

In Confidence

Office of the Minister for Climate Change

Chair, Environment, Energy and Climate Committee

Driving the transition to a climate-resilient low-emissions economy

Proposal

1. This paper sets out the Government's high level approach to enable and manage New Zealand's transition to a climate-resilient low-emissions economy. The paper also signals key decisions ministers will need to make on the transition over the coming months.

Executive Summary

2. The world is moving to transition away from fossil fuels towards a productive, sustainable, low-emissions future. The transition brings opportunities to position New Zealand as a sustainable, high-value economy.
3. The transition to a climate-resilient low-emissions economy will be driven through a comprehensive and mutually-reinforcing package with three key components:
 - **Durable long-term institutional arrangements**
 - **Effective emissions pricing**
 - **Key sector policies and regulations.**

Background

4. In response to the oral item at ENV committee on 4 April [ENV-19-MIN-0009 refers] you asked for a paper that provides a strategic overview of the New Zealand Emissions Trading Scheme (NZ ETS), including the interconnected actions for the transition to a lower net emissions economy and outlines the decisions required by the government over the coming months.
5. You will recall that Cabinet agreed three fundamental commitments as an all-of-government framework for climate policy [CAB-18- MIN-0218; ENV-18-MIN-0011]:
 - Leadership at home and internationally
 - A productive, sustainable and climate-resilient economy
 - A just and inclusive society.
6. This paper focuses how we are approaching achieving a productive, sustainable and climate-resilient economy – and responds to your request to describe the interconnected actions that will drive the transition, including the NZ ETS.
7. I understand that there are economic development, industry policy and related research science and innovation strategies in development. The transition to a low-emissions

climate-resilient economy will support these strategies and I believe they can be linked together under the banner of a productive, inclusive and sustainable economy.

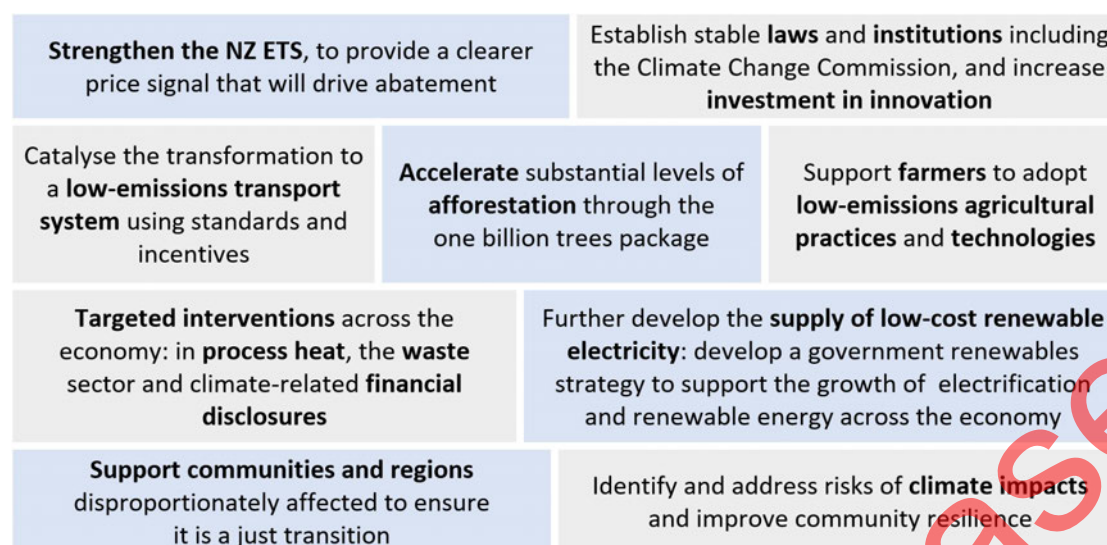
Goal – where are we going over a generation

8. Climate change is the greatest challenge of our time. Through the Paris agreement we have committed to taking urgent action on greenhouse gas mitigation and climate change adaptation. As a small trade-exposed nation we need to move with the rest of the world to maintain our competitive advantage in key areas such as our primary production. Early action on climate change will ensure that New Zealand has a competitive advantage in a low-emissions global economy compared to those economies that do too little too late. The sooner we begin, the more time we have to spread the cost of the transition and the lower the risk of abrupt shocks later. It also allows more time for technical innovation.
9. The effects of climate change are already being felt in New Zealand, and will increase in the future. From the physical impacts such as coastal erosion and sea level rise, and the economic impacts of dealing with the aftermath of major storms and droughts, we know the economic costs will be significant. Part of our transition will involve improving our information and tools for decision-making so that we can avoid and manage these risks.
10. The transition is challenging yet achievable. This economic transformation requires concerted action across government, business, iwi, households and communities. The transition is not in the future, but has already begun. We have already invested billions in the shift to greater public transport, walking and cycling and shifted our research and investment funds to new opportunities such as the Green Investment Fund. Decisions on oil and gas have prompted new approaches in Taranaki to our energy transition.

