20 New Zealand

Support to agriculture

Since the reform of its agricultural policies in the mid-1980s, production and trade distorting policies have almost disappeared in New Zealand, and the level of support to agricultural producers has been the lowest among OECD countries. Over the past decade, this support has consistently accounted for less than 1% of farm receipts, and practically all prices are aligned with world market prices. Exceptions are fresh poultry and table eggs (as well as some bee products) which cannot be imported to New Zealand due to the absence of Import Health Standards for these products (required for risk products to be allowed for imports). Some support for on-farm services mainly related to animal health, and for disaster relief, provide additional producer support to a small extent.

The main focus of agricultural policies in New Zealand is on animal disease control, relief payments in the event of natural disasters, and the agricultural knowledge and information system. The government also provides support to community-scale off-farm investments in irrigation systems. Over the past decades, the share of agricultural land under irrigation has significantly expanded. Overall, for most of the past two decades, more than 70% of all support was through general services, with the remainder benefitting producers individually.

Main policy changes

With the Zero Carbon Amendment Act passed in November 2019, New Zealand has set separate long-term emission reduction targets for biogenic methane and other greenhouse gas (GHG) emissions, including for nitrous oxide. Biogenic methane emissions are to be reduced by 10% by 2030 and by 24-47% by 2050, relative to 2017 levels, while other GHG emissions are to be reduced to net zero by 2050. New Zealand also announced the pricing of emissions from livestock at the farm gate and fertiliser emissions at the manufacturer and importer level from 2025.

Several medium-scale adverse events, including drought, wildfire and flooding events, have triggered government support for the Enhanced Task Force Green programmes and Rural Assistance Payments in 2019. These programmes provide funding for clean-up and recovery work, and relief to farmers in hardship, respectively.

Negotiations were concluded on upgrading the New Zealand-China FTA in late 2019. Key outcomes of the upgrade include, among others, the option for “approved exporters” to self-declare the origin of their goods (including agro-food products), improved procedures for handling “perishable goods”, and improved mechanisms for co-operation on non-tariff barriers, including in agriculture.

Assessment and recommendations

- New Zealand's open agricultural sector remains focused towards foreign markets and trade. Its export orientation, underlined by the country's consistently low level of producer support, is supported by New Zealand's engagement in a large number of free trade agreements, including the recent upgrading of the New Zealand-China FTA.
- New Zealand's Import Health Standards (IHS), a key tool to ensure the country's biosecurity vis-à-vis imported products, present an exception to this open-market principle. While required for all risk products to be importable, no IHS are in place for some livestock products, including eggs, fresh chicken meat and honey, and these products therefore cannot be imported into New Zealand. While representing only a small share of New Zealand's agricultural output, this deprives consumers of lower prices and larger choices. The development of relevant IHS would hence benefit consumers while ensuring required biosecurity standards.
- Kiwifruit exports to markets other than Australia by groups other than the main company, Zespri, continue to be regulated by requiring authorisation by Kiwifruit New Zealand. New Zealand should aim to change these restrictions as they burden the participation in kiwifruit exports by other firms wishing to do so and hence reduce competition and efficiency in kiwifruit trade.
- New Zealand's policy mix rightly focusses on key general services. In addition to pest and disease control, significant investments target the country's agricultural knowledge and innovation system, which should help improve agricultural productivity growth, estimated at comparatively low levels in recent years. Overall, public expenditures for general services are often complemented by mandatory funding from private investors, which can help to ensure effective allocation of general services investments.
- Almost half of all GHG emissions in New Zealand originate from the agricultural sector. With the passage of the 2019 Zero Carbon Amendment Act and the proposed pricing of livestock and fertiliser emissions from 2025, New Zealand is one of the first countries to bind its climate commitments into law and to include objectives for agriculture as an integral component. While details of the emission pricing system for agriculture still need to be worked out, this can be seen as a major step towards achieving the ambition to become a net zero GHG emission country by 2050, complementing the country's engagement in a number of related research activities at both national and international levels.
- Available data suggests that New Zealand's agricultural sector keeps facing large and, in the case of nitrogen, increasing nutrient surpluses potentially representing risks to soil, water and air quality. This is related to the importance of the country's large livestock sector and increased fertiliser use, and may require reinforced attention.

Policy responses in relation to the COVID-19 outbreak

Agricultural policies

Given the peak harvesting seasons for several key New Zealand fruits in March and April, and while almost all foreign travellers are restricted from entering New Zealand, travellers already in the country with a temporary visa due to expire between 1 April and 9 July 2020 will have their visas automatically extended to 25 September 2020.

In response to COVID-19 the New Zealand Government imposed a lockdown on the economy from 25 March 2020, initially for a period of four weeks. During this period only essential industries were allowed to operate; however almost all agricultural and food processing industries, and input providers critical to their operation, were classified as essential industries. The only agricultural industries that had to close

during the lockdown were the floriculture and wool industries. However sales outlets for food on the domestic market were restricted to supermarkets only with the closure of farmers markets, fruit and vegetable stores, retail butcheries and the food service sector. This resulted in limited sales options for pig producers, small wineries and some fruit and vegetable growers. From 28 April restrictions were eased allowing the floriculture and wool industries to resume production and providing other producers with the option to establish contactless delivery options to consumers.[1]

Agro-food supply chain policies

Sale yards have been be closed to limit the spread of COVID-19 and protect New Zealanders.

