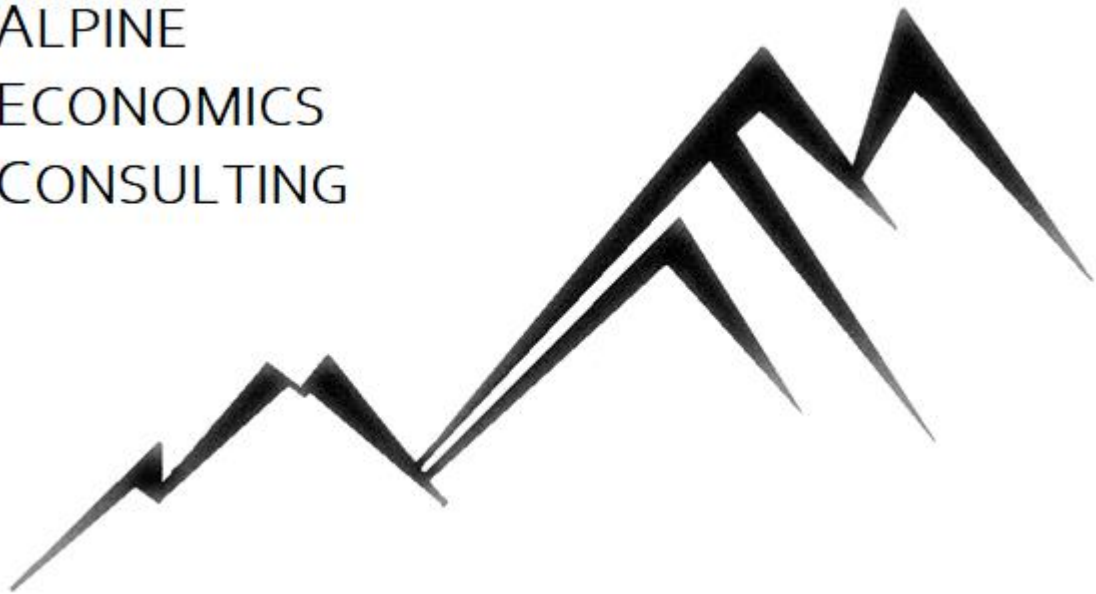


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# Economic Impact Assessment of *Smith v Fonterra*

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## Disclaimers

This research was funded by Z Energy Ltd, Fonterra Co-operative Group Ltd, and Genesis Energy Ltd. The views and conclusions expressed in this report are solely those of the authors. They do not necessarily reflect the views or positions of Z Energy, Fonterra, or Genesis.

Some results in this report were derived from a modified version of the Climate Policy Analysis (C-PLAN) model, licensed to the authors by the Climate Change Commission (CCC) and developed by the CCC, Niven Winchester and Vivid Economics Limited. Modifications to the C-PLAN model and the production and interpretation of the results have not been quality assured by the CCC and are the responsibility of the author.

The modelling described in this report was carried out in August 2025, and reflected Government policy settings at that date. Where relevant, the report references policy changes that have occurred since that date.

## Author profile

This report was prepared by Dr Niven Winchester, a global expert in policy analysis using computable general equilibrium (CGE) modelling with over 25 years' experience. He led development of C-PLAN model for the CCC to advise the New Zealand government. Previously, he was a Principal Research Scientist at Massachusetts Institute of Technology (MIT), where he spent 10 years developing and applying CGE models for climate and energy policy. He has advised several countries in previous roles at McKinsey & Company and Vivid Economics.

## List of Acronyms and Abbreviations

|                     |                                                          |
|---------------------|----------------------------------------------------------|
| CCC                 | Climate Change Commission                                |
| CCRA                | Climate Change Response Act 2002                         |
| CGE                 | Computable general equilibrium                           |
| CH <sub>4</sub>     | Methane                                                  |
| CO <sub>2</sub>     | Carbon dioxide                                           |
| C-PLAN              | Climate PoLicy ANalysis                                  |
| EPPA                | Economic Projection and Policy Analysis                  |
| ETS                 | Emission Trading Scheme                                  |
| GDP                 | Gross Domestic Product                                   |
| GEM-E3              | General Equilibrium Model for Economy-Energy-Environment |
| GHG                 | Greenhouse gas                                           |
| LLGHG               | Long-lived GHG                                           |
| MIT                 | Massachusetts Institute of Technology                    |
| MtCO <sub>2</sub> e | Million tonnes of CO <sub>2</sub> equivalent             |
| N <sub>2</sub> O    | Nitrous oxide                                            |
| NZ-ETS              | New Zealand ETS                                          |
| NZU                 | New Zealand Unit                                         |