Achieving the transition to a climate-resilient low-emissions economy

11. The transition to a climate-resilient low-emissions economy will be driven through a comprehensive and mutually-reinforcing package with three key components:
 - **Durable long-term institutional arrangements** to set a long-term direction and keep us on track towards targets
 - **Effective emissions pricing**
 - **Key sector policies and regulations** to support emission reductions and ensure the transition is just and inclusive.
12. In addition, supporting measures will be needed to ensure the transition is a just one and is manageable for different communities. Figure 1 illustrates these components.

Figure 1: Key components of the transition to a climate-resilient low-emissions economy



What we're doing now

Establishing an enduring architecture

13. In December 2018, ENV agreed to a Bill to establish an enduring climate change framework for New Zealand [ENV-18-MIN-0053 refers]. This includes:

- a new greenhouse gas emissions reduction target for 2050
- establishing an independent Climate Change Commission to hold future governments to account and provide advice for meeting that target
- establishing five yearly emissions budgets following the independent advice of the Climate Change Commission to keep us on track to future targets
- reforming the NZ Emissions Trading System and setting the supply of units into the market on a five year rolling basis to support meeting those targets
- establishing a range of adaptation measures that will support communities to plan for the future effects of a changing climate, to improve their resilience.

14. The new climate change legislation will put in place the institutions and procedures to keep the government focused on the long-term transition goal, and provide certainty to businesses.

15. In addition, I will be seeking decisions soon on incorporating the emission impacts where these are expected to be significant in new policies we propose¹. This will be an important tool in ensuring Cabinet is aware when making policy choices of the expected implications on New Zealand's emissions and on New Zealand's resilience to climate change.

What will come next

Reforming the NZ ETS

16. The NZ ETS allows those who do not have easy emission reduction options to purchase permits from those who do. In this way the NZ ETS is very effective in encouraging the market to find the cheapest emission reductions available. We are already underway with reforming the NZ ETS to better incentivise emissions reductions.

17. Most of the decisions made to-date have been about the institutional arrangements. The next set of key decisions that need to be made are on the settings themselves – how far

1 The Climate Implications of Policy Assessment

should the transition go now and how fast should we move. Key decisions to be made in 2019 include decisions on:

- whether and how to price biological emissions from agriculture
- setting the level of the cap on emissions in the NZ ETS, and setting the volumes of units that will be released into the market
- the timing and speed of phasing-down allocation of free units to industry
- possible mechanisms to limit minimum or maximum prices (including decisions on the current fixed price option).

18. These decisions will need to be set in the context of how hard to drive emissions reductions domestically and what other sector-specific policies that we will use to help drive abatement to reduce emissions. The reforms to the NZ ETS could drive significantly more domestic emission reductions depending on how Ministers choose to set unit supply settings. In the coming months, Cabinet will be asked to make decisions on each area. Key climate change decisions ahead over the coming months are listed in Appendix 1.

19. In strengthening the NZ ETS and developing sector-specific policies we need to be aware of how the costs of transition are distributed so we can avoid the costs of transition falling on the most vulnerable. Where we can we will manage these impacts through good policy design, and in other cases this may require wider support and welfare policies. Officials can provide advice, such as social impact assessments, at the time decisions are sought.

Work is under way

20. Ministers and agencies have a range of programmes under way already that are contributing towards the long-term transition. Key programmes in development include:

Moving towards 100 per cent renewable electricity and shifting industry to lower emissions

- Government is developing a renewable energy plan to grow our renewable electricity and decarbonise process heat including responding to the Interim Climate Change Committee's (ICCC) advice
- We are also developing a Green Hydrogen strategy to encourage new zero-emissions fuels, and are investigating opportunities for biofuels to reduce emissions and create jobs.