Technical changes have been made for a fixed period of time to the sensory evaluation guidelines for the export verification for wine.[2]

Export verification requirements for exporters of animal or plant products have been changed or deferred for a fixed period of time. Changes include efforts to reduce site visits and no requirement for verification if businesses closed due to the COVID-19.[3]

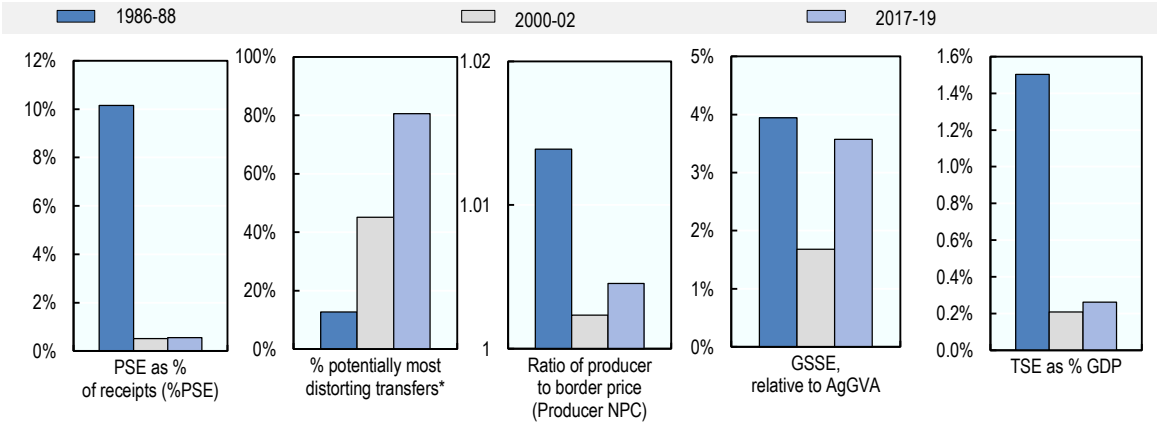
Up to NZD 330 million of the aviation support package will be allocated to ensuring air freight capacity is available on key routes for at least the next six months, and to dealing with immediate risks and opportunities as they arise in the aviation sector.[4]

Food processing is classified as an essential industry, but the COVID-19 protocols have significantly reduced capacity, which is having impacts on the industry.[5]

Other

There are no sectoral restrictions on the New Zealand fiscal stimulus package and so food producers are eligible together with other business to benefit from the package amounting to a total of NZD 17 billion (5.7% of GDP), more than half of which to be disbursed by mid-June. Among others, the package includes: wage subsidies for employers severely affected by the impact of COVID-19; and a change in business taxes to help cashflow. The government is expediting urgent work on new income support measures for all workers above and beyond the wage subsidy scheme.[6]

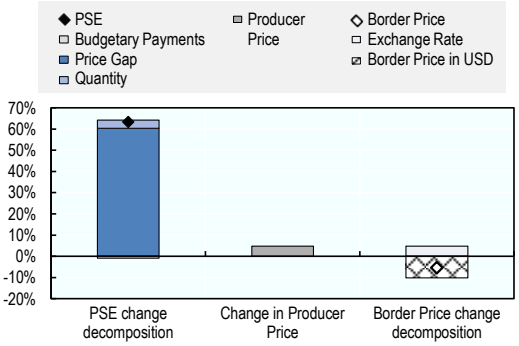
Figure 20.1. New Zealand: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2020), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.
StatLink https://doi.org/10.1787/888934144591

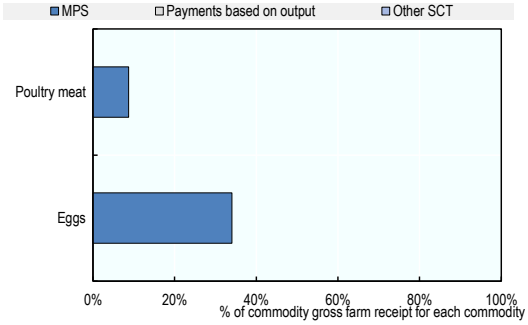
Support to producers (%PSE). For the past thirty years, support to producers has remained at levels below 2% of gross farm receipts (%PSE); it averaged 0.6% during 2017-19. Most of the (very low) support to producers is provided through market price support (MPS), one of the potentially most distorting forms of support and arising from SPS-related import restrictions (Figure 20.1). This creates some Single Commodity Transfers (SCT) for poultry meat and eggs, corresponding to 9% and 34% of commodity-specific gross farm receipts, respectively (Figure 20.3). Other than those, domestic prices are aligned with world prices, resulting in an average price ratio between domestic and reference levels (NPC) of less than 1.01. Overall, total support to agriculture (TSE) represents less than 0.3% of GDP. Most of the support is provided for general services, focusing mainly on the knowledge and information system and on biosecurity-related measures (Figure 20.1). In 2019, the low PSE increased as the price gaps in poultry and egg markets have widened due to both higher domestic and lower world prices (Figure 20.2).

Figure 20.2. New Zealand: Drivers of the change in PSE, 2018 to 2019



Source: OECD (2020), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.
StatLink https://doi.org/10.1787/888934144610

Figure 20.3. New Zealand: Transfer to specific commodities (SCT), 2017-19



Source: OECD (2020), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.
StatLink https://doi.org/10.1787/888934144629

