the established percentages reveals the following untapped demand for organic casein from New Zealand - NZ$600,000 at 1%, NZ$3M at 5%, and NZ$6m at 10%.



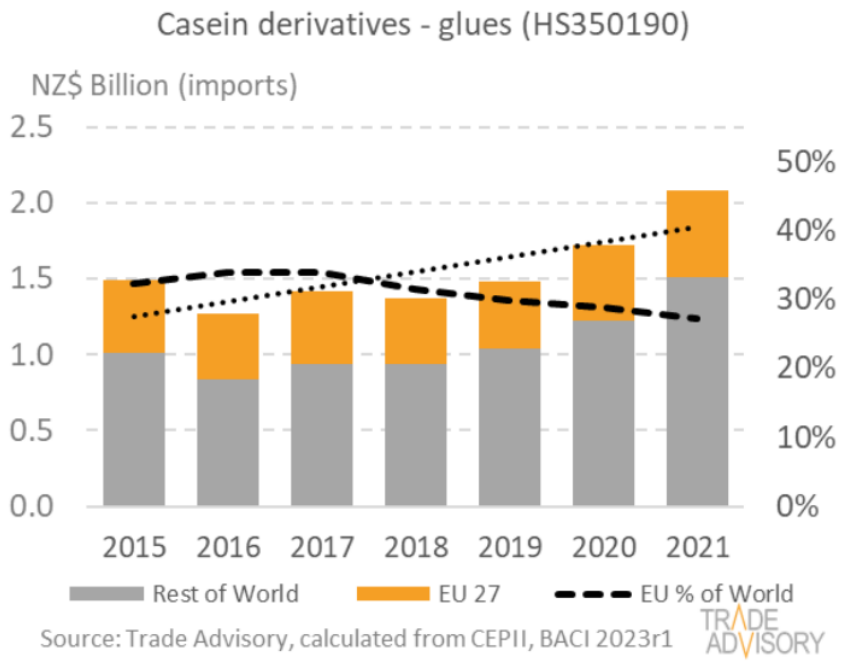
These untapped potential figures are significantly lower than current import values for casein from New Zealand into the EU (NZ$102m in 2021). This suggests that, given the current significant market share that New Zealand casein has already captured in major European markets, the potential for a significant increase in this market share is somewhat limited.

Instead, the potential would appear to lie primarily in the conversion of casein produced from conventional sources in New Zealand, to that produced organically.

HS350190 - Casein derivatives – glues

Casein glues are water-resistant adhesives made from casein and hydrated lime and are generally used in the manufacturing of plywood and furniture.

Imports of casein glues into the EU increased in the period 2015-2021, in particular from 2018 onward. Total imports into the EU in 2021 were valued at NZ$567m, with imports from New Zealand contributing 10% to this total, at NZ$56m.

