



Briefing to incoming ministers on the regional and national significance of the West Coast mining sector



INTRODUCTION

The West Coast mining industry's history dates back eight centuries to the Polynesian ancestors of the Māori. Since the discovery of pounamu, the region's wealth of resources has brought people to te Tai Poutini and allowed them to make a life here. In 2020, the mining industry continues to support many of the jobs and incomes upon which our small and close-knit communities are built.

Minerals West Coast is an industry group representing the minerals sector on the West Coast. Our mission is to promote, encourage, and support the region's mining industry. The organisation is governed by a group of voluntary trustees, all of whom have a direct interest in the region's mining industry.

Minerals West Coast would welcome the opportunity to engage with the government in the following areas:

- The value of mining to the West Coast economy
- The relationship between mining and New Zealand's indigenous biodiversity, particularly with regard to mining on public conservation land and proposals for a national policy statement for indigenous biodiversity
- Review of the Crown Minerals Act
- The New Zealand Emissions Trading Scheme, non-ETS climate change action policies, and the future of coal production and consumption in New Zealand

This briefing outlines the matters on which any incoming government should be well informed before making any legislative decisions which may adversely impact the West Coast's minerals sector. On behalf of Minerals West Coast, thank you for giving these matters due consideration.

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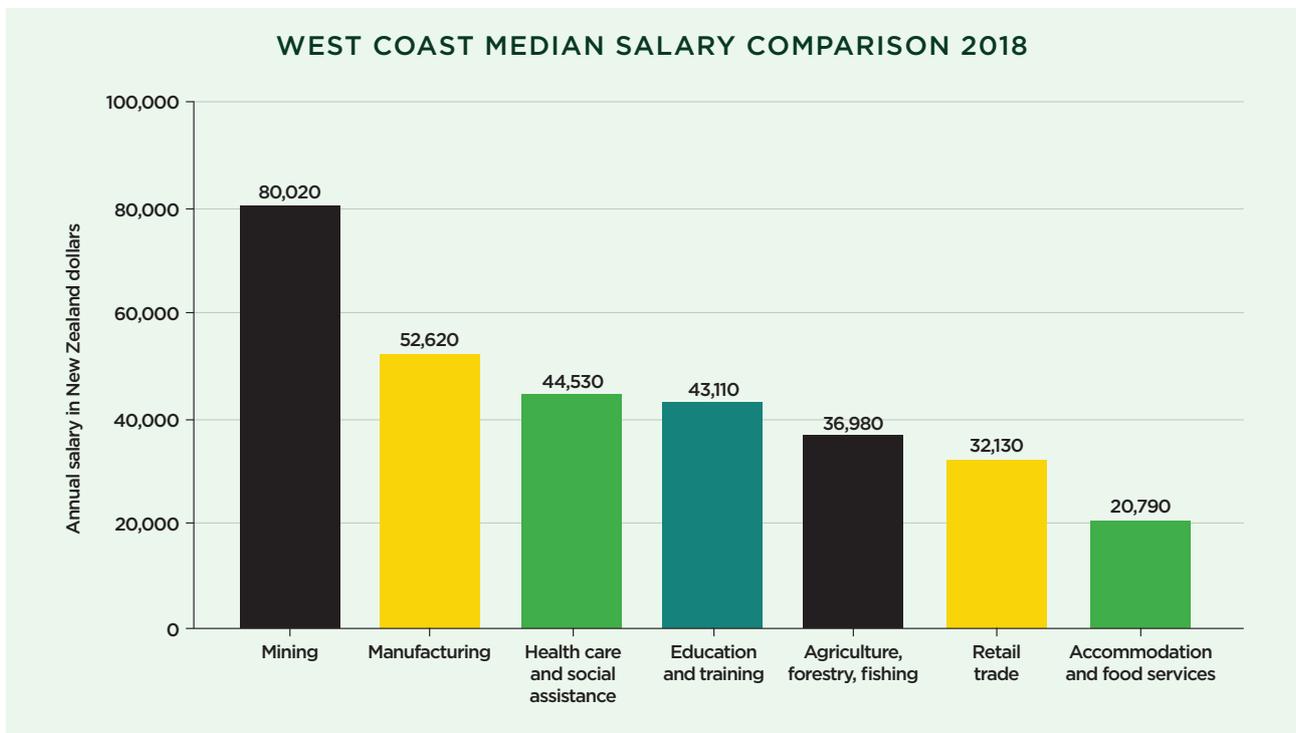


