Chapter 2:
What are other countries doing?

Although countries worldwide have signed up to the Paris Agreement, current global efforts are not going far enough to bring about the emissions reductions needed. Reducing global emissions needs to be a collaborative effort and, encouragingly, we are seeing an increasing number of countries committing to net-zero targets.

This chapter looks at how our targets compare with those of other countries, looking at the world's biggest emitters and our key trading partners, and how our past emissions trends compare to other developed countries.

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2.1 International action

2.1.1 Current worldwide action is insufficient to meet the goals of the Paris Agreement

The current pledges by countries puts the world on track for around 3°C of warming.[1] But countries have been implementing policies to reduce emissions and ramping up future commitments. Projected emissions in 2030 and beyond are now significantly lower than they were projected to be in 2010 (black line), as illustrated in the United Nations Environment Programme (UNEP) graph (Figure 2.1). Current policies (blue line) would see global emissions continue to increase to 2030, while existing unconditional Nationally Determined Contributions (NDCs) (orange line) would see emissions stay constant at around 2020 levels over the decade to 2030.[2] If countries were able to implement their conditional NDCs (red line), emissions would fall slowly over the 2020s but not fast enough to be consistent with 1.5°C or 2°C goals (green and blue lines respectively).

Box 2.1: Comparing action between countries

It is often difficult to draw comparisons between countries' emissions targets. Headline target numbers may not be like for like, due to differences in coverage, differences in the base year or target year, and historic emissions trends. Even adjusting for these factors, countries' national circumstances will be different so similar levels of emission reductions may not represent directly comparable levels of effort.

Lastly, targets represent statements about countries' ambitions for the future, but these are not always matched by actions. As a result, a high-level comparison of targets can indicate the collective direction of movement, but an overreliance on direct comparisons of targets between countries should be avoided.

[1] (Rogelj et al., 2016)

[2] Nationally Determined Contributions are the international commitments made by countries under the Paris Agreement. (United Nations, 2015)

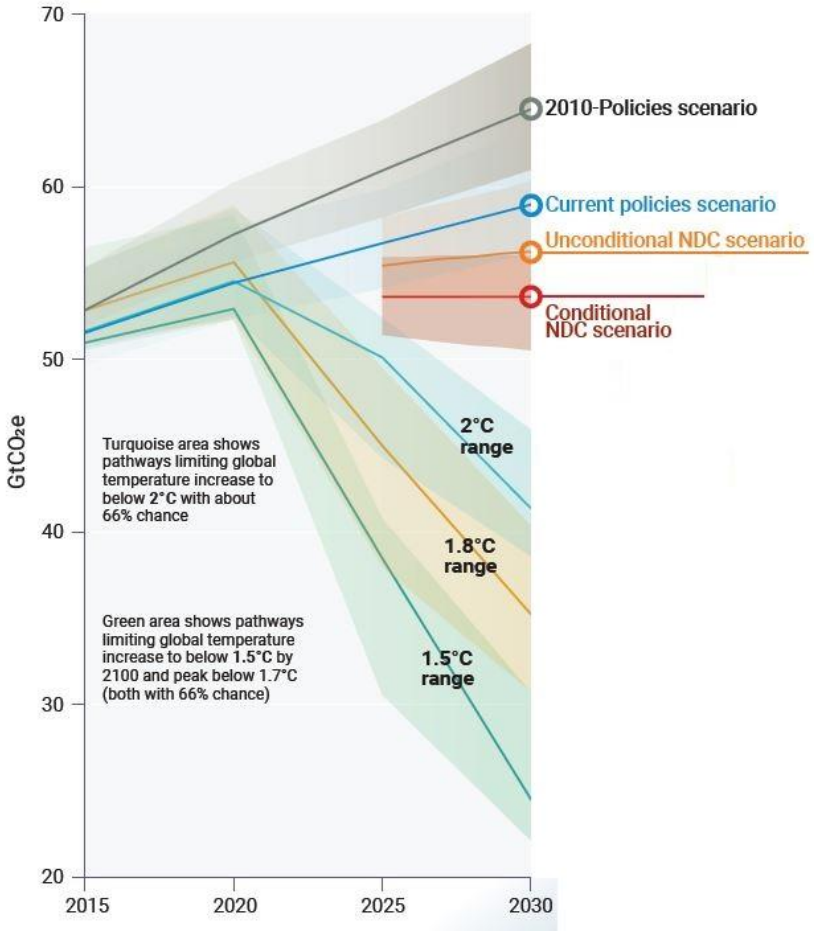

Figure 2.1: Global GHG emissions under different policy futures to 2030[3]

2.1.2 Major economies are strengthening their commitments

An increasing number of countries are committing to net-zero targets[4] in pursuit of the more stringent action required to keep warming to 1.5 °C.