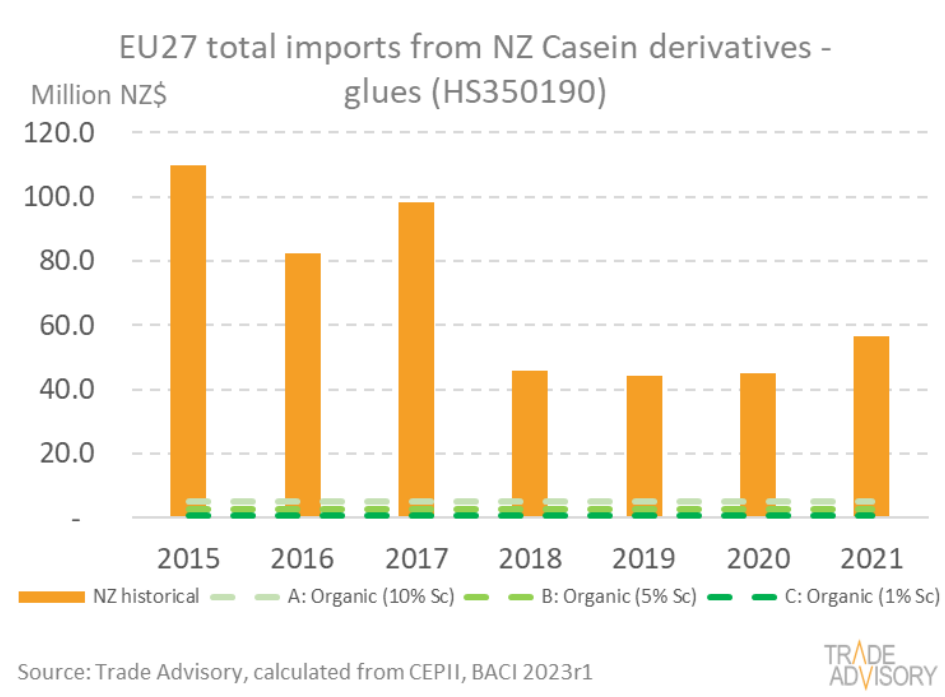


Total untapped potential for EU imports of casein glues from New Zealand is NZ$68 million, with this potential broken down as follows:

- Germany - NZ$24m
- Netherlands - NZ$8m
- Spain - NZ$8m
- France - NZ$4m

The established modelling of a conversion of EU demand for the product from conventional to organic production provides the following estimates of potential demand for organic casein glues – NZ$500,000 at 1%, NZ$2.5m at 5%, and NZ$5m at 10%.

These figures once again indicate a relatively modest level of potential for increases in New Zealand's market share of the product in the EU (valued at NZ$56m in 2021).

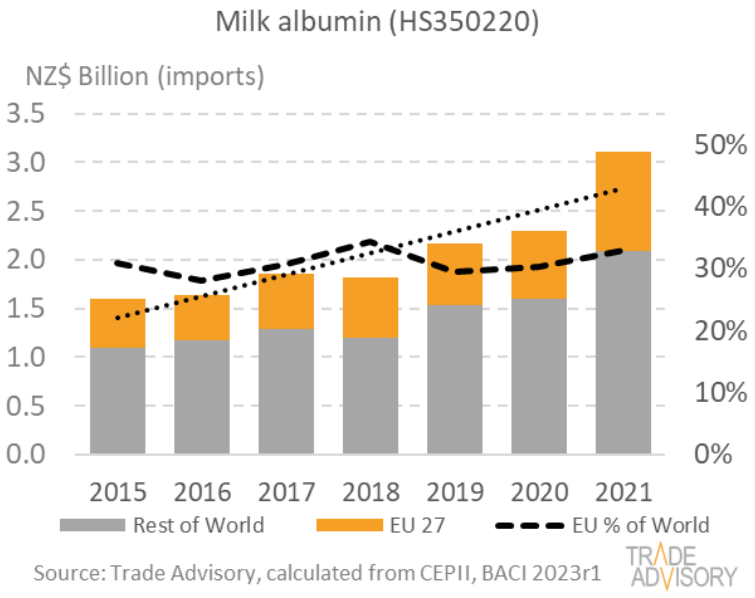


Some doubt does exist regarding the potential market appetite for casein glues manufactured with organically produced dairy inputs, given the highly processed, industrial nature of these products. The demand for such products to include organic dairy inputs is likely to be significantly influenced by the labelling conditions applied to such products under the EU's Sustainability Labelling Framework.

HS350220 – Milk Albumin

Milk albumin or lactalbumin, otherwise known as whey protein, is the principal albumin (protein) contained in milk.