Table 20.1. New Zealand: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2017-19	2017	2018	2019p
Total value of production (at farm gate)	**4 067**	**6 371**	**19 930**	**19 352**	**20 541**	**19 898**
***of which:** share of MPS commodities (%)*	72.1	73.1	74.4	74.6	74.8	73.7
Total value of consumption (at farm gate)	**1 624**	**2 626**	**8 975**	**8 149**	**9 451**	**9 325**
Producer Support Estimate (PSE)	**424**	**33**	**112**	**105**	**90**	**140**
Support based on commodity output	54	15	90	80	69	120
Market Price Support[1]	53	15	90	80	69	120
Positive Market Price Support	53	15	90	80	69	120
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	1	0	0	0	0	0
Payments based on input use	179	17	20	21	20	19
Based on variable input use	2	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	154	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Based on on-farm services	23	17	20	21	20	19
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	26	1	2	3	1	0
Based on Receipts / Income	26	1	2	3	1	0
Based on Area planted / Animal numbers	0	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	165	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**10.2**	**0.5**	**0.6**	**0.5**	**0.4**	**0.7**
Producer NPC (coeff.)	**1.01**	**1.00**	**1.00**	**1.00**	**1.00**	**1.01**
Producer NAC (coeff.)	**1.11**	**1.01**	**1.01**	**1.01**	**1.00**	**1.01**
General Services Support Estimate (GSSE)	**119**	**85**	**417**	**395**	**390**	**464**
Agricultural knowledge and innovation system	60	46	191	183	170	221
Inspection and control	31	28	177	150	171	210
Development and maintenance of infrastructure	27	11	48	63	49	33
Marketing and promotion	0	0	0	0	0	0
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**21.0**	**72.0**	**78.8**	**79.0**	**81.3**	**76.9**
Consumer Support Estimate (CSE)	**-53**	**-13**	**-84**	**-72**	**-66**	**-114**
Transfers to producers from consumers	-51	-13	-84	-72	-66	-114
Other transfers from consumers	-2	0	0	0	0	0
Transfers to consumers from taxpayers	0	0	0	0	0	0
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-3.4**	**-0.5**	**-0.9**	**-0.9**	**-0.7**	**-1.2**
Consumer NPC (coeff.)	**1.03**	**1.01**	**1.01**	**1.01**	**1.01**	**1.01**
Consumer NAC (coeff.)	**1.03**	**1.01**	**1.01**	**1.01**	**1.01**	**1.01**
Total Support Estimate (TSE)	**542**	**118**	**528**	**500**	**480**	**604**
Transfers from consumers	53	13	84	72	66	114
Transfers from taxpayers	491	105	444	429	414	490
Budget revenues	-2	0	0	0	0	0
Percentage TSE (% of GDP)	**1.5**	**0.2**	**0.3**	**0.2**	**0.2**	**0.3**
Total Budgetary Support Estimate (TBSE)	**489**	**103**	**438**	**420**	**411**	**484**
Percentage TBSE (% of GDP)	**1.4**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
GDP deflator (1986-88=100)	**100**	**140**	**205**	**202**	**204**	**208**
Exchange rate (national currency per USD)	**1.71**	**2.25**	**1.46**	**1.41**	**1.45**	**1.52**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for New Zealand are: wheat, maize, oats, barley, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2020), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Contextual information

New Zealand is a relatively small and thinly populated economy with per capita GDP slightly above the OECD average, but well above the average of all countries covered by the report. Its market openness is related to its high dependency on international trade. Agriculture has a comparatively high importance to the economy, as it accounts for some 7% of GDP and 6% of employment. Moreover, agro-food products account for close to two-thirds of New Zealand's total exports.

With little arable land, grass-fed livestock products represent the backbone of the agricultural sector. New Zealand is the world's largest exporter of sheep meat, and among the largest exporters of dairy products. Beef, fruit and horticultural products also contribute significantly to the country's agriculture and food exports.

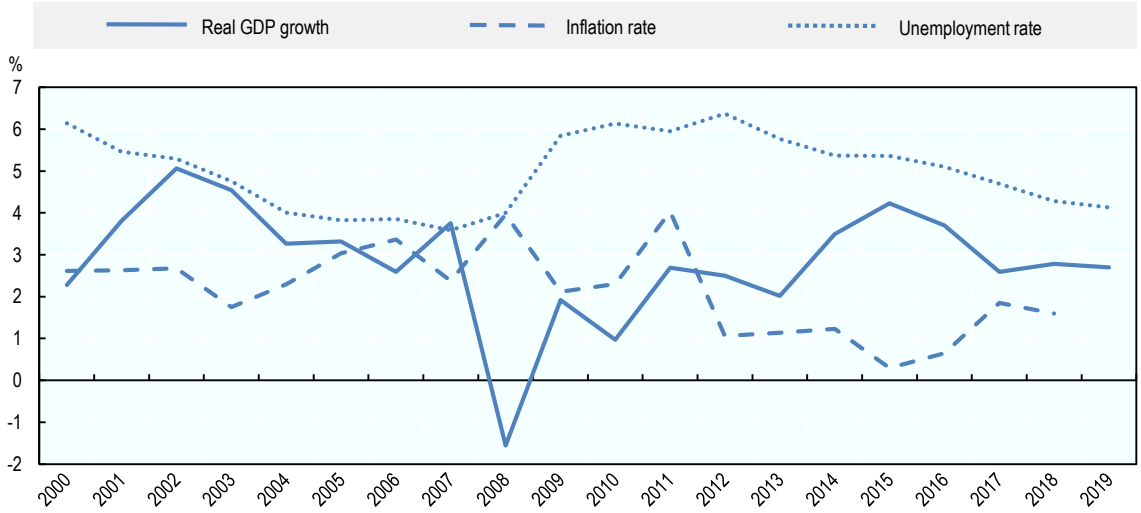
Table 20.2. New Zealand: Contextual indicators

	New Zealand		International comparison	
	2000*	2018*	2000*	2018*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	83	204	0.2%	0.2%
Population (million)	4	5	0.1%	0.1%
Land area (thousand km²)	263	263	0.3%	0.3%
Agricultural area (AA) (thousand ha)	15 413	10 651	0.51%	0.36%
			All countries[1]	
Population density (inhabitants/km²)	15	18	53	62
GDP per capita (USD in PPPs)	21 478	41 491	9 275	21 924
Trade as % of GDP	25	20	12.4	15.3
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	9.6	7.2	3.1	3.6
Agriculture share in employment (%)	8.5	5.8	-	-
Agro-food exports (% of total exports)	50.7	63.3	6.2	7.3
Agro-food imports (% of total imports)	7.9	11.4	5.5	6.3
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	18	21	-	-
Livestock in total agricultural production (%)	82	79	-	-
Share of arable land in AA (%)	10	5	32	33

Notes: *or closest available year. 1. Average of all countries covered in this report. EU treated as one.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