Box 2.2: 'Net zero'

A "net zero commitment" can mean different things. Some countries use it to mean that their net emissions of all greenhouse gases would be zero – i.e. all remaining emissions are offset.

Others refer to a "net zero carbon commitment" where all remaining carbon dioxide emissions are offset. Non-carbon dioxide emissions may be reduced in this approach but would be not be offset.

Offsets can include land-based sequestration, other carbon dioxide removal measures such as bioenergy with carbon capture and storage, or in some cases offshore mitigation.

Our country's commitment is to reduce biogenic methane by 24-47% by 2050 and to reduce all other gases to net zero. Aotearoa includes forest sequestration in meeting its net zero commitment, but not offshore mitigation.

[3] (UNEP, 2020, Figure E5.5)

[4] Noting that some of these net-zero commitments differ in coverage and scope.

In the last 18 months, several large emitting countries have moved significantly on GHG emissions:

- In September 2020, China announced it would reach net zero emissions before 2060
- In October 2020, the European Union (EU) Parliament voted to increase the EU's 2030 target from 40% to 60% below 1990 levels
- In October 2020, Japan and South Korea announced they were setting net-zero national targets for 2050

As of September 2020, 23 countries have put in place net zero targets for 2050, or sooner. Several large economies (China, Japan, Canada, South Korea) have also announced net zero targets and are in the process of adopting them. Countries that have adopted or announced net zero targets now account for approximately 30% of global gross domestic product (GDP). Another 100 countries, representing a further 18% of global GDP, are considering net zero targets.[5]

The United Kingdom passed its net zero target into law in 2019. The EU has also adopted a net zero target for 2050 and is putting it into law. Figure 2.2 below shows the countries that have announced net-zero commitments since the beginning of 2019.

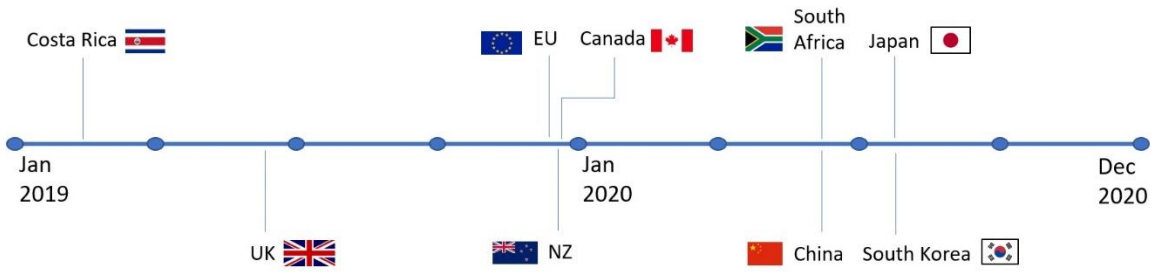

Figure 2.2: Timeline of net-zero commitment announcements over 2019 and 2020[6]

2.1.3 Commitments on climate action from sub-national and non-state actors are accelerating

Since late 2019, the number of net-zero pledges from cities, regions and companies across the world has roughly doubled. Since October 2020, net-zero targets have been set across economies, companies or sectors, covering at least 826 cities, 103 regions and 1,565 companies. In total, these pledges represent over 880 million residents, 24.9 million employees and approximately 20% of global greenhouse gas emissions.[7] Many city councils, such as Auckland[8] and Wellington[9], have announced net zero targets by 2050, and Dunedin has committed to net zero by 2030[10].