Decarbonising our transport sector

- We have redirected an additional \$1.15 billion in transport investment towards public transport, rapid transit and walking and cycling²
- We are developing a package of measures to reduce emissions from our light vehicles including seeking to consult on emissions standards and a feebate scheme
- There is \$7m p.a. committed to a contestable fund to support low emission vehicle projects.

Supporting agriculture to improve its productivity and sustainability

- We are supporting greater adoption of low-emissions practices on farm
- We are considering how agricultural emissions will be treated in the future, including taking advice from the ICCC.

Harnessing forestry

- Doubling new tree planting to reach one billion trees by 2028

² Over the four years 2018/19 – 2021/22.

- Measures to encourage forestry include:
 - i. investing \$480m to incentivise new tree planting
 - ii. making the NZ ETS easier for foresters to be participate in
 - iii. strengthening the carbon price that will improve returns to forestry.

Further cross-cutting measures

- Introducing climate related financial disclosures so the effects of climate change are properly accounted for in the financial system
- We are developing the first National Climate Change Risk Assessment so we can assess the impacts of climate change on an economy-wide basis.

21. Further detail on policies and programmes in development in each of these areas is described in Appendix two.

Next Steps

22. I propose to come back to ENV later in May with a response to the Productivity Commission’s report on a Low-Emissions Economy. That response will describe in further detail the policies and work programmes under way supporting the transition to a climate-resilient low-emissions economy. I have asked officials to work closely with MBIE and the Treasury to ensure this aligns closely and is consistent with wider economic strategy work and forthcoming announcements.

23. Pending agreement to a number of the components of the work programme set out above, I also propose laying out the Government’s action on climate change and a low-emissions transition for the public.

Consultation

24. In drafting this paper the following agencies were consulted: the Ministry of Business Innovation and Employment, the Ministry of Primary Industries, the Ministry of Transport, the Treasury, the Ministry of Housing and Urban Development, the Energy Efficiency and Conservation Authority. The Department of the Prime Minister and Cabinet was informed.

Financial implications

25. This paper has no financial implications at this stage but individual policies that are mentioned in this paper may have financial implications as they come before Cabinet.

Proactive Release

26. I propose to release this paper on the Ministry for the Environment website subject to appropriate redactions under the Official Information Act 1982.

Recommendations

27. The Minister for Climate Change recommends that the Committee:

- 1.1. **note** that the three key components of the transition to a climate resilient low-emissions economy are:
 - 1.1.1. Durable long-term institutional settings
 - 1.1.2. Effective emissions pricing
 - 1.1.3. Key sector policies and regulations to support emission reductions and climate-resilience.

- 1.2. **note** that decisions in each of these areas are being made over the coming months
- 1.3. **instruct** the Treasury, the Ministry for the Environment, the Ministry for Primary Industries and the Ministry for Business, Innovation and Employment to work collaboratively on advice to Ministers on the expected distributional impacts of possible higher carbon prices in the NZ ETS in 2020, 2025 and 2030 and possible policy options to mitigate those impacts.

Authorised for lodgement.

Hon James Shaw

Minister for Climate Change

Proactively released

Appendix 1: Key climate change related decisions over the coming months

The transition to a climate-resilient low-emissions economy requires decisions across a number of portfolios – this list includes only the main decisions to be made soon. You have choices about the sequencing of some of these decisions, though some of the timings relate to legislative processes.

Table 1: Upcoming climate change decisions

	Time	Decisions	Transition component
TRANCHE 1: Long term institutional arrangements	May	The form of the new climate change legislation	Stable institutions
	May	Budget decisions including investments in energy and agriculture	Sector policies
	May	Consultation with local government on narrative and options for addressing natural hazards and climate change adaptation	Stable institutions Sector policies
	May	Implementing the Climate Implications of Policy Assessment	Stable institutions
TRANCHE 2: Effective emissions pricing	May	Decisions on phasing down allocation to industry in the NZ ETS	Emissions pricing
	May	International aviation emissions offsetting scheme	Emissions pricing
	May	Forestry improvements to the NZ ETS (averaging)	Emissions pricing
	June	Forestry ETS improvements - applying the averaging approach to existing forests	Emissions pricing
	June	9(2)(f)(iv) [Redacted]	Emissions pricing
	July (tbc)	9(2)(f)(iv) [Redacted]	Emissions pricing

