Minerals West Coast submission on discussion document: Transitioning to a low-emissions and climate-resilient future

24th November 2021

About Minerals West Coast

1. Minerals West Coast is an industry group representing the minerals sector on the West Coast. Our mission is to promote, encourage, and support the mining industry on the West Coast. We are governed by a group of voluntary trustees with a direct interest in the industry in the region.
2. Our members include gold and coal mining companies, as well as those with an interest in quarrying and civil earthmoving. These businesses range from small scale, solo operators, to larger firms employing anywhere up to one hundred staff across different sites, as well as New Zealand's largest mining companies. Other members include training institutes, engineering and mechanical support services, and geologists.
3. Minerals West Coast estimates the West Coast minerals sector employs about 600 people directly, in doing so supporting about as many contractors and support units. Mining jobs in the region pay about double the median annual salary. In 2020 Infometrics data indicated the sector contributed to 8.5% of gross regional product – the third highest contribution overall.
4. According to Infometrics, in 2019 the West Coast's median annual earnings per labour unit were the highest of all sectors – about $83,910 – compared to a median across all sectors of $44,010. Sectors associated with tourism, notably retail trade ($33,510) and accommodation & food services ($22,310) were third lowest and lowest, respectively.

This submission

Minerals West Coast accepts the need to reduce greenhouse gas emissions to avoid maintain global temperatures within 1.5 °C of preindustrial levels.

That the increase in atmospheric concentration of carbon dioxide and global temperatures have correlated with monumental increases in life expectancy, living standards, population levels, education rates, literacy, democracy, and vaccination rates and reductions in extreme poverty and child mortality is no coincidence – the abundance of energy in the past two centuries (stemming from coal and latterly oil and gas) has enabled a larger number of humans to live longer, more comfortable lives.

If this increase in prosperity and all that it has made possible is to be retained (or in the cases of developing nations, attained) in the absence of fossil fuels, a clear and credible alternative that can provide the energy fossil fuels have provided in recent centuries must be found. New Zealand, unlike most developed nations, has no access to nuclear energy (as is used in France and Sweden, developed nations with some of the lowest per capita emissions). Our country has had a fast growing population in recent decades, and due to our small population and topography struggles to make the economics of public transport work. We and rely heavily on agriculture (our high animal protein output per capita means a high number of sheep and cattle per capita, and in turn high methane emissions per capita).

Minerals West Coast does not wish to concern itself with the questions outlined in this discussion document, simply to address ill-founded assumptions, which, if upheld, risk New Zealand developing inappropriate policy settings for climate change action. This submission's points are made below.

Point 1: There are no clear alternatives to natural gas or coal for large industrial users at the scale required

This document is the fifth occasion since January 2019 that one branch of government or another has been advised by energy users of the limitations or challenges in switching in a commercially viable way, at scale, from coal or natural gas to wood-based fuels or electricity. The government has been told repeatedly, almost exhaustively, that both biomass and electricity have significant limitations in their potential to replace natural gas and coal in New Zealand's energy mix, but the government repeatedly ignored such advice and cherry-picked examples of select factories that have partially reduced (and in a few instances, eliminated) coal or natural gas use through introducing some mix of wood fuels or electricity into their energy supply, in niche or boutique circumstances.

In almost all cases, this has been achieved through use of government subsidies – that is to say, money taken from freezing workers (and others) has been put to the benefit of farmer-shareholder or corporate-owned meat companies to pay for the capital cost of replacing fossil fuel plant at a freezing works. This is hardly equitable.

New Zealand's industrial sector continues to rely heavily on coal and natural gas

Coal remains vital to New Zealand's ability to produce and process food, for the manufacturing of steel, cement and lime, and for maintaining a secure supply of electricity.

It is for that reason that coal miners (as is the case for nurses and supermarket workers) have continued to go to work in the face of all Covid-19 alert level restrictions since March 2020 – coal is at present ***essential*** to meeting the most basic and essential of New Zealanders' needs – food, shelter, water, and warmth.