THE VALUE OF MINERALS TO THE WEST COAST ECONOMY

Mining on the West Coast dates back to when early Māori first ventured across Kā Tiritiri o te Moana and discovered the region’s vast resources of pounamu. Following the arrival of Pākehā, resident Māori led European prospectors to the first significant finds of gold and coal. The development of these resources from 1864 onwards is what spurred the region’s early settlement and economic development.

Today the West Coast economy includes agriculture, manufacturing, tourism, fishing, and forestry, but has remained land based. Among these industries, mining pays the highest wages and is the most productive.

There are 500 people directly employed in the sector on the West Coast today, along with many high paid manufacturing and servicing jobs which rely heavily on mining.



The above graph is based on statistics from Infometrics. It shows the significance of mining’s ability to pay high wages due to its high productivity. Mining’s role in supporting the wider economy is not through service jobs alone, but also through the provision of coal, an essential source of fuel¹ due to its role as an energy source in the food sector. Infometrics data² says in 2019, 443 West Coasters worked in dairy product manufacturing, 282 worked in meat product manufacturing, 1,008 West Coasters worked as dairy farmers, and 200 worked in dry stock farming. Cost-effective and reliable energy underpins the viability of all these sectors at both a regional and at a national level.

1 (Frykberg, 2020)
2 (Infometrics, 2020)

MINING'S ROLE PROTECTING AOTEAROA NEW ZEALAND'S PRECIOUS AND ENDANGERED PLANTS AND ANIMALS

It is estimated about 4,000 species in Aotearoa are at risk of extinction³. Bi-partisan support for a goal to be predator free by the year 2050 will have to be met with action on a massive scale if our grandchildren are to grow up with New Zealand's native plants and animals in greater abundance than what we see today.

Since its formation in April 1987, the Department of Conservation has been made responsible for more than 8.8 million hectares of conservation land⁴ (about a third of New Zealand's land area). In that time, access arrangements (which grant miners access to an area of conservation land under agreed conditions) have been granted over about 3,512 hectares of conservation land – about 0.04% of the conservation estate.

To mine on public conservation land, a person or business requires at least the following:

- A mining permit under the Crown Minerals Act (a commercial right to the minerals)
- An access arrangement with the Department of Conservation (this specifies the area the miner may access, the requirements for rehabilitation of the land, and compensation to be paid to DOC)
- A concession from DOC for any roads, buildings, or other ancillary infrastructure during the life of the mine that lie outside the area of the mining permit
- Resource consent under the Resource Management Act from the appropriate regional or territorial authority/authorities to manage potential and actual effects on land and water, as well as noise, dust etc that may affect neighbours or other affected parties

The above list outlines the bare minimum of permissions required of a miner wanting access to public conservation land, and further permissions are often also required.

Schedule 4 of the Crown Minerals Act heavily proscribes mining within certain defined areas. On the conservation estate, this includes national parks, wilderness areas, and some categories of reserves – in total about 42% of conservation land. This means in practice it is only the 58% of conservation land outside Schedule 4 of the Crown Minerals Act where permits may be readily granted, and access arrangements may be approved if the right conditions are met.

CONSERVATION FUNDING HASN'T BEEN ENOUGH TO HALT THE DECLINE OF OUR NATIVE PLANTS AND ANIMALS

Of New Zealand's 168 remaining native bird species, 81 are considered to be in 'some trouble' (48%), and 54 are considered to be in 'serious trouble' (32%) – a mere 33 (20%) are considered to be doing okay⁵. This is to say nothing of our native bats, amphibians and insects, or plants and landscapes under threat from climate change and more than 300 exotic invasive weeds.⁶

MINING ON CONSERVATION LAND HAS A PART TO PLAY IN PROTECTING OUR NATIVE SPECIES

In 2010, former Parliamentary Commissioner for the Environment, Dr Jan Wright, assessed the issue of mining on conservation land and concluded there was scope for a 'win-win'. This was due to the relatively localised impact of mining, and the ability for compensation revenue to DOC to be put towards addressing the most significant threat to the conservation estate – introduced plant and animal pests. It is worth reading this report in full on the PCE's website, [available here](#).

