

## Chapter 2: What are other countries doing?

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*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.*

## 2.1 International action

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

Current policies by countries put the world on track for around 3°C of warming.<sup>1</sup> 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.<sup>2</sup> Figure 2.1 from the May 2021 Climate Action Tracker update highlights that if all international commitments, including existing Nationally Determined Contribution (NDCs), were achieved, the world would be on track for 2.4°C of warming by 2100 (blue line). This is significant progress, but still not enough to be consistent with 1.5°C or 2°C goals (green and yellow lines respectively). The gap in trajectories before 2030 is particularly stark, highlighting the need for accelerating climate action immediately.

#### **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 emissions 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.

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<sup>1</sup> (Rogelj et al., 2016)

<sup>2</sup> (UNEP, 2020)

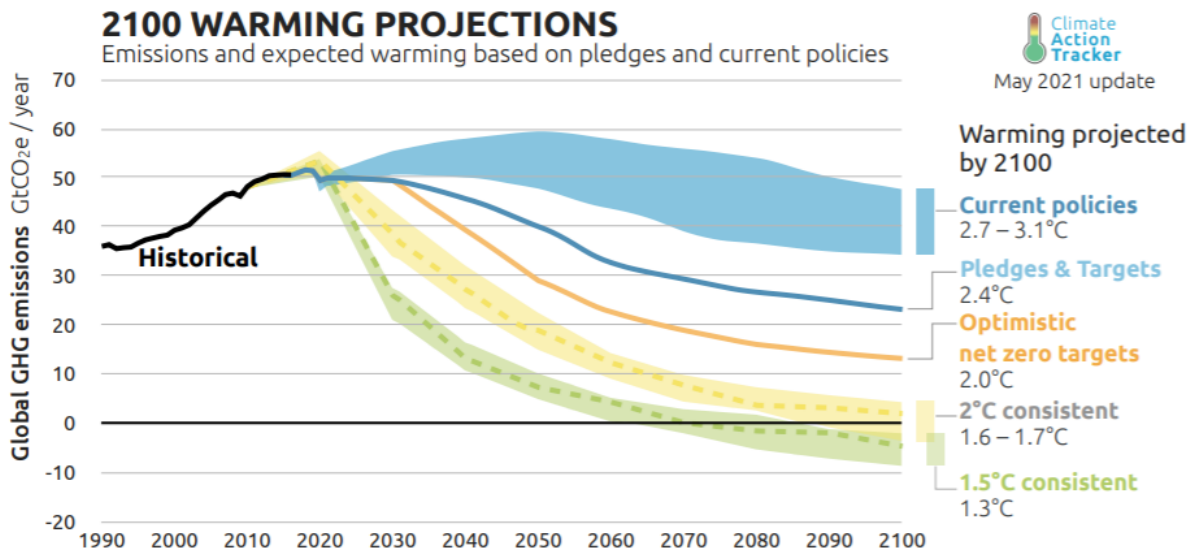


Figure 2.1: Global warming projections under different policy futures to 2100<sup>3</sup>

## 2.1.2 Major economies are strengthening their commitments

An increasing number of countries are committing to net zero targets in pursuit of the more stringent action required to keep warming to 1.5°C. Some of these net zero commitments differ in coverage and scope (see Box 2.2).

### 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 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.

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

- In September 2020, China announced it would reach net zero emissions before 2060;

<sup>3</sup> (Climate Action Tracker, 2021)

- In October 2020, Japan and South Korea announced they were setting net zero national targets for 2050;
- In April 2021, a series of new commitments were made:
  - USA pledged it would reduce GHG emissions 50-52% below 2005 levels by 2030, alongside the goal to reach net zero emissions by 2050;
  - Canada increased its pledge to cut emissions to 40-45% below 2005 levels by 2030;
  - Japan increased its pledge to reduce emissions to 46% below 2013 levels by 2030;
  - The UK set a legally-binding target to reduce emissions by 78% by 2035 compared to 1990 levels;
  - The EU committed to reducing emissions by 55% below 1990 levels by 2030.