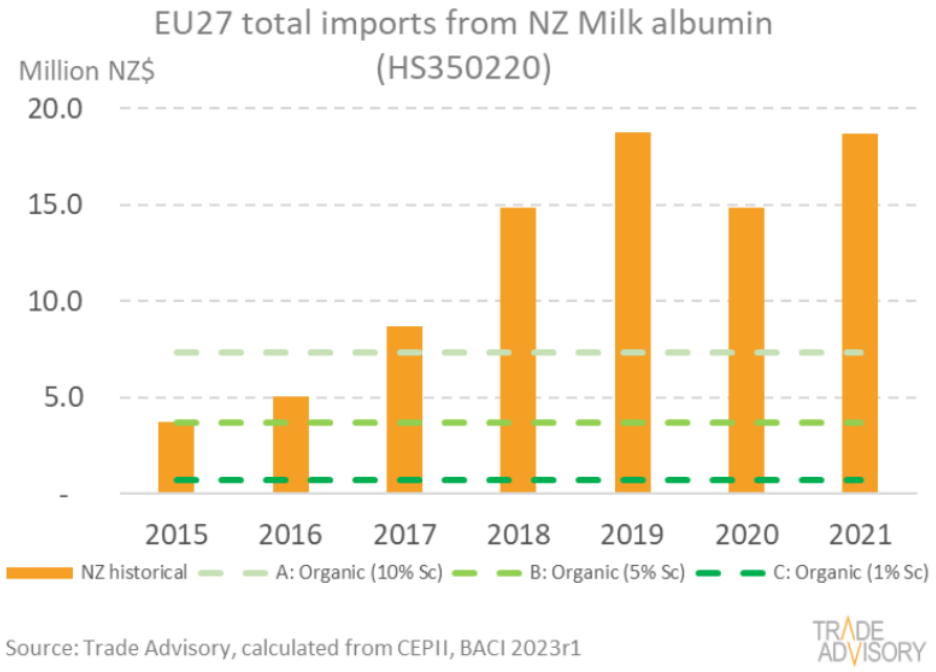
Total imports of the product into the EU have been increasing since 2018. In 2021, imports into the EU were valued at NZ$1bn or approximately 32% of total global imports. Imports into the EU from New Zealand in 2021 were approximately NZ$19m.



Using the TRADE-DSM® methodology, the total untapped potential for imports of milk albumin into the EU from New Zealand was estimated at NZ$74m, with this potential lying primarily in the following EU markets:

- Netherlands - NZ$23m
- Germany - NZ$19m
- Poland - NZ$8m
- France - NZ$8m
- Hungary - NZ$7m

Once again, modelling the conversion of EU demand for the product from conventional to organic production provides the following results – NZ$700,000 at 1%, NZ$3.6m at 5%, and NZ$7.3m at 10%. For context, the value of total imports of milk albumin from New Zealand into the EU in 2021 was NZ$19m.



Conclusion

The modelling described above suggests that for a number of major New Zealand export products, significant potential exists for increasing the total volume and value of exports into the EU through the addition of certified organic exports to established conventional export commodities.

For other products, particularly those in which New Zealand already commands a significant market share, to take advantage of the growing demand amongst EU consumers for organic products, it will be advisable for New Zealand-based exporters to the EU to consider converting at least some percentage of their production capacity from conventional to organic.

Areas for Future Research

The rapidly evolving regulatory regime in the EU, along with the potential for similar regulatory changes in New Zealand's other major trading partners, suggest that ongoing research will be required in the field of sustainability-related international trade policy. Without such research, considerable risk exists for New Zealand's primary sector exporters, in terms of the potential for a growing gap between domestic environmental regulation in New Zealand on the one hand, and regulations governing imports of agricultural and primary products into major trading partner nations on the other.

Based on the evidence included in this paper, key areas for such research are likely to include the following:

Area for future research	**Key issue**
Pesticide use	Discrepancy between EU and NZ lists of banned pesticides
Deforestation	Potential inclusion of dairy sector in EU import regulations related to deforestation; lack of knowledge / transparency in NZ dairy sector regarding supply chains of feeds such as soya and PKE
Carbon Border Adjustment Mechanisms (CBAMs)	Potential inclusion of NZ primary sector exports in EU BAM regime; lack of knowledge / transparency in NZ primary industries regarding life cycle analysis / embedded CO_2-e of products
Anti-greenwashing legislation	Heightened requirements on NZ exporters to substantiate environmental / sustainability claims regarding products and production processes
EU Sustainability Labelling Framework	Heightened requirements on NZ exporters to measure and validate environmental / sustainability performance of products and production processes, in climate change mitigation, water quality, air quality, soil quality, biodiversity conservation and the circular economy
Indigenous knowledge systems	Ensuring that Mātauranga Māori and the Hua Parakore system is upheld and avenues to strengthen kaupapa Māori organics are pursued. WAI 262 concerns and active Māori engagement in organic exports is pursued in ways that uplift the Hua Parakore kaupapa of Te Ao

	Tuora, māramatanga, mauri, mana, wairua and whakapapa. Growth of the Hua Parakore sector and increasing number of producers.

One critical area into which this study has not delved is that of agricultural subsidies.

