



Carbon Budgeting

Integrated Planning for Climate Action

A carbon budgeting process is essential to securing serious emission reductions. It details the expected carbon flows and how these can be reduced by specific actions.

At present, decisions on climate policy, such as the detailed settings of the Emissions Trading Scheme (ETS), are not geared to achieving any overall emissions outcome. So New Zealand is left with emissions reduction targets but no plan to meet them.

Carbon budgeting puts outcomes first. It takes targets, assesses the options, and describes an overall plan for achieving those outcomes.

The process begins by specifying key emissions reduction targets in legislation. In between these milestones, a series of five-year budgets are progressively struck that specify actions capable of decarbonising the economy to the extent required by the targets.

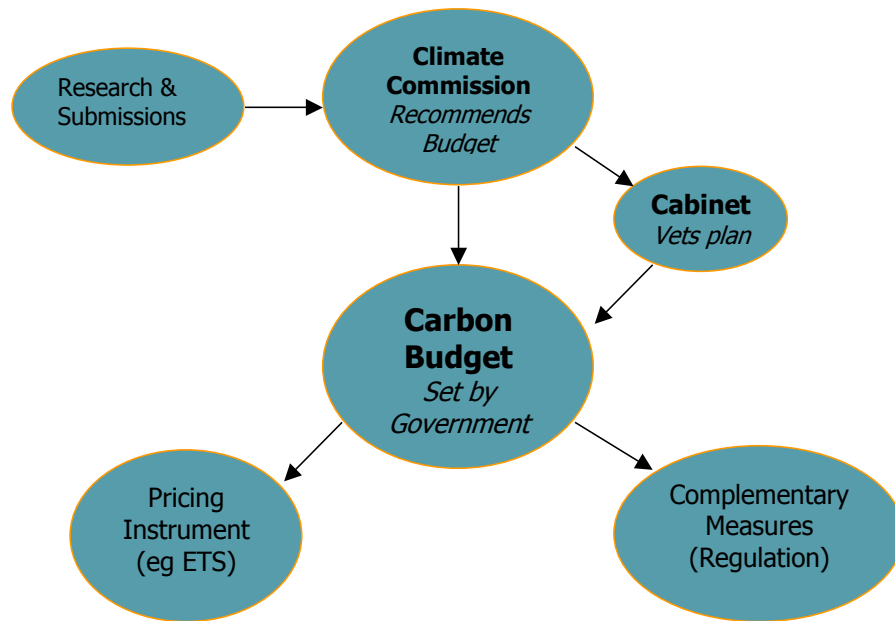
The UK has fully adopted the carbon budgeting process and has established an advisory committee to research options for the government and recommend particular budget limits. Its reports are independent and carry a depth of analysis that allows the options to be fully understood by interested parties before the UK government makes decisions. The establishment of a Climate Commission to fulfill this function in New Zealand would be a critical component of an overall reform package.

The Climate Commission would be responsible for working with all stakeholders to explore options and their costs, in order to devise sector action plans that build into the carbon budgets required. This process involves estimating the impact of pricing instruments and non-price regulatory measures, and testing combinations against the government's financial constraints.

Carbon budgeting becomes the process that integrates the ETS, complementary measures, and financial limitations. It is the commanding heights for domestic climate action.

Carbon budgets are cast in the measure that ultimately matters – tonnes of carbon dioxide equivalent (carbon). They are budgets in the sense that they allocate a scarce commodity – the ability to emit greenhouse gases. But rather than being denominated in dollars, as far as possible they track real flows of carbon. This cuts through many of the problems that arise from accounts based on carbon credits. The credits issued by the New Zealand government for example (NZUs), are not backed by actual carbon flows and the same is true for some credits issued under UN agreements.

Proposed Budget Setting Process



Since the Sustainability Council first proposed a UK style carbon budgeting framework for New Zealand, this concept has progressively gained wider endorsement.¹ Carbon budgeting provides a process that brings together future visions, policy preferences, and practical options, to resolve these into a projection for how the nation's emissions will be shaped in future. This includes working through when a price on carbon is sufficient, and when non-price measures need to be employed in substitute or as complementary measures. The overall set of actions becomes the plan that is embodied in a five-year carbon budget.

An early task for the Commission would involve evaluating emission reduction options to allow domestic targets to be specified that would operate as minimum settings, irrespective of international obligations.

A set of scenarios that demonstrate what can be achieved is provided in a report by Vivid Economics to a cross-party Parliamentary working group.² The report contains a "resourceful" scenario that primarily relies on planting new forests for its effect, and an "innovative" scenario that focuses more on introducing new technology. By 2050, both of these scenarios reduce emissions by about a half to two thirds, depending on the measure used. However, by putting the best of these two together, a valid hybrid yields an ability to cut today's emissions 78% to 89% by 2050, relative to 1990 levels.^{3 4} The report further states that: "If it chooses to substantially afforest and is fortunate enough to benefit from the extensive deployment of new technologies, then it could be possible for New Zealand to achieve domestic net zero emissions by 2050."

¹ The Council's September 2012 carbon budgeting framework was supported by the Green party, the Labour Party, Generation Zero, New Zealand First and the Maori party by September 2014, and was recommended by the Parliamentary Commissioner for the Environment in 2017. See: <http://www.sustainabilitynz.org/wp-content/uploads/2013/02/TheCarbonBudgetDeficit.pdf> and

² Vivid Economics, *Net Zero in New Zealand: Scenarios to achieve domestic emissions neutrality in the second half of the century*, Report prepared for GLOBE-NZ, March 2017.

³ Personal communication, Alex Kazaglis, Vivid Economics, co-author, 24 Aug 2017; and *ibid*, p 32.

⁴ Net 2050 emissions are reduced 78% on net 1990 levels and 89% on gross 1990 levels.