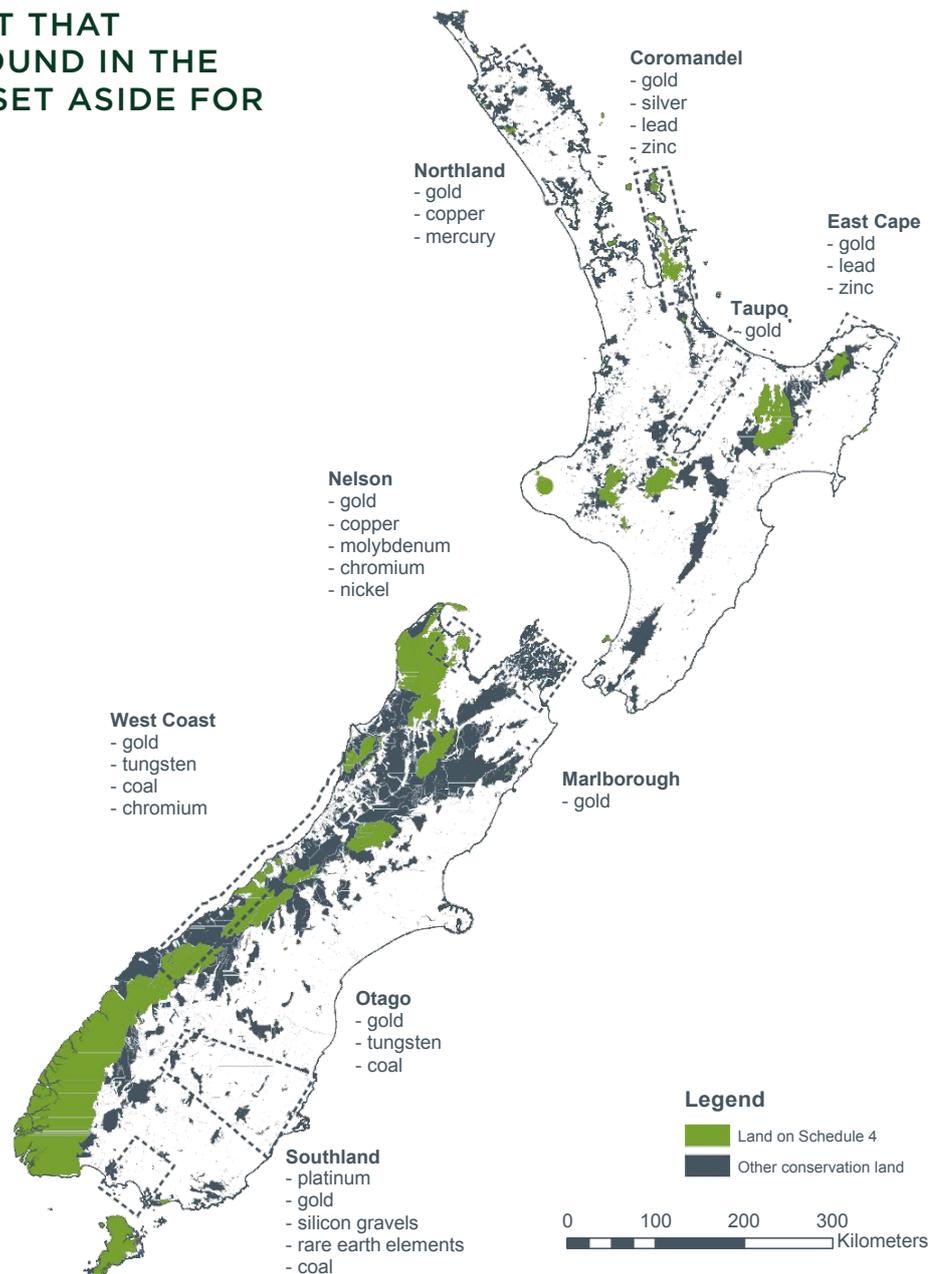
3 (Ministry for the Environment, 2019)