In this regard, New Zealand's lack of domestic public sector subsidies for primary industries holds the potential to place domestic producers at a significant disadvantage compared to their counterparts in the EU (and similarly in the USA and other major export markets). This might particularly be the case in circumstances in which New Zealand producers are required to comply with more stringent requirements in their European export markets than is the case in their domestic production base.

This relative difference in production environments provides a significant opportunity for future study, particularly considering changes that might occur in the EU's overall agricultural subsidy regime and in the regimes of individual Member States under any future revisions of the EU's Common Agricultural Policy.

Another area worth further investigation is the siloed nature of the New Zealand government's policymaking. The EU very effectively utilises an integrated approach to policymaking to create policies that align with the overall goals and objectives of the European Council. For example, the Organic Action Plan is a key pillar of the Farm to Fork Strategy, and its goals are also shared with the Biodiversity Strategy, Zero Pollution Action Plan and the Sustainable Use of Pesticides Strategy. The goals of the Organic Action Plan are further upheld in greenwashing regulations, deforestation bans, and policies related to climate mitigation, air quality, soil and freshwater pollution.

Through such integrated policymaking, it is acknowledged that several policy domains are interconnected and that solving complicated issues necessitates an all-encompassing strategy. Dismantling the silos between policymaking entities results in more open lines of communication and cooperation between various government departments and agencies.

Integrated policymaking can result in more effective and efficient regulations, that deal with the underlying causes of issues, rather than only with their symptoms. Additionally, it encourages transparency, accountability and stakeholder involvement, as various viewpoints and areas of expertise are combined to inform policy decisions.

In New Zealand, by contrast, insufficient coordination or collaboration between government departments and agencies often appear to result in siloed policymaking, and consequently in less-than-optimal policy outcomes. Created in isolation, such polices often fail to consider the larger context, may conflict with other policies, and may not be successful in producing the desired results.

Siloed policymaking can also result in division or duplication of effort, and in missed opportunities. As the responsibility for policymaking is dispersed across numerous departments or agencies, it can also result in a lack of transparency and accountability.

Considerable scope would therefore appear to exist for studies that investigate ways to improve the levels of integration between policymaking activities in various departments and agencies of the New Zealand government.

Appendix 1 - Organic Agriculture

IFOAM Organic International, the global organisation for the organic movement worldwide, defines organic agriculture as:

> *a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects.*[163]

The principles of organic farming that underlie national organic standards across the world include:

- **The Principle of Health** – organic agriculture should sustain and enhance the health of soil, plant, animal and human as one and indivisible.
- **The Principle of Ecology** – organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.
- **The Principle of Fairness** – organic agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.
- **The Principle of Care** – organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

Organic agriculture combines tradition, innovation and science with the goal of benefiting the environment, the climate, animals and human society. Organic farmers do not use synthetic inputs and chemicals, including fertilisers, pesticides, insecticides and antibiotics. Instead, organic farmers prioritise soil health and fertility, and building biodiversity, by utilising methods such as crop rotation, cover cropping and intercropping. Organic products are also free of GMOs and artificial ingredients, and are not processed using irradiation, industrial solvents or synthetic food additives.

Globally, consumers choose to buy organic products for similar reasons. The growth in demand for organic products is a result of consumer preference for food that is perceived to be healthier and more nutritious than conventional foods, supports clean eating, contains fewer or no pesticide residues and is environmentally beneficial. The increasing popularity of non-GMO products can be considered as a parallel trend that supports the growth of organic production.[164]

In 2021, the total worldwide organic market for food and beverages was estimated at US$188.35 billion.[165] This market is expected to grow at a compound annual growth rate (CAGR) of 13.0 % from 2022 to 2030. The forecast market size for 2022 was US$208.18 billion.[166]

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[163] https://www.ifoam.bio/why-organic/organic-landmarks/definition-organic

[164] https://www.globenewswire.com/news-release/2023/01/09/2585389/0/en/Organic-Food-and-Beverages-Market-Receives-Tailwinds-as-Non-GMO-and-Clean-Label-Trends-Proliferate.html

[165] https://www.grandviewresearch.com/industry-analysis/organic-foods-beverages-market

[166] https://www.grandviewresearch.com/industry-analysis/organic-foods-beverages-market