

Submission to the Climate Change Commission on the Emissions Reduction Plan Draft Advice from the Aggregate and Quarry Association June 2023

Introduction

The Aggregate and Quarry Association (AQA) is the industry body representing quarrying companies which produce an estimated 50 million tonnes of aggregate and quarried materials consumed in New Zealand each year.

Funded by its members, the AQA has a mandate to increase understanding of the need for aggregates to New Zealanders, improve our industry and users' technical knowledge of aggregates, and assist in developing a highly skilled workforce within a safe and sustainable work environment.

Thank you for the opportunity to make this brief submission on the Climate Change Commission's (the Commission's) [2023 Draft Advice for Consultation](#) (the Draft Advice).

Key points

- The quarry sector is embracing new hybrid and electric technology as it comes on stream to reduce off road emissions. But it is early days for such technology and its adoption is often not competitive at current prices.
- There are many examples of steps quarry companies have taken to move to electric and hybrid vehicles and machinery.
- We would be pleased to set up quarry visits to improve understanding of the sector and the challenges it faces, and also to show some of these examples.
- National direction under the Resource Management Act (and its successors) needs to be more supportive of quarry locations near to markets to reduce emissions which occur if quarry materials have to be transported large distances.

Submission

Aggregates – crushed rock, gravel and sand – are key material inputs in many supply chains in the construction and road building sector. They are also an essential resource for general construction – concrete, asphalt, mortar and other building products, and for climate change adaptation (discussed below). Aggregates are needed in large quantities. For example, to build one kilometre of a two-lane motorway, around 14,000 tonnes of construction aggregates are needed. The building of an average house requires about 250 tonnes of aggregate. Some of this is used directly in its raw form, some of it in concrete of which aggregate is an essential component in its manufacture, and the dominant component by volume or weight.

The Emissions Reduction Plan

The Aggregate and Quarry Association (AQA) supports New Zealand's and the world's actions to reduce carbon dioxide emissions and New Zealand's goal of achieving net zero emissions by 2050. New Zealand needs to play its part in global commitments to meet the objectives of the 2015 Paris Agreement.

In reducing New Zealand's emissions, it is essential that policies do not lead directly to increased global emissions through domestic economic activity closing down and/or shifting offshore. It is important that the policies recommended in the Emissions Reduction Plan recognise this.

The quarry sector and climate change

The quarry sector is a moderate emitter mainly due to the burning of diesel by vehicles and machinery used in the extraction, processing / crushing and transportation of quarry materials. We say more about this in the next section.

It should also be noted that the sector plays a crucial role in climate change adaptation through making infrastructure more resilient to greater-intensity storms and extreme weather events. Quarried rock and other aggregates are increasingly needed to strengthen sea walls to adapt to sea level rise and provide flood protection generally.

Aggregates' essential role in helping New Zealand adapt to the changing climate has come to the fore recently as part of the post cyclone and flood rebuild and the sector will play a central role in managed retreat as it occurs. We refer you to our [submission](#) on the climate change adaptation plan for more information on this contribution.

Offroad vehicles and machinery

In the Draft Advice the Commission has recommended increased focus on mining and construction emissions specifically offroad vehicles and machinery. On page 121 it says: "Other sectors have not received much attention to date, such as mining and construction. This includes offroad vehicles and machinery that contribute significant emissions, but often fall between central government agencies' focus. There is a lack of evidence on abatement opportunities and enabling policies for these sectors meaning these opportunities have yet to be unlocked."

It should be noted that the quarry sector is very cognisant of the need to reduce its emissions and there are many examples of companies taking proactive steps to decarbonise their operations. Electric conveyors are now quite common in plants where electricity is available, and operators are moving to electric and hybrid offroad vehicles and machinery in increasing numbers.

We have included here some links to recent announcements and actions from [Fulton Hogan](#) (diesel / electric hybrid excavator) and [Blackhead Quarries](#) (an electric dump truck).

We support new technology as it comes on stream. But it is early days for such technology and its adoption is often not competitive at current prices and the rate of technological advance is still not that great.

We invite the Climate Change Commission to discuss the barriers to adoption of this new electric / hybrid technology with us and we would be pleased to set up quarry visits to improve understanding of the sector and the challenges it faces, and also to see some of the examples referred to above.

One of the main barriers to increased uptake is access to electricity in the often-remote parts of New Zealand where the extractive sector operates, and the capacity of the electricity network often comes into play.

Investment in the electricity distribution network must be a priority for the Government if the industry is to decarbonise just as investment in increased generation capacity is. Back up diesel generators could be an option for quarry operators if capacity isn't increased and supply is intermittent.

Proximity and emissions from transport

Another area of quarry operations' impact on emissions is the transportation of quarry materials.

Due to its weight and volume, aggregate is difficult to transport and there are many truckloads of material moved every day. A quarry's location is constrained by the fact that aggregate deposits are 'location specific'. Aggregates can only be sourced from where they are physically located and where the industry is able to access them. This combined with the other factors that councils have to consider in terms of location relative to residential areas and other activities limits where quarries can be sited.

There have been some cases where bad planning has meant that thousands of truckloads of material for some major projects have had to be transported many hundreds of kilometres. Clearly however, quarry sites need to be as close to the market as possible to limit emissions, as well as congestion and cost (an additional 30km travel typically doubles the cost of aggregate).

Councils are generally aware and often supportive of this, but we are recommending that national direction under the Resource Management Act (and its successors) is more enabling of quarry locations near to markets in order to reduce emissions.

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