Eventually, New Zealand industries will transition away from coal. In the meantime, New Zealanders will continue to need coal.

Biomass supply constraints in coming decades

The government has pinned its hopes on biomass as an alternative fuel to fossil fuels (namely natural gas and coal) for New Zealand's industrial users.

Those firms that are able to move from coal to wood-based fuels (to date many have chosen to do so only with taxpayer support) have done so, but for those who haven't, it's because it isn't viable. The availability of biomass residues is forecast to fall in the coming decades out to 2050 – the deadline for the government's target of net carbon neutrality. This was analysed by Scion (a Crown research institute for forestry) and is shown below. This graph can be found on page 5 of the full report, available here.

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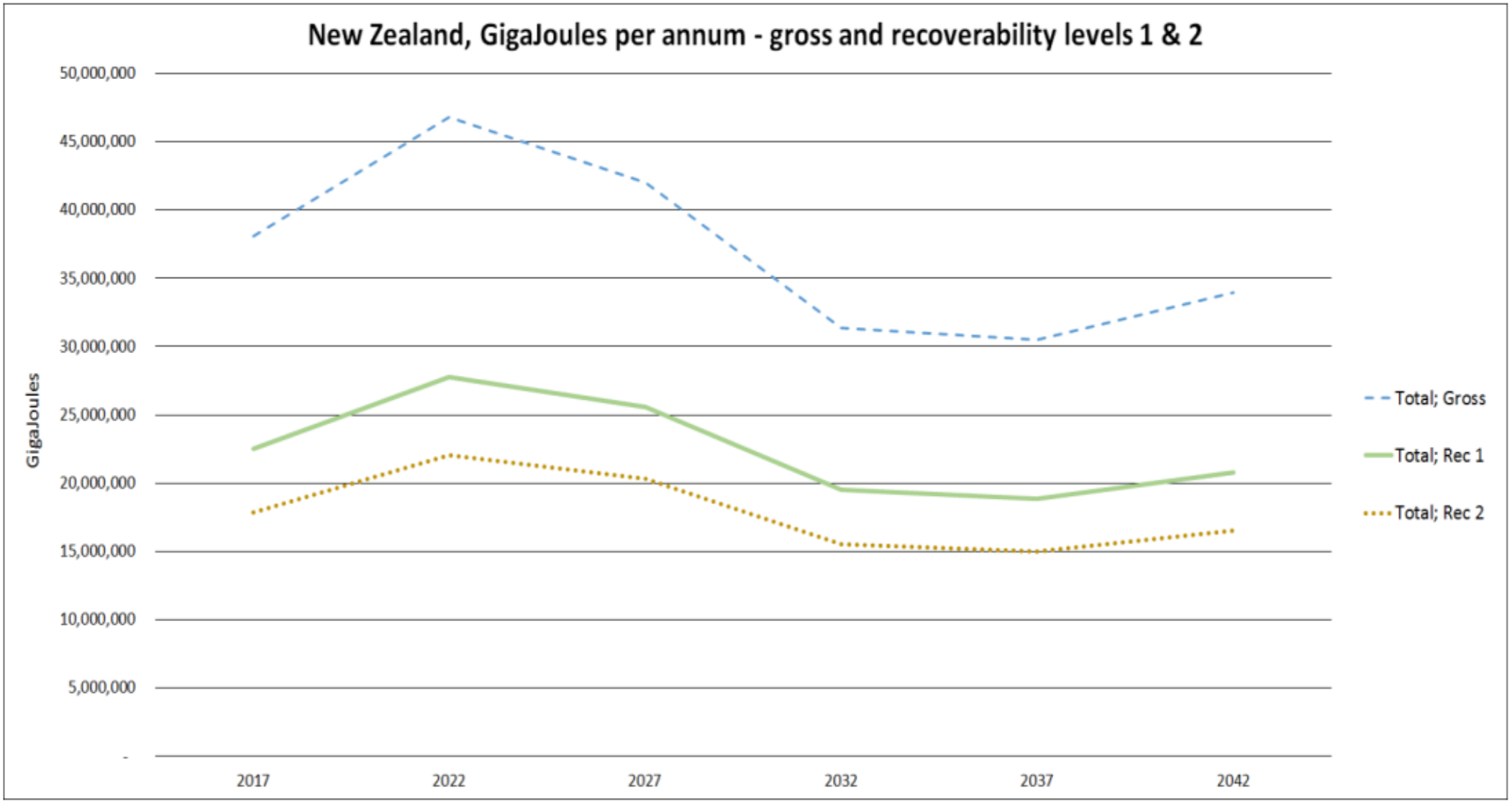