## Executive summary

1. This report examines the potential economic and emissions impacts of legal remedies sought in the case of *Smith v Fonterra*. Mr Michael Smith alleges that six large New Zealand companies have contributed to climate change through their greenhouse gas (GHG) emissions (or the emissions caused by use of products sold or produced by them). Mr Smith seeks court declarations and injunctions requiring immediate complete net zero cessation of all emissions from the defendants. It is understood that the injunctions will also likely be sought from all other firms in their sectors.
2. Using the Climate PoLicy ANalysis (C-PLAN) model, which supports the Climate Change Commission's (CCC) advice to the government, this study compares these potential litigation outcomes against New Zealand's current emissions policy framework set by the Climate Change Response Act 2002 (CCRA).
3. Mr Smith seeks orders for the defendants to halt net GHG emissions immediately (the immediate cessation scenario). If such orders were applied only to the defendants in the litigation, the modelling indicates that GDP would decline by \$21.9 billion (0.9%) over five years (2028–2032), with 2028 alone seeing a \$7.5 billion (1.6%) fall.
4. If the immediate cessation orders were applied more broadly to all participants in the defendant sectors (as Mr Smith contends should follow), such orders would cause deeper economic disruptions, with GDP dropping \$112.6 billion (4.8%) over the same five-year period. In 2028, the economy contracts by \$32.8 billion (7.2%) compared to the CCRA baseline. These modelled GDP losses would be higher still if Mr Smith's litigation was to limit the types of eligible offset units (e.g. to only allow permanent forest offsets).
5. In both these immediate cessation scenarios, emissions are lower than CCRA targets in all years, but the GDP costs are substantial. For comparison, New Zealand's GDP shrunk by 2.9% in 2020, relative to 2019, due to the COVID-19 pandemic, although the impact of the health crisis was muted by monetary and fiscal policies.

## 1 Introduction

6. This report examines the potential economic and emissions impacts of legal remedies sought in the case of *Smith v Fonterra*. Mr Michael Smith alleges that six large New Zealand companies have contributed to climate change through their GHG emissions (or the emissions caused by use of products sold or produced by them). Mr Smith seeks court declarations and injunctions requiring immediate complete net zero cessation of all emissions from the defendants. It is understood that consistent injunctions would also likely be sought from all other firms in the defendant's sectors. A summary of the claim and the relief sought by Mr Smith is provided in **Appendix A**.
7. Using the C-PLAN model, which is used by the CCC in producing its advice to government, this study compares these potential litigation outcomes against New Zealand's current emissions policy framework set by the CCRA. A summary of New Zealand's emissions-related legislation, emissions targets and policies are provided in Appendix A.

### CCRA Policy Framework

8. The CCRA sets long-term targets for New Zealand's GHG emissions. Separate targets are set for emissions of (1) long-lived GHGs (LLGHGs) and (2) biogenic CH<sub>4</sub>. LLGHGs include all GHGs except biogenic CH<sub>4</sub>.<sup>1</sup>
  - 8.1. The CCRA includes emissions budgets, which act as 'stepping stones' to the overall CCRA targets, and uses the NZ-ETS as a market-based mechanism to incentivise economically efficient emissions reductions.
9. The CCRA's 2050 targets, as applied in the modelling underlying this report, require:
  - 9.1.1. Net-zero emissions by 2050 for all LLGHGs; and
  - 9.1.2. A reduction in CH<sub>4</sub> emissions by 35% in 2050 relative to 2017 levels (the mid-point in the target range specified in the CCRA).<sup>2</sup>
10. The report assumes that, for each group of GHGs, CCRA targets are achieved through policies that spread the achievement of that target throughout the economy in an economically efficient way. The report also assumes that the CCRA emissions targets and budgets will be met under current and planned CCRA pathways.
11. In our opinion, the CCRA scenario, as set out above, is an appropriate baseline from which to assess the impacts of Mr Smith's claim.

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<sup>1</sup> The CCRA policies and targets are set out in more detail at Appendix A to this report.

<sup>2</sup> The analysis for this report was completed prior to the government's announcement that it intends to reset the biogenic CH<sub>4</sub> target. The corresponding reduction under the new intended policy is 19%.

### Litigation scenarios assessed

12. In our view, there are two main litigation outcome scenarios if Mr Smith's claim is successful:
  - 12.1. **Scenario Cessation-DEF:** The defendants are required to immediately reduce their net GHG emissions to zero (either through gross emission reductions or offsetting using forestry sequestration credits).
  - 12.2. **Scenario Cessation-IND:** All major corporate emitters in New Zealand in the same industries as the defendants are required to immediately reduce their net GHG emissions to zero (either through gross emission reductions or offsetting using forestry sequestration credits).
13. Further scenarios, in which all emitters for profit in New Zealand are required to immediately reduce their net GHG emissions to zero are possible if Mr Smith is successful but are beyond the scope of this report.