	July	Implementation decisions on agriculture	Emissions pricing Sector policies
TRANCHE 3: sector policies and regulations	May/June	Transport policy package	Sector policies
	June	Responding to the Productivity Commission's report on a <i>Low-emissions economy</i> – laying out the whole package of measures	Stable institutions Sector policies
	July	Consultation on requiring climate-related financial disclosures	Stable institutions Sector policies
	September	Community resilience group progress report and signalling of legislative/budgetary implications	Stable institutions Sector policies
	By end 2019 (timing TBC)	Consulting on proposed renewable energy policies, including electricity and process heat	Sector policies

Appendix 2: Key policies in development to support a transition to a climate-resilient and low-emissions economy

28. This appendix focuses on some of key sector policies to support an effective transition to a low-emissions and climate-resilient economy. This is one part of what has to be a comprehensive and mutually supporting approach that includes: effective emissions pricing, investing in research and innovation, having supportive settings that re-orient market investments to low emissions, using levers across the economy such as government procurement to lead change, and taking a long term view of policies to avoid locking in future emissions in decisions we make now. The fuller response to the Productivity Commission report will outline this more comprehensive approach.

Moving towards 100 per cent renewable electricity

29. New Zealand already has up to 85 per cent of electricity generated from renewable sources, very high by international standards. But we expect the demand for electricity to increase to meet the needs of transport and other shifts to a climate-resilient lower-emissions economy.
30. The Government asked the Interim Climate Change Committee to assess opportunities to move to 100 per cent renewable electricity generation by 2035. The Minister of Energy and Resources will be responding to that report through such measures as developing a renewable energy policy package and assessing the role hydrogen and other fuels can play in our energy future.

Shifting heating and industrial processes to low emissions

31. 15 per cent of our greenhouse gas emissions come from burning fossil fuels to generate process heat (for example drying milk powder) and industrial processes such as converting iron sands into iron. There are material opportunities to improve the energy efficiency of these processes and EECA already works with major energy users. But large emission savings are possible by switching to low emission fuels such as electricity and biofuels.
32. The renewable energy policy package, which the Minister of Energy and Resources will take to Cabinet for consideration later this year, will include policies and programmes aiming to make the most of these opportunities.

Decarbonising our Transport Sector

33. Transport represents a major opportunity to bend our emissions curve, accounting for 20 per cent of our total greenhouse gas emissions. Our vehicle ownership levels are high and the fleet is old with poor fuel economy, and public transport use has traditionally been low.
34. The government has developed a low emissions vehicle package that includes proposing to consult in the coming months on both a vehicle fuel efficiency standard and a feebate scheme. Both these measures have been shown to be highly cost-effective internationally in shifting the composition of vehicle fleets to low emissions vehicles.
35. The Government Policy Statement on Land Transport (GPS) released last year includes a priority to reduce greenhouse gas emissions from transport. The GPS increased funding for public transport by 68 percent, and more than doubled investments in cycling and walking. This includes Government investing \$1 billion in 2018 in specific projects, such as the City Rail Link.
36. We are also working with industry to develop solutions and we have been trialling new technologies as proofs of concept through the Low Emissions Vehicle Contestable Fund (LEVCF), such as Hydrogen at the ports of Auckland, Smart Battery to Home Chargers for EVs with Vector, and EVs for heavy transport like Fonterra's electric milk truck. In total

we have put \$17.2 million into different projects, backed by \$45 million in matching funds from private partners.

Supporting agriculture to improve its productivity and sustainability

37. The land sector contains both the greatest source and sink of greenhouse gases in New Zealand – agriculture and forestry respectively. Given pastoral farming and forestry's significant contribution to New Zealand's economic prosperity, the key challenge for the country is how to unlock our economic potential while reducing emissions.
38. The Government has invested in the development of agricultural technologies to mitigate greenhouse gas emissions for many years. In 2009 the Government launched the Global Research Alliance (GRA) on agricultural greenhouse gases. The GRA brings together researchers from 56 countries to strengthen mitigation research efforts across agriculture.
39. In New Zealand the Pastoral Greenhouse Gas Research Consortium (PGgRc) is driving research efforts to find solutions to reduce agricultural emissions. The PGgRc is a partnership between the government and eight New Zealand agricultural sector bodies. Sector funding is matched by the government through the Ministry of Business, Innovation and Employment.
40. Our focus will be on policies that, over the long term, will incentivise development and uptake of new, low emissions technologies as they become available. The Government will also make a decision over the coming months about how agricultural emissions could be treated in the NZ ETS, and budget decisions may also be relevant in this area.