To put these numbers in context, under both recovery rates put together by Scion (full report available here) residues of biomass peak in 2022, and fall by between 20%-25% between now and the decade of the 2030s, only edging up slightly into the 2040s.

This is largely driven by the fact New Zealand is nearing the end of harvesting a boom of trees that were planted in the 1990s (98,000 hectares of new plantings in 1994) before falling significantly in the early 2000s (as low as 2,000 hectares of new plantings by 2007).

Forecast supply is only going to fall – and if industrial energy consumers and the government are to be believed, demand is likely to increase as those who are able to switch from natural gas or coal to biomass do so, demand will only rise.

The simplest understanding of economic principles should allow a person to predict what happens when supply falls at the same time as demand increases – the price goes up, how high, no one knows.

The government has so far produced little evidence as to where biomass supply will come from, or what market forces will cause it to become cost competitive with coal, other than raising the NZU price to a level at which there is a risk of business closures, exporting production, jobs and emissions.

Electricity prices are too high to make largescale conversion from coal feasible

The Climate Change Commission's analysis indicates that electricity is about 3-5 times the cost of coal and natural gas for large industrial users. At this price it is simply not feasible for any business consuming large quantities of energy to switch from coal or natural gas to electricity, and remain profitable.

The government has subsidised the capital cost of conversions to electricity-powered process heat technology for some companies, but this is not the main barrier; the main barrier will be significantly higher ongoing operational expenditure (or running costs).

In its submission to the Climate Change Commission, Fonterra ruled out electrifying any of its process heat for this reason – an investigation into electrifying its Edendale Plant in Southland (one of its largest) found that the overall operating costs of the site (including energy, labour, and other inputs) would have increased by 50%.

Fonterra then looked at electrifying its Stirling factory in Otago, but again found the cost was too great, and has since said electrification, while reducing emissions, is simply too expensive.

Meat company ANZCO has said the cost of electrification of its boilers would be over $4 million in upfront costs and result in its energy bill more than tripling from $5.32 million a year to $16.5 million, increasing its total operating expense as a business by 42% a year.

Most meat companies run profits (if at all) of between 1%-3% and have, arguably, little capacity to absorb such an increase in running costs.

Point #2: Remaining competitive internationally and domestically

For many sectors of New Zealand's economy, the energy input is a fundamental of the business model – animal proteins (whether meat or milk) must be processed before being sent to market, and that requires significant energy.

If a one taxi driver were to find the cost of fuelling their car increased three or five fold, or fuel was simply not available at any price, while most of the competing taxi drivers were not facing this cost increase or shortage of fuel, this taxi driver would almost certainly lose customers to his or her more competitive rivals in the industry.

If New Zealand's food producers cannot compete on price internationally, they will simply lose market share to others who can get their milk powder, cheese, lamb chops, or tomatoes to market at a lower price.

This government's expectation appears to be that if New Zealand's price on emissions increases, other countries will follow suit – the evidence is this is not the case.

In April 2021, only 22% of global greenhouse gas emissions were covered by some form of emissions price (either an emissions trading scheme or a carbon tax), which is to say 78% of all emissions were not.

Of the emissions that are priced in some way, the average price per tonne of carbon dioxide emitted is about US$3.00 – at the time of writing, the New Zealand Emissions Trading Scheme's spot price sits about US$45.00.

To suggest we should continue to increase this cost on New Zealand companies at the same time as removing allocations of free units for emissions-intensive, trade-exposed (EITE) businesses and industries is taking a significant gamble with the livelihoods and wellbeing of millions of New Zealanders.