### Summary of impact analysis results

14. In the Cessation-DEF scenario (defendants only), GDP would decline by \$21.9 billion (0.9%) over five years (2028–2032), with 2028 alone seeing a \$7.5 billion (1.6%) fall.
15. If the immediate cessation orders were applied more broadly to all participants in the defendant sectors (as Mr Smith contends should follow), the modelling indicates such orders would cause deeper economic disruptions, with GDP dropping \$112.6 billion (4.8%) over the same five-year period. In 2028, the economy contracts by \$32.8 billion (7.2%) compared to the CCRA baseline.
16. In both the Cessation-DEF and Cessation-IND scenarios, emissions are lower than under the CCRA scenario in all years, but the GDP costs are substantial. For comparison purposes, New Zealand's GDP shrunk by 2.9% in 2020, relative to 2019, due to the COVID-19 pandemic, although the impact of the health crisis was muted by monetary and fiscal policies.
17. These figures are calculated assuming all forestry units used for surrender purposes under the NZ-ETS (including both production and permanent forest sequestration New Zealand Units (NZUs) are considered to offset gross emissions and achieve lower net emissions. If Mr Smith's litigation was to limit the defendants' usage of NZU offsets (e.g. to only permanent forest units), the modelled GDP losses would be higher.

## 2 Methodology

18. This analysis uses the C-PLAN model. The model was built for the CCC to provide advice to the government on emissions budgets and policies. The model was

developed by Motu Economic & Public Policy Research and Vivid Economics, under the leadership of Dr Niven Winchester.

19. The model builds on MIT's Economic Projection and Policy Analysis (MIT-EPPA) model, and the European Commission's General Equilibrium Model for Economy-Energy-Environment (GEM-E3). The C-PLAN model has been peer-reviewed by both academic and policy experts and is open-source. The model is described in detail by Winchester and White (2022).<sup>3</sup> The source code for the model can be obtained from the CCC after completing a licensing agreement.
20. The C-PLAN model is a New Zealand-focused global CGE model. CGE models – also known as economy-wide models – combine economic theory with socioeconomic data and solve for equilibrium in all markets. They represent multiple sectors, inter-sectoral linkages, competition among technologies/sectors, and substitution possibilities among inputs.
21. CGE models like C-PLAN are powerful tools for analysing economy-wide impacts of climate policy, but they have several limitations. First, they rely on simplified assumptions about firm behaviour and full employment, which may not reflect real world frictions. Second, CGE models are sensitive to parameter choices, which are often uncertain. Third, technological change is limited to what is specified in the model – there is no endogenous technological change.
22. Despite their limitations, CGE frameworks are valuable tools for generating insights into complex economic and climate policy issues. They help illuminate broad system-wide effects that are difficult to capture with simpler approaches.
23. The C-PLAN model represents 38 production sectors and projects GHG emissions for each gas tied to activities (e.g., biogenic CH<sub>4</sub> emissions from grazing dairy cows, and carbon dioxide emissions from burning coal in steel production).
24. As most of BT Mining Ltd's coal is exported and C-PLAN is a New Zealand focused-model, the impacts of Mr Smith's relief relevant to BT Mining Ltd are not considered in this report.
25. C-PLAN sectors/commodities subject to the Smith litigation and assessed in this report are dairy farming, dairy processing, refined oil products (used in all sectors), iron and steel, and coal-fired and gas-fired electricity production. In this report, dairy farming and dairy processing are collectively referred to as 'dairy production'.
26. Emissions abatement options in the model include: (1) substitution between fossil fuels in energy production (e.g., replacing coal with gas), (2) energy efficiency improvements (e.g., installing more energy efficient boilers), and (3) replacing conventional production techniques and fuels with new low-carbon options.

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<sup>3</sup> Winchester, N. and D. White (2022). The Climate PoLicy ANalysis (C-PLAN) Model, Version 1.0, *Energy Economics*, 108. (<https://doi.org/10.1016/j.eneco.2022.105896>).

27. Advanced technologies anticipated by the model include electric vehicles, dairy farming with a methane-reducing technology, beef and sheep farming with a methane-reducing technology, geothermal electricity with carbon capture and storage, electric heat, and bioheat from forestry waste.
28. The model assumes that advanced technologies do not operate initially but are available in specified future years. They usually have higher costs than conventional technologies and operate only when the carbon price makes them cost competitive.
29. This study updates and deploys the version of C-PLAN used by the CCC to provide draft advice for the government's first three emissions budgets. Updates to the model include projections for GDP, forestry CO<sub>2</sub> removals, and the use of electric vehicles. The updated projections reflect those used by the CCC to craft their advice on the fourth emissions budget (CCC, 2024).<sup>4</sup> The C-PLAN model has also been adjusted to account for closure of the Marsden Point Oil Refinery, and cancellation of the shutdown of the Tiwai Point aluminium smelter.