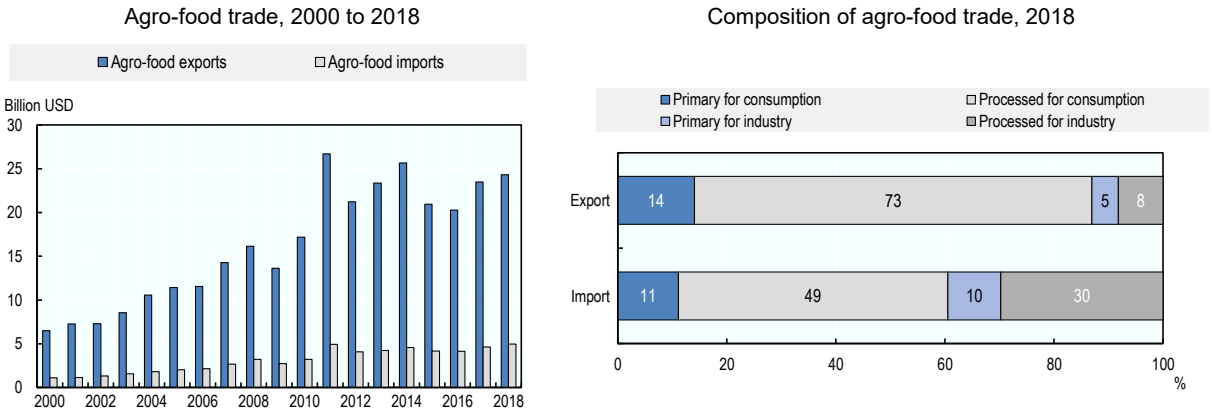
New Zealand has a stable economy having featured robust growth and a relatively low inflation rate for most of the past decade. It is a consistent and growing net exporter of agro-food products, which after some drops in 2015 and 2016 due to, among others, lower dairy prices, have picked up again since 2017. Most of New Zealand's agro-food trade, particularly of its exports, is processed food for final consumption. On the import side, however, intermediary products represent two-fifths of the trade basket.

Figure 20.4. New Zealand: Main economic indicators, 2000 to 2019



Sources: OECD statistical databases; World Bank, WDI and ILO estimates and projections.

Figure 20.5. New Zealand: Agro-food trade

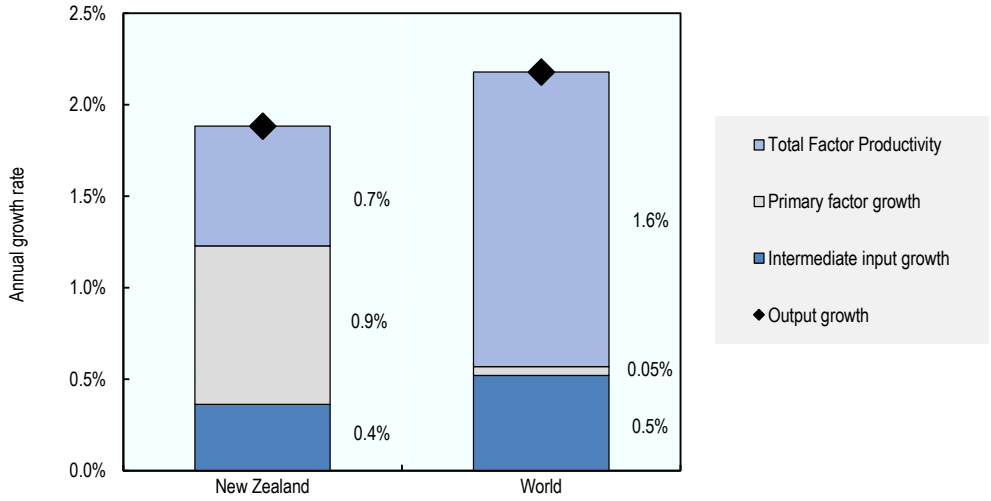


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

New Zealand's growth in agricultural output over the 2007-16 decade has been below global average, driven by relatively low productivity growth: at 0.7%, the estimated average growth in total factor productivity (TFP) is well below the global average and among the lowest of all countries covered by this report. It is also well below the TFP growth measured for the 1990s.

Given the dominant role of dairy and ruminant meat, agriculture is the main source of New Zealand's GHG emissions, and nutrient surpluses are well above the respective OECD averages. The sector is also the country's prime consumer of freshwater as irrigated land is expanded to respond to climate related uncertainties. Nonetheless, its overall level of water stress, while higher than in the 1990s, is rather limited.

Figure 20.6. New Zealand: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 20.3. New Zealand: Productivity and environmental indicators

	New Zealand		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.7%	0.7%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2018***	**2000***	**2018***
Nitrogen balance, kg/ha	36.7	63.9	33.3	29.1
Phosphorus balance, kg/ha	13.2	9.6	3.3	2.3
Agriculture share of total energy use (%)	3.5	4.5	1.7	2.0
Agriculture share of GHG emissions (%)	50.0	48.1	8.1	8.9
Share of irrigated land in AA (%)[1]	3.7	6.9	-	-
Share of agriculture in water abstractions (%)	..	61.7	46.0	49.0
Water stress indicator	0.7	2.2	9.9	8.9

Notes: * or closest available year. 1. Data are not comparable between time periods due to change in methodology.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Description of policy developments

Main policy instruments

New Zealand largely limits its agricultural support to expenditures on general services, such as agricultural research and biosecurity controls for pests and diseases. A significant share of the costs of regulatory and operational functions, including for border control, is charged to beneficiaries (primary sector businesses) or those who create risks (primary sector businesses and exporters).

Practically all of New Zealand's agricultural production and trade is free from economic regulations. Since the phasing out of restrictions for dairy exports to specific tariff quota markets by the end of 2010, such **export rights** are now allocated to dairy companies on the proportion of milk-solids collected. **Export**

regulations continue to exist for kiwifruit: the New Zealand company Zespri has the default, although not exclusive, right to export kiwifruit to all markets other than Australia. Other traders can export kiwifruit to markets other than Australia in collaboration with Zespri, subject to approval by Kiwifruit New Zealand, the relevant regulatory body. Kiwifruit exporters to Australia are required to hold an **export licence** under the **New Zealand Horticulture Export Authority Act 1987**, which provides for multiple exporters to that market.

The 2017 amendments to the **Kiwifruit Export Regulations 1999** allow Zespri shareholders to consider setting rules around maximum shareholding and eligibility for dividend payments; clarify the activities Zespri can undertake as a matter of core business; and enhance the independence and transparency of the industry regulator, Kiwifruit New Zealand.