[5] (Energy & Climate Intelligence Unit, 2019)
[6] Dates shown for the UK and Aotearoa are when net zero targets were legislated rather than announced. Individual EU member states' net zero commitments have not been shown to avoid double counting.
[7] (NewClimate Institute & DataDriven EnviroLab, 2020)
[8] (Auckland Council, 2020)
[9] (Wellington City Council, 2019)
[10] (Dunedin City Council, 2020)

The finance sector recognises climate change as an issue and a growing number of institutional investors are using their influence to drive better climate outcomes. In 2015, the G20 established the Task Force on Climate-related Financial Disclosures to review the ways in which the financial sector can better account for climate risks[11]. The Task Force released its recommendations in 2017 to help companies account for climate change when planning for the future. Financial institutions are moving away from emission intensive investments, which are increasingly seen as risky given various governments' commitments to reducing emissions.

For example, by November 2020, three of the four Australian banks had committed to phasing out funding of new thermal coal projects by 2030. They had also committed to exit existing funding commitments for coal projects by 2035.[12] In January 2020, the world's largest fund manager, Blackrock, joined the Climate Action 100+ -a group of investors committed to ensuring the world's largest emitting companies take necessary action on climate change.[13]

2.1.4 What targets are other countries taking?

Many developed countries' have set their emission targets with reference to the Fifth Assessment Report. This outlines the level of emissions cuts necessary to limit warming to 2 °C[14] and keep warming well below 2 °C – one of the stated goals of the Paris agreement.

In comparing our effort to that of other countries, we have used several lenses. We compare ourselves to the world's biggest emitters and to our biggest trade partners.

The biggest emitters

Action from the world's biggest emitters is mixed. China and the EU have made strong commitments. The United States of America formally withdrew from the Paris Agreement on 5 November 2020. However, under President Joe Biden, the United States re-joined the agreement[15] and his policy platform includes a commitment to net zero emissions by 2050.[16] Russia's NDC would see its emissions increase between now and 2030. India's NDC is to improve its emissions intensity but allow total emissions to grow between now and 2030.

Table 2.1 describes the NDCs and long-term targets of Aotearoa and the world's biggest emitting countries.

[11] (Task Force on Climate-Related Financial Disclosures, 2020)
[12] (Bloomberg, 2020)
[13] (Climate Action 100+, 2020)
[14] The IPCC's modelling for the Fifth Assessment Report found that in 2 °C pathways OECD countries reduced emissions by 80-95% by 2050 relative to 2010 levels (IPCC, 2014, Figure 6.29).
[15] (Newburger, 2021)
[16] (Joe Biden, 2020)

Table 2.1: Emission targets from Aotearoa and the world's top five emitting countries

Country	Share of world emissions[17]	NDC[18]	Long-term target
China	27%	Peak carbon dioxide emissions and reduce emissions intensity by 60-65% below 2005 levels by 2030	Net zero emissions by 2060[19]
USA	14%	None	None
EU	10%	-40% below 1990 levels by 2030	Net zero by 2050[20]
India	7%	Emissions intensity per unit GDP 33-35% below 2005 levels by 2030[21]	None
Russia	5%	-25-30% below 1990 levels by 2030[22]	None
Aotearoa	0.17%	-30% below 2005 levels by 2030	24-47% reduction in biogenic methane and net zero all other gases by 2050

Our trade partners

Several of our top five trade partners are reducing emissions by similar levels to our NDC – and some by less (Table 2.2). Australia and Japan's NDCs are broadly similar to ours. Germany's NDC is stronger than ours – a 55% emissions cut against 1990 levels reflecting its past actions to reduce emissions. The USA does not have an NDC in force currently. If President Biden reinstates the USA's original NDC, it would be somewhat stronger than our NDC – reaching similar levels of emission reductions, but five years earlier. China's NDC is to peak its carbon dioxide emissions before 2030.

[17] (World Resources Institute, 2020)
[18] (UNFCCC, 2020b)
[19] (H.E. Xi Jinping, 2020)
[20] (European Commission, 2016)
[21] This equates to emissions 146-161% above 2010 levels in absolute terms, once expected economic growth is accounted for.
[22] Equivalent to an 18-25% *increase* on emissions against 2010 levels.