#### **Key assumptions underlying the report**

30. Several assumptions regarding the future policies and the relief sought by Mr Smith are necessary to model economic outcomes. Key assumptions, which are discussed in further detail throughout the report, include:
  - 30.1. Current and planned CCRA policies will be sufficient to meet CCRA emissions target pathways for LLGHGs and biogenic CH<sub>4</sub>.
  - 30.2. For surrender obligations for LLGHGs, consistent with current practices, all emissions units are treated the same, regardless of whether they originated from permanent forests, production forests, industrial allocation, auctioning, or another source.
  - 30.3. Biogenic emissions from pastoral agriculture (CH<sub>4</sub> from livestock and N<sub>2</sub>O from fertiliser/effluent) will be priced from 2030.<sup>5</sup>
  - 30.4. Government policies will meet emissions budgets consistent with the CCRA. If measures other than CCRA policies (e.g., Court injunctions of some entities) reduce emissions in part of the economy, emissions constraints elsewhere will be loosened to maintain economy-wide emissions budgets.
  - 30.5. New forestry NZUs (i.e., units generated by post-1989 forestry sequestration that are not from the stockpile) from both permanent and production forests

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<sup>4</sup> Climate Change Commission. (2024). Advice on Aotearoa New Zealand's fourth emissions budget (final report). He Pou a Rangi Climate Change Commission. (<https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/preparing-advice-on-emissions-budgets/advice-on-the-fourth-emissions-budget/final-report>)

<sup>5</sup> This assumption was consistent with planned policies at the time the analysis was completed; however, the government no longer intends to price biogenic CH<sub>4</sub> emissions.



surrendered by an emitter to meet their CCRA obligations can also be used as offsets when calculating net emissions for compliance with cessation orders.

- 30.6. The government will adjust the number of auctioned permits to account for any permits surrendered from the emissions stockpile to meet economy-wide cessation orders.

### **Application of C-PLAN in this Report**

31. This report evaluates the economic and emissions impact of the relief sought by Mr Smith relative to a baseline scenario consistent with the pathway provided under the CCRA (hereafter labelled the CCRA scenario/CCRA pathway) which simulates policies that will meet New Zealand's emissions budgets and long-term GHG targets, with linear interpolation used to calculate emissions targets for years without specified emissions limits. Specifically, the calculations assume that the targeted proportional reductions required by the CCRA pathway are:
- 31.1. Net-zero emissions by 2050 for all LLGHGs; and
  - 31.2. A reduction in CH<sub>4</sub> emissions by 35% in 2050 relative to 2017 levels (the mid-point in the target range specified in the CCRA).<sup>6</sup>

### **CCRA Scenario**

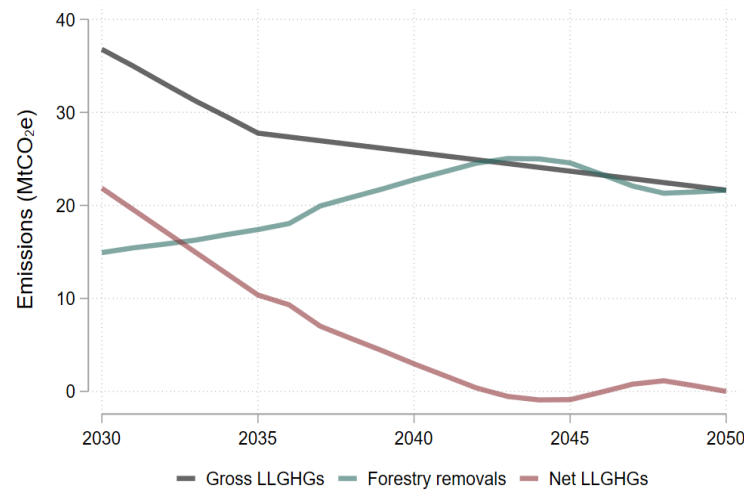
32. The CCRA scenario sets New Zealand's long-term greenhouse gas targets for two baskets of GHGs: LLGHGs and biogenic CH<sub>4</sub>. Following the CCC, these targets are modelled in the CCRA scenario by simulating a separate Emission Trading Scheme (ETS) for each GHG basket as described below.
33. In each ETS, firms must surrender a permit for every tonne of emissions. Permits may be purchased from the government or the secondary market, allocated for free to certain sectors, or generated through forestry sequestration. Permits from forestry sequestration can only be used to meet surrender obligations for the LLGHG ETS.
34. The supply of LLGHG permits each year equals the permits from forestry sequestration, industrial allocation, auctioned permits, and banked permits (from the emissions unit stockpile). However, the model does not resolve auctioned and banked permits separately; instead, it assumes that the amount auctioned is set residually by the government to meet the LLGHG target for each year.
35. The supply of biogenic CH<sub>4</sub> emissions permits is set to meet annual emissions targets for this GHG. Although this policy operates as an ETS in the model, it is analogous to regulators setting a fee on CH<sub>4</sub> emissions to achieve a specified level of emissions.

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<sup>6</sup> As noted above, the corresponding reduction in biogenic CH<sub>4</sub> emissions consistent with the new intended target is 19%.