The **Dairy Industry Restructuring Act 2001 (DIRA)** was established to promote the efficient operation of the New Zealand dairy industry. In particular, it aims at ensuring that dairy farmers can easily enter and exit the Fonterra Co-operative, and that other dairy processors can obtain raw milk necessary for them to compete in dairy markets. A review of the DIRA was launched in May 2018. A draft bill to amend DIRA, introduced in August 2019, proposes to remove regulatory requirements deemed no longer necessary such as the Herd Testing Regulations 1958; to support and encourage better environmental performance of the dairy industry; to provide Fonterra with more flexibility to manage some aspects of its operations such as the discretion to accept or reject an application to become a shareholder and to supply milk in circumstances where it is evident that the applicant would be unable to comply with Fonterra's terms of supply; and to provide increased clarity on aspects of the regulatory regime for Fonterra and other dairy industry stakeholders.

The **Food Act 2014** came into force on 1 March 2016. After a three-year transition period for businesses to the new regime, all business are now operating under the new law. The Food Act 2014 aligns the domestic food system with the risk-based approach of other New Zealand food statutes that have more of an export focus. In particular, New Zealand's food system aligns with international trends in food regulation that have shifted to using a risk-based approach that focuses on the outcome of providing safe and suitable food, rather than using prescriptive regulation.

Import Health Standards (IHS) are documents issued under the **Biosecurity Act 1993**. They state the requirements to be met before risk goods can be imported into New Zealand. Risk goods can only be imported if an IHS is in place for the product, and if all relevant IHS measures have been met. For some products (table eggs, uncooked chicken meat, and honey), no IHS is in place. These products therefore cannot be imported, leading to some market price support as their domestic prices are above the world market level.

"**Industry good**" activities[7] (such as research and development, forming and developing marketing strategies, and providing technical advice) previously undertaken by statutory marketing boards are now managed through producer levy-funded industry organisations under the **Commodity Levies Act 1990**. Under this legislation, levies can only be imposed if they are supported by producers, and producers themselves decide how levies are spent. With a limited number of exceptions, levy funds may not be spent on commercial or trading activities. As a provision for accountability to levy payers, the Act requires that the levying organisations must seek a new mandate to collect levies every six years through a referendum of levy payers.

The New Zealand government continues to engage with industry and stakeholders to build biosecurity readiness and response capability. The **Government Industry Agreement for Biosecurity Readiness and Response (GIA)** has established an integrated approach to preparing for and effectively responding to biosecurity risks, through voluntary partnerships between the government and primary industry sector groups. Signatories share decision making, costs and responsibility in preparing for and responding to biosecurity incursions. In 2019, Deer Industry New Zealand (DINZ) and Aquaculture New Zealand signed

the GIA deed, bringing to 20 the number of industry groups that have joined with the Ministry for Primary Industries under the GIA.

Overseer is a nutrient management tool used for setting and managing nutrients within environmental limits. Overseer estimates nutrient losses from farm systems, helping farmers and growers improve their productivity, reduce nutrient leaching into waterways, and reduce greenhouse gas emissions. The intellectual property is jointly owned by the Ministry for Primary Industries, AgResearch Limited, and the Fertiliser Association of New Zealand. Overseer is increasingly being used by regional councils that are implementing the National Policy Statement on Freshwater Management.

Pastoral Genomics is a New Zealand partnership-funded programme for forage improvement through biotechnology. It is funded by the Ministry of Business, Innovation and Employment (MBIE), DairyNZ, Beef+Lamb New Zealand, Grasslands Innovation, NZ Agriseeds, DEEResearch, AgResearch, and Dairy Australia. The partnership supports the private seeds company PGG Wrightson Seeds and Agriseeds in exploring the adoption of genomic selection (a non-regulated technology enabling more rapid uptake by partners and companies) to accelerate the improvement of ryegrass and clover. By applying the genomic selection tools developed in Pastoral Genomics to their breeding programmes, the seed companies aim to create ryegrass and clover cultivars that have desirable characteristics more quickly. These traits could include higher yielding plants, improved drought tolerance, higher metabolisable energy or greater phosphate use efficiency. The New Zealand Government is investing NZD 7.3 million (USD 4.8 million) between 2015 and 2020 through the MBIE partnerships scheme. This funding is being matched by industry co-funding.

Sustainable Food and Fibre Futures (SFF Futures) funds innovative projects that create more value and improved sustainability for the food and fibre industries. SFF Futures has a budget of NZD 40 million (USD 26 million) per year and provides a single gateway for farmers, growers, harvesters and industry to apply for investment in a range of projects that deliver economic, environmental and social benefits. Projects can range from small, one-off initiatives to long-running multi-million dollar partnerships. Community projects require co-investment from the partner organisation of at least 20% of costs. Commercially-driven projects require co-investment of at least 60% of costs.

Extension Services is an initiative to support and enable producers to improve environmental, social and wellbeing outcomes in their communities by driving their own solutions. Extension Services emphasises the partnering with farmers, regional stakeholders and agricultural professionals to ensure services are relevant to the needs and priorities of local communities. The programme has a budget of NZD 35 million (USD 23 million) over four years from July 2019 to support up to 2 200 producers across targeted catchments and regions.

The **One Billion Trees programme** aims to double the current planting rate (including re-planting following harvest and new planting) to plant one billion trees over the decade from 2018-28. The One Billion Trees programme is supported by direct government investment (such as the One Billion Trees Fund and joint ventures between Crown Forestry and private landowners), and adjustments to regulatory settings (such as the Emissions Trading Scheme) to encourage and support tree planting.

The **One Billion Trees Fund** was launched in November 2018 as one part of the One Billion Trees programme. The Fund provides NZD 118 million (USD 78 million) for tree planting grants to lower the barriers to tree planting faced by landowners, and to encourage indigenous tree planting and environment-focused planting (such as trees for erosion control, carbon sequestration, biodiversity, and regeneration of native bush). The Fund also aims to support the integration of trees into landscapes such as farms to help landowners get the best out of their less productive land, provide shade and shelter to stock, and improve environmental outcomes such as water quality. The Fund aims to plant 60 million trees over three years, approximately two-thirds of which will be indigenous trees. The Fund also provides NZD 120 million (USD 79 million) for partnership initiatives that underpin successful tree planting (such as workforce development, science and innovation, and ecological restoration).

The Ministry for Primary Industry's **Irrigation Acceleration Fund (IAF)** has closed. Existing projects have been completed and the fund is in the final processes of being wound-down. In recent years, funding through the IAF has supported strategic water management studies as well as the development of off-farm water management and infrastructure at community and regional scales. Funding support for irrigation-related projects may be considered against the criteria for investment within the Provincial Growth Fund, an economy-wide fund established in 2018.