Harnessing forestry

41. Expanding forestry will be essential for meeting a long-term net-zero target. The Government has a vision to transform New Zealand's forests to drive improved social, environmental and economic outcomes. In October 2017, Government announced the One Billion Trees programme. This aims to double rates of new tree planting to reach one billion trees over 10 years (to 2028) and the government has committed approximately \$480 million to incentivise new tree planting towards this goal.
42. The One Billion Trees programme also encompasses changes to regulatory settings to drive an increase in new tree planting. Changes are being made to the NZ ETS to simplify and de-risk participation of forest owners. These changes are designed to incentivise afforestation, and to increase the carbon stored by New Zealand's forests.
43. While the One Billion Trees programme has kick-started efforts, to realise the Government's ambitions towards a net-zero target, higher rates of afforestation over a longer period will be needed. During 2019 Te Uru Rākau within MPI will be developing a forest strategy, in consultation with participants and the sector, to set a thirty year vision for forests and trees in New Zealand, and identify the key actions required to achieve this vision.

Adapting to a changing climate

44. As well as mitigating emissions, the Government needs to support communities and industries to adapt to the effects of climate change. The government's adaptation programme has two key components:
 - A National Climate Change Risk Assessment – to be completed by mid-2020. This will provide an overview of the hazards and threats of the physical impacts of climate change and consider the economic and social impacts on New Zealand as a whole.
 - A National Adaptation Plan which will respond to the national risk assessment. The Climate Change Commission will regularly report and monitor progress against the National Adaptation Plan.

45. There are many synergies between adaptation and mitigation, and it is important that we do both together. For example, changing how and where we build can avoid locking-in future emissions. At the same time we can ensure that new developments are resilient to the effects of a changing climate.

Changing the way we build

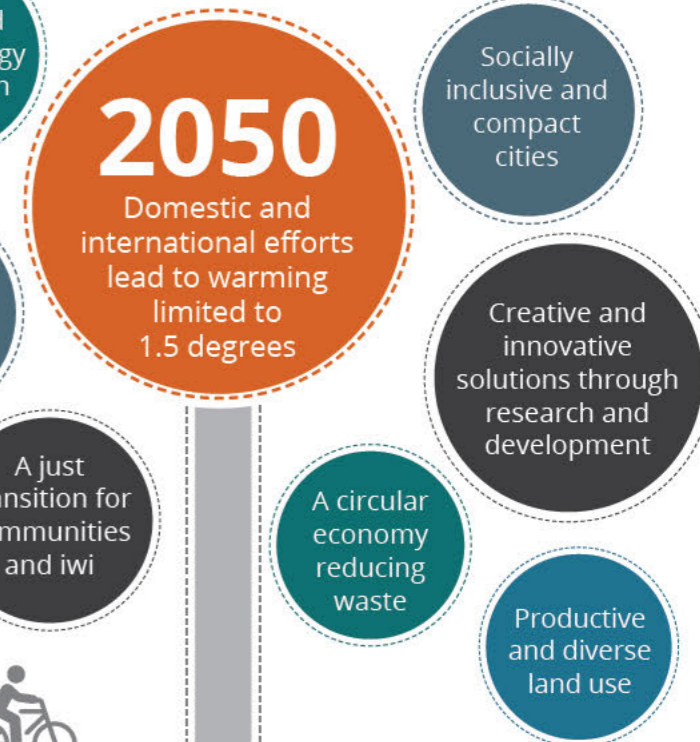
46. New Zealand will become increasingly urbanised as we move towards our targets. Facilitating climate outcomes in urban form by avoiding the lock-in of emissions in the built environment will be essential.
47. One of the objectives of the Urban Growth Agenda is to assist emissions reductions and build climate resilience; it will promote intensification and infill which, if successful, will support a low emissions built environment.
48. MBIE's Building System Performance Climate Change Work Programme will assess the actions the building regulatory system could take to support the government's climate change objectives. Initial advice will be provided to the Minister for Building and Construction in late 2019.
49. Effort must also be focused on how we improve our existing building stock, particularly by supporting energy efficiency and adaptive reuse, as the majority of buildings that will be here in 2050 already exist. Initiatives like Housing NZ's 'healthy homes' programme and EECA's Warmer Kiwi Homes programme facilitate climate-friendly solutions in the built environment by improving energy efficiency in heating to reduce energy demand. Housing NZ's Environment Strategy also outlines that going forward all of their building standards and designs will include application of Homestar6 and will promote intensification.
50. As the new Housing and Urban Development Authority comes together, officials are considering a joined-up approach to delivering good design across all government-enabled housing, including KiwiBuild and public housing. This may look at how neighbourhoods are designed to enable sustainable, healthy living at a community level, as well as building homes that are energy-efficient and affordable at an individual level.