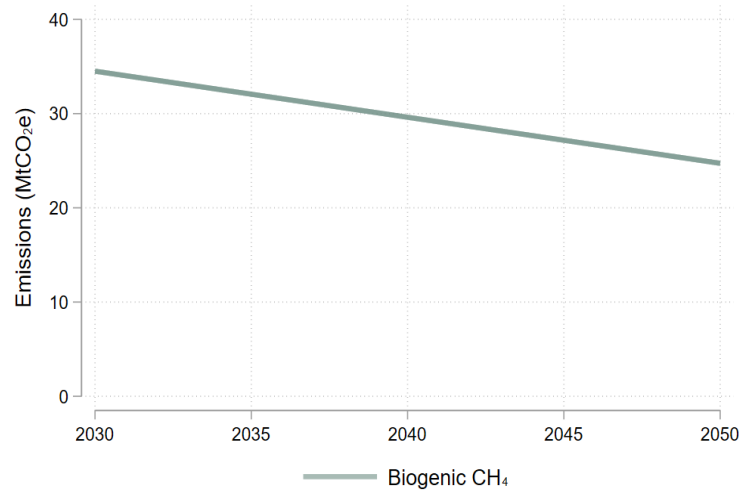
36. Projected CO<sub>2</sub> sequestration by forestry and caps on gross and net emissions of LLGHGs – in million tonnes of CO<sub>2</sub> equivalent (MtCO<sub>2</sub>e) – in the CCRA scenario are shown in Figure 1.

*Figure 1. CCRA scenario: gross and net emissions caps for LLGHGs and forestry removals, MtCO<sub>2</sub>e*



37. There is a steady decline in the net emissions of LLGHGs from 2030 to 2042. After 2042, reflecting oscillating forestry CO<sub>2</sub> removals, net LLGHG emissions hover around zero. Reductions in gross emissions are linear, with a change in trajectory in 2035.
38. Gross biogenic CH<sub>4</sub> emissions under the CCRA scenario are illustrated in Figure 2. The conversion of the CCRA targets into gross emissions in the CCRA scenario are set at 34.5 MtCO<sub>2</sub>e in 2030 and 24.7 MtCO<sub>2</sub>e in 2050, with a linear reduction between those two target dates.

Figure 2. CCRA biogenic CH<sub>4</sub> gross emissions targets, MtCO<sub>2</sub>e



39. As noted above, following the CCC, the CCRA scenario assumes that the GHG targets for net LLGHGs and biogenic CH<sub>4</sub> in the figure above are met by imposing separate ETSs for each basket of GHGs. Forestry sequestration permits are included in the ETS for LLGHG.
40. Table 1 reports estimated gross emissions (for all GHGs) from sectors subject to litigation (hereafter referred to as ‘defendant industries’) under the CCRA scenario.

Table 1. Gross emissions from sectors subject to litigation under CCRA policies, MtCO<sub>2</sub>e

| Year | Refined oil | Iron & steel | Electricity from coal & gas | Dairy production | Total |
|------|-------------|--------------|-----------------------------|------------------|-------|
| 2019 | 19.0        | 1.9          | 3.2                         | 23.1             | 47.2  |
| 2030 | 14.4        | 0.9          | 1.1                         | 20.2             | 36.6  |
| 2035 | 11.7        | 0.8          | 0.7                         | 16.8             | 30.0  |
| 2040 | 10.2        | 0.8          | 0.7                         | 14.9             | 26.5  |
| 2045 | 8.2         | 0.8          | 0.6                         | 13.1             | 22.8  |
| 2050 | 6.4         | 0.8          | 0.5                         | 12.1             | 19.8  |

Source: Author’s estimates using the C-PLAN model.

41. Gross emissions from defendant industries decrease by between 48% (dairy production) and 85% (coal and gas electricity) in 2050 relative to 2019 levels under the CCRA scenario.
42. Under the CCRA scenario, all sectors subject to the litigation (except dairy production) purchase LLGHG units (in the form of NZUs) to address their emissions. Dairy production purchases a mixture of LLGHG and biogenic CH<sub>4</sub> units. As LLGHG units from forestry sequestration and other NZUs are equivalent for NZ-ETS/CCRA surrender purposes, it does not matter which activities surrender forestry units to meet LLGHG obligations.

### 3 Assessment of impacts of an immediate net-zero injunction

43. This paper considers two variants of the Plaintiff's immediate net-zero injunctions. One considers the injunction only applying to the defendants (Cessation-DEF) and the other considers the injunction applying to all firms in the industries in which the defendants operate (Cessation-IND). The analysis considers the period 2028 to 2032.
44. Each cessation scenario is implemented using an ETS that covers firms/industries subject to the litigation and assumes that forestry units from both production and permanent forests emissions removals are acceptable to meet net-zero requirements.
45. Economy-wide emissions for net LLGHGs and biogenic CH<sub>4</sub> in the CCRA scenario and the two cessation scenarios are reported in Table 2. As emissions are below CCRA targets when cessation ETSs operate, climate policies are not applied to other firms/industries.