Although no longer accepting new applications for financial support, **Crown Irrigation Investments Limited (CIIL)** continues to manage three investments under existing contracts: completion of Central Plains Water Stage 2 (Canterbury plains); construction of the Kurow-Duntroon scheme (Kurow, South Canterbury); and construction of the Waimea Community dam (Nelson/Tasman).

The **New Zealand Emissions Trading Scheme (NZ ETS)** is New Zealand's main policy tool to reduce greenhouse gas (GHG) emissions. It requires agro-food companies (e.g. meat processors, dairy processors, nitrogen fertiliser manufacturers and importers) to report on their agricultural emissions, however these companies are not required to pay for their emissions. The NZ ETS also imposes a cost on the emissions from transport fuels, electricity production, synthetic greenhouse gases, waste and industrial processes.

The New Zealand Government continues to research and develop mitigation technologies to reduce agricultural GHG emissions. It primarily does so through the **New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC)**, the **Pastoral Greenhouse Gas Research Consortium (PGgRc)**, and in co-ordination with the 61 member countries of the **Global Research Alliance on Agricultural Greenhouse Gases (GRA)**. The NZAGRC, funded by the Ministry for Primary Industries, brings together nine organisations that conduct research to reduce New Zealand's agricultural GHG emissions.[8] Research is focused on finding practical ways of reducing on-farm methane and nitrous oxide emissions while improving productivity and sequestering soil carbon. The PGgRc is a partnership, funded 50:50 by Government and industry,[9] that aims to provide livestock farmers with the information and means to mitigate their greenhouse gas emissions. The PGgRc mainly focuses on research to reduce methane emissions in ruminant animals.

The GRA was established in 2009. New Zealand hosts the Secretariat and GRA Special Representative, and leads its Livestock Research Group. The GRA member countries collaborate on the research, development and extension of technologies and practices that can deliver more climate-resilient food systems without growing GHG emissions. New Zealand has provided more than NZD 1 million (USD 659 000) in funding to support a scholarship programme which allows early career scientists from developing countries to undertake 4-6 month research exchanges at affiliated research institutions in GRA members and partners. The programme is a joint initiative of the GRA and the Climate Change, Agriculture and Food Security programme of the **Consultative Group on International Agricultural Research (CGIAR-CCAFS)**.

The **New Zealand Fund for Global Partnerships in Livestock Emissions Research (GPLER)** co-funds internationally collaborative research into how to mitigate GHG emissions from pastoral livestock farming. GPLER is an international research fund set up by the New Zealand Government in support of the GRA. It is aimed at accelerating global research in mitigating GHG emissions from pastoral livestock farming by seeking solutions to four research challenges: manipulating rumen function; reducing nitrous oxide emissions from soils; manipulating rates of soil carbon change; and improving tools and practices for minimising farm system-level GHG emissions intensity.

The Ministry for Primary Industries' General Export Requirements for Bee Products strengthen traceability across the supply chain and provide a scientific definition of **mānuka honey** that can be used to identify and authenticate mānuka honey from New Zealand. The definition is a combination of five attributes (comprising four chemicals and one DNA marker from mānuka pollen) required to separate mānuka honey

from other honey types. The requirements aim to give consumers and trading partners confidence that all mānuka honey exported is true to label.

The **Overseas Investment Amendment Act 2018**, in force since October 2018, brought residential and lifestyle land under the definition of "sensitive" land. The key change was replacing the large farm directive with a broader, rural land directive which applies to all rural land larger than five hectares, other than forestry. As a result, most New Zealand land is now "sensitive", meaning that the consent of the Overseas Investment Office is required for transactions of such land involving "overseas persons" as defined under the Act. The Amendment Act also places conditions on overseas investors – they must now demonstrate how their investment will benefit the country.

As a trade dependent economy geographically distant from export markets, New Zealand currently has ten **Free Trade Agreements** (FTAs) in force, which account for approximately two-thirds both of the value of New Zealand's total exports and of its agro-food exports. Three additional agreements are concluded but not yet in force – the Regional Comprehensive Economic Partnership (RCEP),[10] the New Zealand-Gulf Cooperation Council FTA (involving Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates), and the Anti-Counterfeiting Trade Agreement (ACTA).[11] Negotiations between New Zealand and the countries of the **Pacific Alliance**[12] and negotiations for a **New Zealand-European Union FTA** are ongoing.

Domestic policy developments in 2019-20

Farmers and growers faced five medium-scale adverse events in 2019, all in the South Island. These were drought and wildfire in Tasman, drought in Marlborough and Buller, two flooding events in Westland and flooding in South Canterbury. Across these events the agricultural sector was provided with recovery support, mainly through the Rural Support Trusts for psychosocial support and co-ordination services of up to NZD 210 000 (USD 138 000) funding from the New Zealand Government. A Mayoral Relief Fund for Tasman following the fire was established, including NZD 170 000 (USD 112 000) from the New Zealand Government.

Enhanced Task Force Green covers clean up support following adverse events for agriculture farms, forestry, *marae*[13] and public spaces. The New Zealand Government provided NZD 289 000 (USD 190 000) to support the clean-up from flooding of 31 rural properties at Fox River, Westland in March 2019.

Rural Assistance Payments (RAPs) were made available to be utilised as a result of the drought, wildfire, and flooding. RAPs are only available on a case-by-case basis to farmers in real hardship and cover essential living costs for those farmers whose income is severely impacted by a medium-scale (or greater) adverse event, and who have no other means of supporting their families.

The **Earthquake Advisory Services Fund** closed on 30 June 2019. It had been available to individual landowners and land managers affected by the 2016 Kaikoura-Hurunui Earthquake to access advisory services to help with long-term use planning and technical advice. NZD 560 000 (USD 369 000) was provided over the life of the fund.