Table 2.2: Emission targets from Aotearoa and our top five trade partners

Country	Share of two-way trade[23]	NDC	Long-term target
China	20%	Peak carbon dioxide emissions and reduce emissions intensity by 60-65% below 2005 levels by 2030	Net zero emissions by 2060
Australia	17%	-26-28% below 2005 levels by 2030 by 2030	None
USA	11%	None[24]	None
Japan	5%	-26% below 2013 levels by 2030	Net zero by 2050
Germany	4%	-55% below 1990 levels by 2030	Net zero by 2050[25]
Aotearoa	N/A	-30% below 2005 levels by 2030	24-47% reduction in biogenic methane and net zero all other gases by 2050

Box 2.3: Split gas targets

The Climate Change Response Act sets Aotearoa a split-gas domestic target for 2050. This raises a question about whether the NDC should also be expressed in a split-gas format or continue to be expressed as an all-gases target. Under the Paris Agreement all member countries are required to maintain an NDC. Developed countries' NDCs are expected to be economy-wide targets. Article 4.4 of the Paris Agreement states that "*Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets.*"[26]

All developed countries' NDC targets are all-gas emissions targets and do not separate specific sub-sectors or gases. Some countries have sector-specific sub-targets as part of their domestic plan to meet the NDC, while keeping the NDC all-gas. For example, Ireland consulted in 2019 on targets for agriculture emissions of 5-15% below 2017 levels by 2030[27]. However, its NDC remains on an all-gas basis as part of the European Union's joint NDC.

Similarly, France's strategy to meet its NDC breaks its overall target down into specific sub-budgets for different sectors and gases including agricultural methane. France's domestic emission budgets for agricultural methane require reductions of 20% below 2015 levels between 2029 and 2033 – more stringent than our target to reduce 10% of biogenic methane by 2030 enacted in the Climate Change Response Act[28].

[23] (Stats NZ, 2019)

[24] The USA's original NDC before withdrawing from the Paris agreement was to reduce emissions 26-28% below 2005 levels by 2025.

[25] (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2016)

[26] Article 4.4, Paris Agreement (United Nations, 2015)

[27] (Department of Agriculture, Food and the Marine, Government of Ireland, 2019)

[28] (Ministère de la Transition écologique, 2018)

2.1.5 How does Aotearoa compare?

The Nationally Determined Contribution (NDC)

Our country's first NDC is to reduce emissions by 30% on 2005 levels by 2030, equivalent to an 11% cut on 1990 levels. Our first NDC generally falls in the middle of the range of those of the biggest emitters and of our biggest trade partners. In these groups, some countries have stronger NDCs than us and some have weaker NDCs.

Past action on emissions

Our carbon dioxide emissions per capita are higher than the global average. Aotearoa has made less progress reducing carbon dioxide emissions compared to many other developed countries. Since 1990, our carbon dioxide emissions have reduced by 5.2%. These reductions are slower than 32 out of 43 other Annex 1 countries[29].

Since 1990 Aotearoa has consistently been in the top 25% of developed countries for the lowest electricity emissions per person. However, between 1990 and 2018, the average emissions intensity of electricity from Annex 1 countries nearly halved and the gap between Aotearoa and other developed countries is no longer as great.

In other sectors, our emissions intensity is not as good as the rest of the world. Our transport emissions per capita were high in 1990 and have remained high; at 3.4 tCO_2 per person in 2018, our transport emissions per capita are higher than all but 4 of 43 Annex 1 countries. Globally, the emissions intensity of transport increased substantially between 1990 and 2018, but our transport emissions rose more than other developed countries.

Overall, Aotearoa is no longer ahead of comparable countries in carbon dioxide emissions upper capita as high transport emissions have more than offset low electricity emissions. If our high level of renewable electricity still put us ahead of the world it would be reflected in carbon dioxide emissions per capita. In 1990, Aotearoa was ranked 16th out of 43 Annex 1 countries for lowest carbon dioxide emissions per capita. In 2018, we had fallen to 25th out of 43, just below average.[30]

Aotearoa is one of only a few developed countries to have increased its emissions from agriculture since 1990, alongside only Canada, Cyprus, Ireland, Spain and the USA. While our emissions from agriculture increased by 17% between 1990 and 2018, the emissions intensity of agricultural production in Aotearoa has improved significantly over that time. Emissions per unit of food produced are 20-30% lower now than in 1990 in the dairy, sheep and beef sectors.[31]

[29] Annex 1 countries are defined as the industrialised countries that were members of the OECD in 1992 and countries with economies in transition including the Russia, the Baltic States and several Central and Eastern European States. (UNFCCC, 2020c)
[30] (The World Bank, 2020; UNFCCC, 2020a)
[31] (Interim Climate Change Committee, 2019)

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