*Table 2. Economy-wide LLGHGs and biogenic CH<sub>4</sub> in the CCRA and Cessation scenarios, MtCO<sub>2</sub>e*

| Year | CCRA       |                          | Cessation-DEF |                          | Cessation-IND |                          |
|------|------------|--------------------------|---------------|--------------------------|---------------|--------------------------|
|      | Net LLGHGs | Biogenic CH <sub>4</sub> | Net LLGHGs    | Biogenic CH <sub>4</sub> | Net LLGHGs    | Biogenic CH <sub>4</sub> |
| 2028 | 24.7       | 36.8                     | 19.7          | 29.8                     | 15.6          | 23.4                     |
| 2029 | 22.6       | 36.5                     | 18.6          | 30.6                     | 14.4          | 24.0                     |
| 2030 | 21.9       | 34.5                     | 18.3          | 30.5                     | 13.8          | 24.2                     |
| 2031 | 19.6       | 34.0                     | 17.6          | 30.7                     | 13.3          | 24.4                     |
| 2032 | 17.3       | 33.5                     | 16.9          | 30.9                     | 12.8          | 24.5                     |

46. Modelled carbon prices in the two cessation scenarios are shown in Table 3. For comparison, the average carbon price in the NZ-ETS in July 2025 was around \$57/tCO<sub>2</sub>e. The carbon price in the Cessation-IND scenario in 2028 (\$2,676/tCO<sub>2</sub>e) is nearly 50 times larger than this price.

*Table 3. Carbon prices in cessation scenarios, \$/tCO<sub>2</sub>e*

| Year | Cessation-DEF | Cessation-IND |
|------|---------------|---------------|
| 2028 | \$580         | \$2,676       |
| 2029 | \$524         | \$1,747       |
| 2030 | \$393         | \$1,373       |
| 2031 | \$377         | \$1,255       |
| 2032 | \$375         | \$1,171       |

47. Carbon prices are higher in the Cessation-IND scenario as net zero requirements are applied to a larger share of the economy than in the Cessation-DEF scenario.

### 3.1 Immediate net zero injunction applied to defendants (Cessation-DEF)

48. Changes in economy-wide emissions for the LLGHGs and biogenic CH<sub>4</sub> in the Cessation-DEF scenario relative to those in the CCRA scenario are shown in Table 4.

*Table 4. Changes in net LLGHGs and gross biogenic CH<sub>4</sub> emissions in the Cessation-DEF scenario relative to the CCRA scenario*

| Year        | Net LLGHGs          |        | Gross CH <sub>4</sub> emissions |        |
|-------------|---------------------|--------|---------------------------------|--------|
|             | MtCO <sub>2</sub> e | %      | MtCO <sub>2</sub> e             | %      |
| <b>2028</b> | -4.99               | -20.2% | -7.08                           | -19.2% |
| <b>2029</b> | -4.02               | -17.8% | -5.94                           | -16.3% |
| <b>2030</b> | -3.57               | -16.3% | -3.99                           | -11.6% |
| <b>2031</b> | -1.95               | -10.0% | -3.34                           | -9.8%  |
| <b>2032</b> | -0.31               | -1.8%  | -2.65                           | -7.9%  |

49. The negative changes indicate that emissions in the Cessation-DEF scenario are below CCRA scenario emissions targets (as discussed above). The economy-wide emissions of both net LLGHGs and CH<sub>4</sub> emissions in 2028 are about 20% below those in the CCRA scenario. Relative emission decreases become smaller over time as the CCRA emissions cap is lowered and more forestry credits become available.
50. GDP in CCRA and Cessation-DEF scenarios is displayed in Table 5. Emissions constraints in the Cessation-DEF scenario decrease 2028 GDP by \$7.5 billion (1.6%) relative to the CCRA scenario. For comparison purposes, New Zealand's GDP shrunk by 2.9% in 2020, relative to 2019, due to the COVID-19 pandemic, although the impact of the health crisis was muted by monetary and fiscal policies.

*Table 5. GDP in the CCRA and Cessation-DEF scenarios, 2024 NZD billion*

| Year         | CCRA             | Cessation-DEF    | GDP change, \$b | GDP change, % |
|--------------|------------------|------------------|-----------------|---------------|
| <b>2028</b>  | \$455.0          | \$447.5          | -\$7.5          | -1.6%         |
| <b>2029</b>  | \$465.4          | \$459.8          | -\$5.7          | -1.2%         |
| <b>2030</b>  | \$475.0          | \$471.5          | -\$3.5          | -0.7%         |
| <b>2031</b>  | \$483.3          | \$480.4          | -\$2.9          | -0.6%         |
| <b>2032</b>  | \$491.3          | \$488.9          | -\$2.3          | -0.5%         |
| <b>Total</b> | <b>\$2,370.0</b> | <b>\$2,348.2</b> | <b>-\$21.9</b>  | <b>-0.9%</b>  |

51. The annual GDP cost of the immediate net-zero constraints decreases over time, as the additional reductions in emissions required by the injunction become smaller. Over the 2028-2032 period, the cumulative decrease in GDP in the Cessation-DEF scenario relative to the CCRA scenario is \$21.9 billion (0.9%).