A block of butter is a block of butter, a lamb chop is a lamb chop, and a tomato is a tomato. The idea people will simply pay more for the food New Zealand produces is not based on any evidence. If New Zealand's cost of production for exporting pasture in the form of animal proteins (namely meat and dairy) or hothouse vegetables (all of which require significant energy inputs) increases, we will most likely lose market share to overseas competitors.

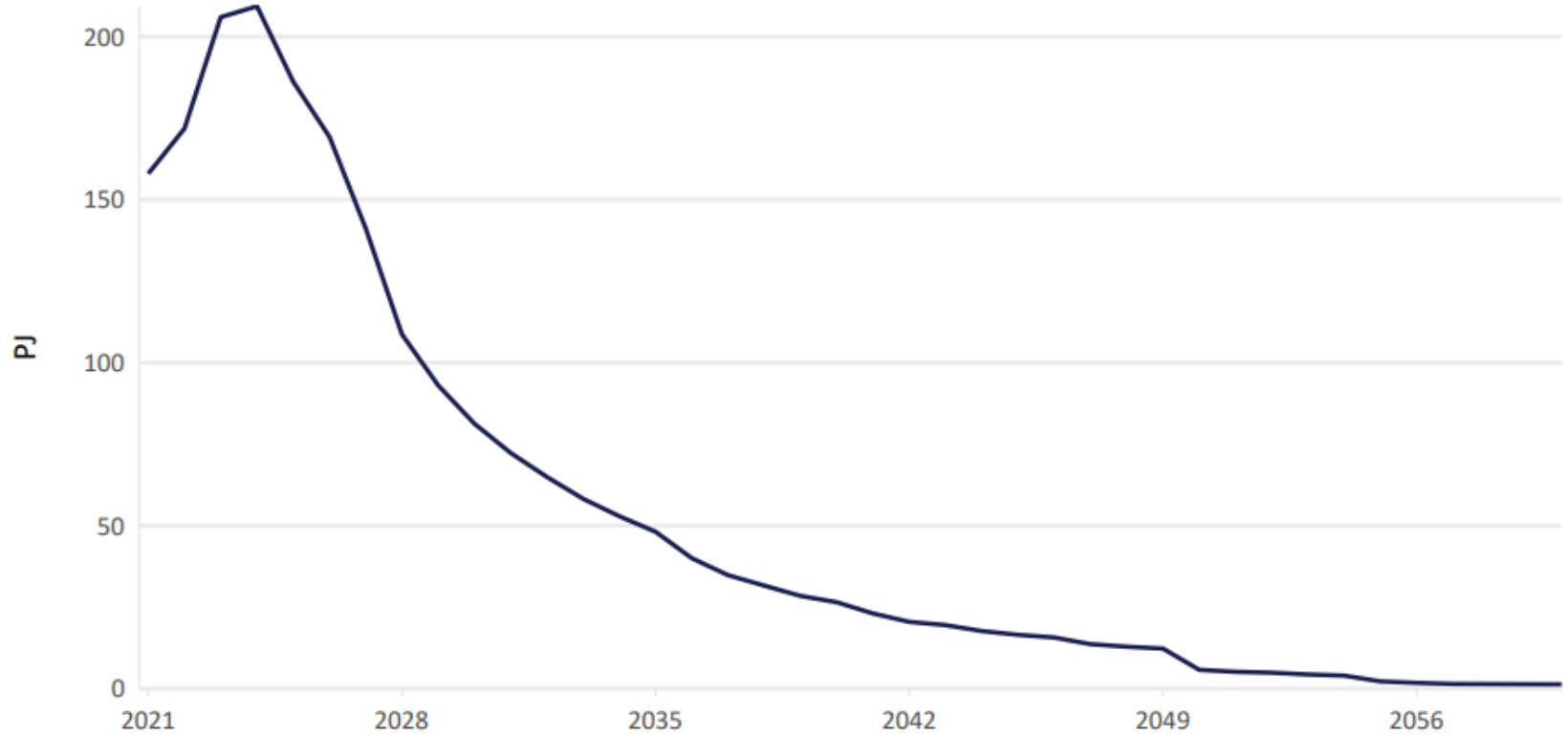
Our domestically produced food will find it increasingly difficult to compete against imports. This extends to domestically manufactured steel and cement – which already faces import competition – both of which are vital to ensure there is adequate housing and infrastructure for New Zealand in the coming decades, including infrastructure to mitigate GHG emissions.