In July 2017, following the discovery for the first time in New Zealand of the bacterial infection ***Mycoplasma bovis*** in cattle in South Canterbury, the Ministry for Primary Industries declared a biosecurity response. Government and agricultural sector leaders agreed to work to eradicate *Mycoplasma bovis* to protect the national herd and long-term productivity of the farming sector. In April 2019, the *Mycoplasma bovis* 2019 National Plan was released, setting out three goals to be achieved within a year: eradicate *Mycoplasma bovis*; reduce the impact of the eradication programme on farmers, families and communities; and further strengthen the biosecurity system. The eradication programme is ongoing, with compensation payments to farmers for slaughtered cattle in the year ended June 2019 estimated at around NZD 78 million (USD 51 million). In 2019, the **Mycoplasma bovis Recovery Advice Fund** provided

NZD 36 000 (USD 24 000) to eight farms to pay for business and technical advice on recovering from the effects of *Mycoplasma bovis.*

The **National Animal Identification and Tracing (NAIT) Amendment Bill (No. 2)** took effect on 14 December 2019. The new provisions include strengthening the requirements for tagging, incentivising compliance with the scheme, and making better use of NAIT data. These changes are part of a bigger programme of work to improve NAIT with respect to tag retention and the NAIT information system.

The **Farm Debt Mediation Act 2019** requires secured creditors to farm businesses to offer statutory mediation before taking any enforcement actions in relation to debt held over that business. It is to be fully operational from 1 July 2020. The Act aims to provide for fair, equitable and timely resolution of farm debt issues, thereby supporting the mental, emotional and financial wellbeing of farmers and farming families. The scheme applies to all secured lenders, including non-bank lenders.

The government committed NZD 12 million (USD 7.9 million) to ensuring Māori landowners and agribusinesses have the tools, support systems and information to use their land effectively. The **Māori Agribusiness: Pathway to Increased Productivity (MAPIP)** programme offers a one-on-one approach to achieving primary sector aspirations. The MAPIP framework supports Māori primary sector asset owners who seek to sustainably increase the productivity of their primary sector assets, including land, agriculture, horticulture, forestry, and seafood. The **Māori Agribusiness Extension Programme (MABx)** enables the Crown to partner with Māori (in a one-to-many approach) to achieve economic, environmental, social and cultural aspirations through sustainable development of primary sector assets.

New Zealand's primary industries are evolving, and a dynamic shift of the workforce is needed to meet future demands. The **Primary Sector Centre of Vocational Excellence** is to be the first of three prototype centres of excellence for vocational education to be established from mid-2020. The centre will be used to drive innovation and excellence in vocational education and improve links to industry and communities. Funding of NZD 18 million (USD 11.9 million) over four years has been committed to establish the three prototype centres. The Government is also investing a further NZD 4.7 million (USD 3.1 million) to enable the Southern Institute of Technology to operate the Telford farm campus in 2020 and 2021. The investment is to upgrade facilities and attract more trainees to enter the agricultural sector.

In November 2019, New Zealand passed the **Climate Change Response (Zero Carbon) Amendment Act (**or Zero Carbon Act, **ZCA)**. The Act sets separate long-term emission reduction targets for long-lived and short-lived GHGs, including a target for biogenic methane. In particular, the proposed emissions reduction targets set out in the ZCA aim to reduce all GHG emissions (except biogenic methane) to net zero by 2050; and reduce gross biogenic methane emissions by 10% by 2030 and by 24-47% by 2050 (below 2017 levels). These targets are consistent with the Paris Agreement's objective of limiting global warming temperature rise to 1.5°C above pre-industrial levels (Box 20.1).

Subsequent to a public consultation based on a document informed by the work of the **Interim Climate Change Committee (ICCC)**, the New Zealand government announced, in October 2019, that it would price emissions from livestock at the farm gate and fertiliser emissions at the manufacturer and importer level from 2025. A formal sector-government agreement, known as **He Waka Eke Noa**, is to establish a Joint Action Plan to build the necessary on-farm systems and capability to support farm-gate emissions pricing from 2025.

The **Sustainable Land Management Hill Country Erosion Programme (HCEP)** aims to protect New Zealand's estimated 1.4 million hectares of pastoral hill country classified as erosion prone. It provides funding to councils for the development of four-year erosion control projects. The government has approved a total of NZD 35.3 million (USD 23.3 million) for the period 2019-23.[14] Selected projects include: the development of whole farm plans to manage erosion on farms with highly erodible land, the development of agroforestry plans, wide-spaced planting of poplars and willows, land retirement from production to revert to native vegetation, and soil conservation and sustainable land management

programmes. Although the main purpose of the HCEP is to reduce erosion, it also contributes to the sequestration of carbon in small-scale forests and through planting of poplars and willows.

The **Sustainable Land Management and Climate Change (SLMCC) Research Programmes** help agricultural and forestry sectors with the challenges arising from climate change. The SLMCC Research Programme invests in targeted basic, applied and policy research on the impacts of, and adaptation to climate change; mitigation of agricultural and forestry GHGs; cross-cutting issues, including economic analysis, life-cycle analysis, farm, catchment and systems analysis and social impacts; and policy research to address targeted policy questions. In 2019, the government committed NZD 1.56 million (USD 1.03 million) for eight new projects, including NZD 500 000 to develop practical actions for farmers to adapt to climate change; NZD 150 000 for the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC) to help rural advisors improve climate change knowledge; and NZD 140 000 to develop better tools to measure and assess drought conditions (USD 329 000, USD 99 000 and USD 92 000, respectively). In July 2019, SLMCC also funded the launch of a website which provides farmers with information, including videos, on the basics of climate change (www.AgMatters.nz).

Box 20.1. The Zero Carbon Act – implications for the agro-food sector

The Climate Change Response (Zero Carbon) Amendment Act (ZCA), passed in November 2019, makes New Zealand one of the first countries to bind its climate commitments into law including objectives for agriculture as an integral component. To help meet these commitments, the government has introduced another Bill, to price agricultural emissions and work with the agricultural sector to achieve the targets for agricultural emissions.

The ZCA sets dual national targets to reduce greenhouse gases (GHGs). They aim to reduce biogenic methane by 10% by 2030 and by between 24% and 47% by 2050, relative to 2017 levels, and to reduce all other GHG emissions to net zero by 2050.