### 3.2 Immediate net-zero injunction applied to defendant industries (Cessation-IND)

52. Changes in emissions for the net LLGHGs and biogenic CH<sub>4</sub> in the Cessation-IND scenario relative to CCRA levels are displayed in Table 6. As net-zero constraints are applied to more activities than in the Cessation-DEF scenarios, emissions reductions relative to the CCRA scenario are larger. The economy-wide emissions of both net

LLGHGs and CH<sub>4</sub> emissions in 2028 are around 37% lower than in the CCRA scenario.

*Table 6. Changes in net LLGHGs and gross biogenic CH<sub>4</sub> emissions in Cessation-IND scenario relative to the CCRA scenario*

| Year        | Net LLGHGs          |        | Gross CH <sub>4</sub> emissions |        |
|-------------|---------------------|--------|---------------------------------|--------|
|             | MtCO <sub>2</sub> e | %      | MtCO <sub>2</sub> e             | %      |
| <b>2028</b> | -9.07               | -36.8% | -13.45                          | -36.5% |
| <b>2029</b> | -8.24               | -36.4% | -12.51                          | -34.3% |
| <b>2030</b> | -8.00               | -36.6% | -10.31                          | -29.9% |
| <b>2031</b> | -6.29               | -32.2% | -9.66                           | -28.4% |
| <b>2032</b> | -4.48               | -26.0% | -9.01                           | -26.9% |

53. GDP in CCRA and Cessation-IND scenarios is displayed in Table 7. In 2028, GDP in the Cessation-IND scenario is \$32.8 billion (7.2%) lower than in the CCRA scenarios.

*Table 7. GDP in the CCRA and Cessation-IND scenarios, 2024 NZD billion*

| Year         | CCRA             | Cessation-IND    | GDP change, \$b | GDP change, % |
|--------------|------------------|------------------|-----------------|---------------|
| <b>2028</b>  | \$455.0          | \$422.2          | -\$32.8         | -7.2%         |
| <b>2029</b>  | \$465.4          | \$440.5          | -\$25.0         | -5.4%         |
| <b>2030</b>  | \$475.0          | \$455.2          | -\$19.8         | -4.2%         |
| <b>2031</b>  | \$483.3          | \$465.1          | -\$18.2         | -3.8%         |
| <b>2032</b>  | \$491.3          | \$474.5          | -\$16.8         | -3.4%         |
| <b>Total</b> | <b>\$2,370.0</b> | <b>\$2,257.4</b> | <b>-\$112.6</b> | <b>-4.8%</b>  |

54. Over the 2028-2032 period, cumulative GDP decreases by \$112.6 billion. This amount is more than a quarter of New Zealand's 2024 GDP.

## 4 Conclusions

55. The analysis shows that applying Mr Smith's immediate cessation orders would result in very high economic cost, particularly if applied across entire industries.
56. In both scenarios, the economic impact becomes more severe if the litigation imposes limits on the types of units that can be used as offsets (e.g. to exclude production forestry units in favour of permanent forestry units).
57. After the completion of the analysis for this report, the government announced its intention to reset the target for biogenic CH<sub>4</sub> emissions and confirmed that it will not tax agricultural methane emissions.<sup>7</sup> If the revised methane target was included in the CCRA baseline, the emissions and GDP impacts in the cessation scenario would be larger than the estimates above.

<sup>7</sup> Beehive. (2025). Government sets methane targets for 2050 (<https://www.beehive.govt.nz/release/government-sets-methane-targets-2050>).

## Appendix A

### Background

1. In *Smith v Fonterra*, Mr Michael John Smith, a private citizen, is pursuing six New Zealand companies for alleged harm caused by GHG emissions.
2. Mr Smith alleges that through their GHG emitting activities (or sale of products used in GHG emitting activities), the defendants have caused or contributed to a ‘public nuisance’, and/or breach of an entirely new alleged ‘climate change damage’ tort. Mr Smith seeks declarations that their activity is unlawful, and injunctions to require the defendants to change their conduct (described in further detail below).
3. Mr Smith’s claim is brought against each defendant in relation to all of their scope 1, 2, and 3 emissions.<sup>8</sup> In addition to seeking declaratory relief,<sup>9</sup> Mr Smith seeks an injunction requiring the defendants to immediately reduce or offset their scope 1, scope 2 and scope 3 Greenhouse Gas emissions so that their business operations produce net zero Greenhouse Gas emissions (Scenario Cessation-DEF).
4. Mr Smith has not defined what he considers the appropriate measure of “net GHG emissions” to be and, in particular, what activities should be accepted by a court as offsetting gross emissions, pleading that this should be calculated “using a framework for calculating net emissions that is approved by the Court”. However, Mr Smith’s statement of claim is critical of the ability of the current New Zealand regulatory regime to constrain GHG emissions. In particular, Mr Smith claims that:
  - 4.1. the availability of fixed price options, price caps, the cost containment reserve and similar mechanisms in the NZ-ETS artificially suppress the carbon price, meaning that those defendants who are participants in the ETS are not incentivised or required to reduce their emissions in a manner consistent with minimum global reductions necessary to avoid dangerous climate change; and
  - 4.2. the New Zealand regulatory regime does not place hard limits on the amount of GHGs that may be emitted by an individual or in total including due to the

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<sup>8</sup> Mr Smith filed an amended statement of claim on 28 October 2025. The analysis in this report was prepared on the basis of Mr Smith’s second (previous) amended statement of claim. The second amended statement of claim did not capture all of the defendants’ net scope 1, 2 and 3 emissions; for example, the claim against Z Energy Ltd was limited to its emissions associated with the use of petroleum-related fuel products supplied by Z (which comprise most of Z’s Scope 3 emissions). The conclusions in this report do not change if the analysis is carried out against the third statement of claim, and the results do not materially change (save that the emissions and GDP impact of the Cessation-DEF and Cessation-IND scenarios would be slightly higher).