If the cost of production increases, and returns either stagnate or fall, it is a reasonable assumption to make that those in the business of producing steel, cement, and even food will simply end up deciding it is not worth their while to do so in New Zealand and wind down or end their New Zealand operations. This is hardly tenable at any time, and especially so during Covid-19 times.

Point #3: New Zealand's energy security is already at risk

With an enormous reliance on natural gas for energy in the North Island, and forecast falling gas production that is highly unlikely to be remedied due to the 2018 decision to ban offshore oil and gas exploration in this country, gas production is forecast to fall between 50%-75% in the next 10-15 years, energy users around New Zealand (such as food producers in the North Island) who currently rely on natural gas will find themselves unable to mee their energy needs. At a time when New Zealand is burning more coal than it has in more than fifteen years (increasingly supplied by imports) New Zealand coal mining companies, largely as a result of government policy, are winding down some parts of their operations – it is important to note that this is not because their customers have switched fuels. In fact, some customers/coal users are simply exiting their businesses altogether.

Figure F.7: Gas production forecast



As reported to MBIE by field operators

The government has no evidence wood fuels will become more widely available, technologically effective, or cheaper – the same can be said for electricity, hydrogen, and every other alternative energy source that has yet to be proven.

The current policy mix has this country charting a course that may be devastating for our economy at a national and household level, while not benefiting global climate.

Point #4: Individuals and communities are best placed to make their own decisions, within over-arching policy settings and regulatory constraints, not central government

The document makes very clear what the government's thoughts are on how to manage the move from an economy and a society reliable on cheap fossil fuels meeting our energy needs to one where cheap renewable energy sources meet our energy needs.

If coal mining declines in New Zealand, either due to market forces or as a result of government policies, individual coal miners and their families will make decisions about what to do. They may choose to relocate to other areas of New Zealand where knowledge and capability in earthmoving is required, but if wages and opportunities are more lucrative in Australia's mining industry (which will likely be the case) then that is likely where miners on the West Coast and elsewhere in New Zealand may choose to go. Such an exodus of New Zealanders to Australia has happened before.

A society is made up of people, and people cannot simply be rearranged like furniture by well-meaning politicians and government staff.

People will seek training that they feel will benefit them – education is a service no different to plumbing or panel beating, and people will only invest money and time in education if they think they will be better off for it. An army of what are effectively no more than government-paid high school careers advisers aren't much better placed to give an unemployed coal miner a future direction than the miner themselves or their close friends and families.

The government can't engineer "transition aligned growth" anymore than it can engineer growth itself. The government can certainly cause the economy to contract through policies that render New Zealand less competitive. Individuals will react to these policies. Companies will react to these policies.

In the absence of coal, the logical move for a steel or cement manufacturer will most likely not be to move to unproven hydrogen or biomass alternatives, it will simply be to cease operations in New Zealand and, if possible, relocate to Australia or another jurisdiction where profitable business is possible.

New Zealanders will not stop wanting food, work, shelter, and a decent standard of living – indeed, as Norman Kirk once said, *"All Kiwis want is someone to love, somewhere to live, somewhere to work, and something to hope for".*

The path the government is taking – that is to say, putting in place policies that will deprive many of our essential industries of natural gas and coal when there is scant evidence the alternatives being set forth can actually take their place – is setting us on path for an energy crisis, with potentially massive impact on New Zealanders' prosperity and standard of living.

ENDS – if you require any further information about this submission, please contact Minerals West Coast by phoning its manager, Patrick Phelps, on 021 238 6846, or emailing manager@mwc.org.nz