As of April 2021, 30 countries have net zero targets for 2050 or sooner in laws, proposed legislation or policy documents. These include several of the largest economies such as the USA, China, Japan, Canada and South Korea. Two countries, Bhutan and Suriname, have already achieved net zero.<sup>4</sup> In total, 121 countries have also committed to work towards net zero as part of the Climate Ambition Alliance.<sup>5</sup> Countries that have adopted or announced net zero targets now account for approximately 61% of global emissions, 68% of global gross domestic product (GDP) and 52% of the global population.<sup>6</sup>

The United Kingdom passed its 2050 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 announcement of net zero commitments by major countries during 2019-2020.

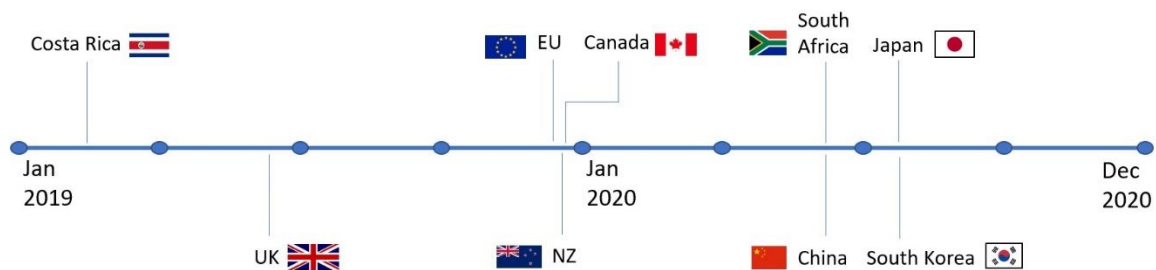


Figure 2.2: Timeline of net zero commitment announcements over 2019 and 2020<sup>7</sup>

### 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. As of October 2020, net zero targets have been set by at least 826 cities, 103

<sup>4</sup> (Energy & Climate Intelligence Unit, 2021)

<sup>5</sup> (UNFCCC, 2021)

<sup>6</sup> (Black et al., 2021)

<sup>7</sup> 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.

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.<sup>8</sup> Many city councils, such as Auckland<sup>9</sup> and Wellington,<sup>10</sup> have announced net zero targets by 2050, and Dunedin City Council has committed to net zero by 2030.<sup>11</sup>

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 (TCFD) to review the ways in which the financial sector can better account for climate risks.<sup>12</sup> The TCFD released its recommendations in 2017 to help companies account for climate change when planning for the future. Financial institutions are moving away from emissions 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.<sup>13</sup> 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.<sup>14</sup>

#### 2.1.4 What targets are other countries taking?

Many developed countries have set their emissions targets with reference to the *Fifth Assessment Report*. This outlines the level of emissions cuts necessary to limit warming to 2°C<sup>15</sup> 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 USA formally withdrew from the Paris Agreement on 5 November 2020 but has re-joined under President Joe Biden.<sup>16</sup> In addition to the recent 2030 commitment mentioned above, his policy platform includes a commitment to net zero emissions by 2050.<sup>17</sup> 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.

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<sup>8</sup> (NewClimate Institute & DataDriven EnviroLab, 2020)

<sup>9</sup> (Auckland Council, 2020)

<sup>10</sup> (Wellington City Council, 2019)

<sup>11</sup> (Dunedin City Council, 2020)

<sup>12</sup> (Task Force on Climate-Related Financial Disclosures, 2020)

<sup>13</sup> (Bloomberg, 2020)

<sup>14</sup> (Climate Action 100+, 2020)

<sup>15</sup> 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).

<sup>16</sup> (Newburger, 2021)

<sup>17</sup> (Joe Biden, 2020)

Table 2.1 describes the 2030 targets<sup>18</sup> and long-term targets of Aotearoa and the world's biggest emitting countries.

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

Country	Share of world emissions <sup>19</sup>	Target for 2030 <sup>20</sup>	Long-term target
China	27%	Peak carbon dioxide emissions and reduce emissions intensity by 60-65% below 2005 levels	Net zero emissions by 2060 (gas coverage TBC) <sup>21</sup>
USA	14%	50-52% below 2005 levels	Net zero emissions by 2050 (all gases) <sup>22</sup>
EU	10%	-55% below 1990 levels	Net zero emissions by 2050 ((all gases) <sup>23</sup>
India	7%	Emissions intensity per unit GDP 33-35% below 2005 levels <sup>24</sup>	None
Russia	5%	25-30% below 1990 levels <sup>25</sup>	None
Aotearoa	0.17%	-30% below 2005 levels	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 more (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's new 2030 target is significantly stronger than our NDC. China's NDC is to peak its carbon dioxide emissions before 2030.