Almost half of all GHG emissions in New Zealand originate from the agricultural sector, and more than a third are in the form of methane from the dairy, sheep and beef industries. Most of the remaining agricultural emissions are in the form of nitrous oxide linked to fertiliser use and urine patches on pasture. While emissions from agriculture have stabilised in recent years, they increased by 13.5% from 1990 to 2017. This period saw a 650% increase in the application of synthetic nitrogen fertiliser and a 60% expansion of the dairy herd (the increases were partially offset by a 53% reduction in the sheep flock and 21% reduction in the non-dairy cattle herd since 1990). With almost two-thirds of all New Zealand exports being agro-food products, originating to a large extent from the livestock sectors, trade-offs being considered in the development of the national mitigation policy are considerable for the economy as a whole and the rural economy.

The Interim Climate Change Committee (ICCC)[1] was established in 2018 to provide recommendations on ways to reduce emissions, including from agriculture. It concluded that on-farm emission reduction is most efficiently achieved through emissions pricing – pricing would drive innovation, reward farmers who significantly reduce emissions, and give them autonomy over actions on their farm. The ICCC noted that pricing should be part of a broader package that includes tools, support and advice to farmers (ICCC, 2019[1]). The ICCC noted that it would take until 2025 to implement a farm level pricing scheme and recommended that agricultural emissions be priced at the processor level in the interim.

Following the ICCC's recommendations and a proposal from primary industry organisations representing all farmers, the New Zealand government introduced, in October 2019, the Climate Change Response (Emissions Trading Reform) Bill (ETR) to price livestock emissions at a farm level, and fertiliser emissions at a processor level, from 2025. A pricing scheme is to be designed through a Joint Action Plan and in collaboration with a group of leading primary industry organisations. The Plan

should also include on-farm programmes to support farmers to be ready for emissions reporting and pricing by 2025. The system would grant farmers 95% of their emission credits for free with the remaining credits to be purchased. In the longer term, the share of emission credits to be purchased by farmers would increase, in line with the approach taken for other industries.

The Climate Change Commission is to monitor the progress being made under the Joint Action Plan and report back to the government in 2022. Should progress be considered inadequate, the government retains the option to impose pricing at processor level. The Minister for Climate Change is also to report back in 2022 on the details of a farm-level emissions pricing scheme, including details of an alternative pricing scheme to the New Zealand Emissions Trading Scheme.

Note: 1. As of December 2019, the Interim Climate Change Committee was disestablished and replaced by the independent Climate Change Commission, a government funded body set up under the Zero Carbon Bill to provide the government with advice on climate policy. The Commission is made up of a Chair and six Climate Change Commissioners who are experts in climate science, adaptation, agriculture economics and the Maori-Crown relationship.

Trade policy developments in 2019-20

In November 2019, New Zealand and China concluded negotiations on upgrading the **New Zealand-China FTA**. Key outcomes of the upgrade include, among others, the option for "approved exporters" to self-declare the origin of their goods (including agro-food products), improved procedures for handling "perishable goods" (including the introduction of expedited six-hour clearance times, release of such goods outside normal business hours and appropriate storage), and improved mechanisms for co-operation on non-tariff barriers, including in agriculture.

In 2019, New Zealand along with Costa Rica, Fiji, Iceland and Norway launched negotiations as part of the **Agreement on Climate Change, Trade and Sustainability** (ACCTS). The agreement aims to bring together some of the inter-related elements of the climate change, trade and sustainable development agendas.

The government established the **Trade for All Advisory Board (TFAAB)** in December 2018 to conduct an in-depth review of New Zealand's trade policy. The TFAAB published its independent report to the Government in November 2019, with recommendations on how to make international trade benefit all New Zealanders. Recommendations relevant to agro-food trade cover the following areas,: measures to address public confidence and trust, and to modernise trade policy; improving policy and foresight through better evaluation, assessment, and inclusion; advancing New Zealand's interests in an enhanced international system; and aligning trade policy with improving productivity and sustainability.

References

ICCC (2019), *Action on agricultural emissions*, Interim Climate Change Committee, http://www.iccc.mfe.govt.nz (accessed on 24 January 2020). [1]

NZIER (2007), *Productivity, profitability and industry good activities. Report to Dairy Insight*, New Zealand Institute of Economic Research, https://nzier.org.nz/static/media/filer_public/11/cb/11cb415e-a97b-4ac9-b86c-a0b238de9b61/productivity_profitability_and_industry_good_activities_feb_2007.pdf. [2]

Notes

[1] https://www.mpi.govt.nz/protection-and-response/coronavirus/.

[2] https://www.mpi.govt.nz/dmsdocument/77-wine-new-zealand-grape-wine-export-eligibility-requirements-notice.

[3] https://www.mpi.govt.nz/dmsdocument/11428-animal-products-notice-export-verification-requirements-2020.

[4] https://www.beehive.govt.nz/release/government-working-keep-air-freight-moving.

[5] https://beeflambnz.com/news-views/new-analysis-meat-processing-capacity-released.

[6] https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#S.

[7] Activities "beneficial to the industry, but whose benefits cannot be captured by those who fund or provide the activity", or "long-term investments in the industry made with the expectation of accelerating delivery of better technology and products for the industry" (NZIER, 2007[2]).

[8] The seven member Crown research institutes and universities are: AgResearch, Landcare Research, Lincoln University, Massey University, National Institute of Water and Atmospheric Research, Plant Food Research and Scion. The two other organisations involved are DairyNZ and the Pastoral Greenhouse Gas Research Consortium.

[9] Industry partners are DairyNZ, Beef+Lamb New Zealand, DEEResearch and Fertiliser Research.

[10] RCEP comprises the ten countries that make up the Association of South East Asian Nations (ASEAN), Australia, the People's Republic of China, India, Japan, Korea, and New Zealand.

[11] Other ACTA signatories include Australia, Canada, the European Union and 22 of its Member States, Korea, Japan, Mexico, Morocco, Singapore, and the United States.

[12] Pacific Alliance countries are Chile, Colombia, Mexico and Peru.

[13] A *marae* is a fenced-in complex of carved buildings and grounds that belong to a particular Maori tribe or family.

[14] The HCEP existed before the One Billion Trees programme, but has received significant funding from it.