<sup>9</sup> Mr Smith seeks a declaration that the defendants have (individually and/or collectively) unlawfully caused or contributed to a public nuisance or breached a duty owed to him, through their net positive scope 1, scope 2 and scope 3 GHG emissions.

existence of a substantial stockpile of existing units (approximately 52,000,000)<sup>10</sup>, additional auction volumes, free allocation, and the cost containment reserve.

5. It is therefore unclear how the immediate cessation orders that Mr Smith seeks will compare to and/or interact with New Zealand's current regulatory policy. In particular, it is unclear whether Mr Smith would accept that New Zealand Units (NZUs) associated with forestry removals can be utilised to offset gross emissions (or whether he would only accept the use of certain specified NZUs for offset purposes – e.g. those derived from permanent post-1989 forestry removals).
6. Mr Smith pleads that the indirect outcome of successful litigation is that the granting of the above orders will cause rapid sectoral change or flow on effects that will result in other major New Zealand emitters taking similar steps to reduce their emissions either voluntarily or as a result of orders in subsequent proceedings (see scenario Cessation-IND).
7. Consequently, there are two main litigation outcome scenarios if Mr Smith's claim is successful:
  - **Scenario Cessation-DEF:** The defendants are required to immediately reduce their net GHG emissions to zero (either through gross emission reductions or offsetting using emission units).
  - **Scenario Cessation-IND:** All major corporate emitters in New Zealand in the same industries as the defendants are required to immediately reduce their net GHG emissions to zero (either through gross emission reductions or offsetting using emission units).

### New Zealand emissions legislation, targets and policies

8. The CCRA sets long-term targets for New Zealand's GHG emissions. Separate targets are set for emissions of (1) LLGHGs and (2) biogenic CH<sub>4</sub>. LLGHGs include all GHGs except biogenic CH<sub>4</sub>.
9. The CCRA target for LLGHGs is zero net emissions by 2050. CCRA targets for biogenic CH<sub>4</sub> mandate that these emissions are reduced by 10% below the 2017 level by 2030, and by between 24% and 47% below the 2017 level by 2050. On October 12, 2025, the government announced that it intends to change the 2050 reduction in biogenic CH<sub>4</sub> emissions to be between 14% and 24% below the 2017 level.
10. As stepping stones to New Zealand's long-term emissions targets, guided by the CCC, the government sets emissions budgets. Each budget sets the maximum quantity of

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<sup>10</sup> Ministry for the Environment. (2025). Annual updates to New Zealand Emissions Trading Scheme limits and price control settings for units 2025: Technical annex to the consultation document (Publication No. ME 1891). (<https://environment.govt.nz/assets/publications/climate-change/Annual-updates-to-NZ-ETS-limits-and-price-control-settings-for-units-2025-technical-annex-to-the-consultation-document.pdf>)



net emissions (of all GHGs) that the country can emit during a given period (being a five-year period for all except the first emission budget).

11. The first three emission budgets were published in May 2022. These budgets covered the periods 2022-2025, 2026-2030, and 2031-2035. The CCC's advice on the fourth emissions budget, for 2036-2040 was published in November 2024. This advice is currently under review by the government, which will set the fourth emissions budget by December 31, 2027.
12. The NZ-ETS is a key policy tool for reducing emissions in New Zealand. The NZ-ETS was established in 2008 and currently covers around 50% of New Zealand's gross emissions. It includes all GHGs from stationary energy, domestic transport, industrial processes, and waste.
13. NZ-ETS covered entities are required to measure, report, and surrender tradable NZUs for each tonne of GHG emitted, measured in CO<sub>2</sub>e units. The main ways to acquire NZUs is to purchase them from government auctions, purchase them from other participants, or receive them from sequestration activities (removals).
14. Forestry activities that may earn NZUs include post-1989 plantations of exotic or indigenous production or permanent forests. For ETS compliance purposes, the different types of NZUs (including the different types of forestry NZUs) are functionally equivalent.
15. The NZU price reflects supply and demand within the NZ-ETS. The price signal enables businesses to make economically efficient decisions about when and how to reduce emissions or increase removals.
16. Biogenic emissions from pastoral agriculture (CH<sub>4</sub> from livestock and N<sub>2</sub>O from fertiliser/effluent) are not included in the NZ-ETS.