<sup>18</sup> Countries 2030 targets tend to form the basis of their NDCs but there can be a lag between setting a domestic target and transmitting it to the UNFCCC as an NDC, which may also contain other elements.

<sup>19</sup> (World Resources Institute, 2020)

<sup>20</sup> (UNFCCC, 2020b)

<sup>21</sup> (H.E. Xi Jinping, 2020)

<sup>22</sup> (The White House, 2021)

<sup>23</sup> (European Commission, 2016, 2021)

<sup>24</sup> This equates to emissions 146-161% above 2010 levels in absolute terms, once expected economic growth is accounted for.

<sup>25</sup> Equivalent to an 18-25% increase on emissions against 2010 levels.

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

Country	Share of two-way trade <sup>26</sup>	Target for 2030	Long-term target
China	20%	Peak carbon dioxide emissions and reduce emissions intensity by 60-65% below 2005 levels	Net zero emissions by 2060 (gas coverage TBC)
Australia	17%	26-28% below 2005 levels	Net zero emissions (no timeframe specified) <sup>27</sup>
USA	11%	50-52% below 2005 levels	None
Japan	5%	46% below 2013 levels <sup>28</sup>	Net zero emissions by 2050 (all gases)
Germany	4%	55% below 1990 levels	Net zero emissions by 2050 (all gases) <sup>29</sup>
Aotearoa	N/A	30% below 2005 levels	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 2002 (the CCRA) 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.*"<sup>30</sup>

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.<sup>31</sup> However, its NDC remains on an all-gas basis as part of the European Union's joint NDC. In March 2021, Ireland also set an all-gas domestic emissions reduction target of 51% by 2030 over 2018 levels.<sup>32</sup>

<sup>26</sup> (Stats NZ, 2019)

<sup>27</sup> (BBC, 2021)

<sup>28</sup> (Schmidt, 2021)

<sup>29</sup> (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2016)

<sup>30</sup> Article 4.4, Paris Agreement (United Nations, 2015)

<sup>31</sup> (Department of Agriculture, Food and the Marine, Government of Ireland, 2019)

<sup>32</sup> (Government of Ireland, 2021)

Similarly, France’s strategy to meet its NDC breaks its overall target down into specific sub-budgets for different sectors and gases including agricultural biogenic methane. France’s domestic emissions budgets for agricultural biogenic 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 CCRA.<sup>33</sup>

Our advice to the Government on the way the NDC for Aotearoa could be expressed is contained in *Chapter 21: The global 1.5°C effort and Nationally Determined Contribution for Aotearoa* and *Chapter 22: Factors relevant to setting the level of the Nationally Determined Contribution* of our advice, *Ināia Tonu Nei*.

## 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 compared to 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.<sup>34</sup>

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<sub>2</sub> 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 per 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

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<sup>33</sup> (Ministère de la Transition écologique, 2018)

<sup>34</sup> 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)

per capita. In 1990, Aotearoa was ranked 16<sup>th</sup> out of 43 Annex 1 countries for lowest carbon dioxide emissions per capita. In 2018, we had fallen to 25<sup>th</sup> out of 43, just below average.<sup>35</sup>

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.<sup>36</sup>

## Recent climate action

The Government has also recently committed to some additional climate action that is worth highlighting.

- In December 2020 the Government launched the Carbon Neutral Government Plan, which will require the public sector to reach net zero emissions by 2025. This is backed by a \$200 million State Sector Decarbonisation Fund to help finance the transition.<sup>37</sup>
- In April 2021, the Government introduced the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Bill in parliament. If passed, this would require<sup>38</sup> all major banks, insurers, investment managers and publicly listed companies to make climate-related disclosures in line with the recommendations of the TFCDD. Aotearoa would be the first country in the world to make climate-related disclosures mandatory.

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<sup>35</sup> (The World Bank, 2020; UNFCCC, 2020a)

<sup>36</sup> (Interim Climate Change Committee, 2019)

<sup>37</sup> (EECA, 2021)

<sup>38</sup> (New Zealand Parliament, 2021)

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