Pathway to a low-emissions future in New Zealand

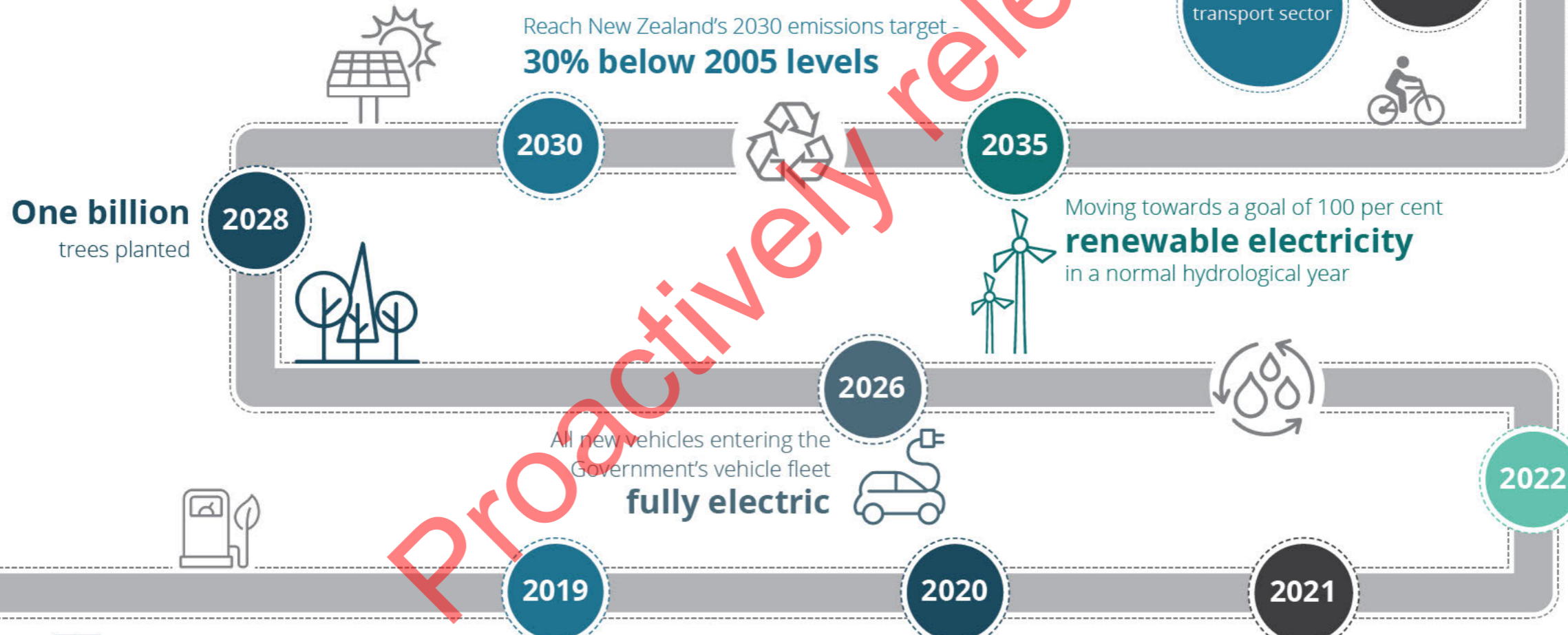
The world is moving to transition towards a productive, sustainable, inclusive and low-emissions future. We want to show global leadership by taking decisive action on climate change while creating jobs, developing regional economies and improving the lives of New Zealanders.

We are already on the path to transition

A productive, sustainable and climate-resilient economy



Reach New Zealand's 2030 emissions target - **30% below 2005 levels**



Moving towards a goal of 100 per cent **renewable electricity** in a normal hydrological year

- 2018**
 - **Additional \$1 billion** investment in improving public transport and cycle and walkways over 4 years
 - New Zealand Green Investment Fund established
 - Ongoing investment in low-emissions agricultural technologies

- 2019**
 - **Zero Carbon Bill enacted***
- 2020**
 - **Climate Change Commission established***
 - Improvements to the New Zealand Emissions Trading Scheme

5yrs Five yearly **emissions budgets** established*

First National Adaptation Plan in place*

*subject to final Zero Carbon Bill decisions