4 (Parliamentary Commissioner for the Environment, 2013)

5 (Parliamentary Commissioner for the Environment, 2017)

6 (New Zealand Plant Conservation Network, 2020)

**IT IS NO ACCIDENT THAT
MINERALS ARE FOUND IN THE
AREAS WE HAVE SET ASIDE FOR
PROTECTION**



The above map (sourced from the PCE’s report on mining on conservation land) shows an outline of the conservation estate, marking Schedule 4 land where mining is heavily proscribed, as well as the remainder of the conservation estate where applications are assessed on a case-by-case basis. If one were to run a line through the axis of the conservation estate, it would run from the southwest to the northeast.

This follows the Indo-Australasian and Pacific tectonic plate boundary, and the line upon which New Zealand’s mountains run. The core of what makes up the conservation estate today built up historically from land which at the time it was protected had no economic value – a convenient combination of high scenic value and limited productive value.⁷ Significant resource potential remains on the West Coast, but much of this is on DOC-administered land, which covers about 82% of the region. Provided these resources are developed within the mandates of the relevant laws and regulations, Minerals West Coast considers a win-win can be achieved.

7 (Salmon, 2013)

BIODIVERSITY VALUES SHOULD BE THE FOCUS, NOT LAND CLASSIFICATION

Outside of the land listed under Schedule 4 of the CMA, conservation land classification and biodiversity values vary greatly. For example, an area of regenerating gorse, mānuka, and kamahi would not have the same biodiversity values as a mature area of mixed podocarp-broadleaf forest. When a miner wishes to mine on conservation land, an application will need to outline, among other things, an assessment of environmental effects. This assesses the biodiversity values that would be adversely affected if mining were to occur, and what steps would be taken to ensure that over time the best conservation outcome is achieved.

A great deal of the discussion over recent years has focussed on one classification of land for which DOC is responsible – stewardship land. Reviewing the status of this land is not necessarily a productive use of the department’s limited resources. A case-by-case analysis when the department receives an application for an access arrangement is the most efficient way to ensure resources are accessible, while ensuring that biodiversity values are not irreversibly compromised. Today, there are about 2.82 million ha of stewardship land nationwide. This makes up 10 percent of New Zealand’s entire land mass, an area about 800 times the size of the 3,512 ha footprint of mining on conservation land over the past three decades (this is based on DOC information released in 2018 under the Official Information Act).

The case-by-case basis on which applications are assessed is an appropriate and efficient approach for both the mining industry and biodiversity outcomes. That is because miners are required under conditions of regulatory approvals to rehabilitate disturbed land, post environmental bonds, and offset and/or compensate for adverse effects on biodiversity at other sites (e.g., via funding for animal pest and weed control), with a long-term aim of achieving a net gain for biodiversity.

PRIVATE PROPERTY RIGHTS AND PROTECTING PRIVATELY OWNED INDIGENOUS BIODIVERSITY

The previous coalition government sought to introduce a national policy statement for indigenous biodiversity under the RMA. It is understood this government intends to proceed with the work in this area from the previous term. If this NPS were implemented as drafted, it could render non-urban land-based economic activity in many areas of the West Coast practically impossible. A significant concern for the region’s mining sector and for the West Coast generally is the potential for areas (in some cases significant portions) of some landowners’ properties to be classified as ‘significant natural areas’. This impact could mean a landowner may not be able to turn land from unproductive use (forest or wetland) into land from which they can draw income (productive farmland, or mining). For many landowners, land may be their largest if not only asset, and they would be left with property from which they could not earn an income or sell as a profitable investment.

This would be a case of socialising benefits and privatising costs. Compensation to landowners was ruled out by the previous government even though there is an existing model for protecting privately owned indigenous biodiversity through the Nature Heritage Fund and the Queen Elizabeth II National Trust. Since their inception, these two entities have successfully protected over 500,000 hectares of ecologically valuable privately owned land.

The implications on public land of the proposed policy would be that effectively mining would not be possible on conservation land, irrespective of high or low conservation values.

COAL MINING AND CLIMATE CHANGE RESPONSE

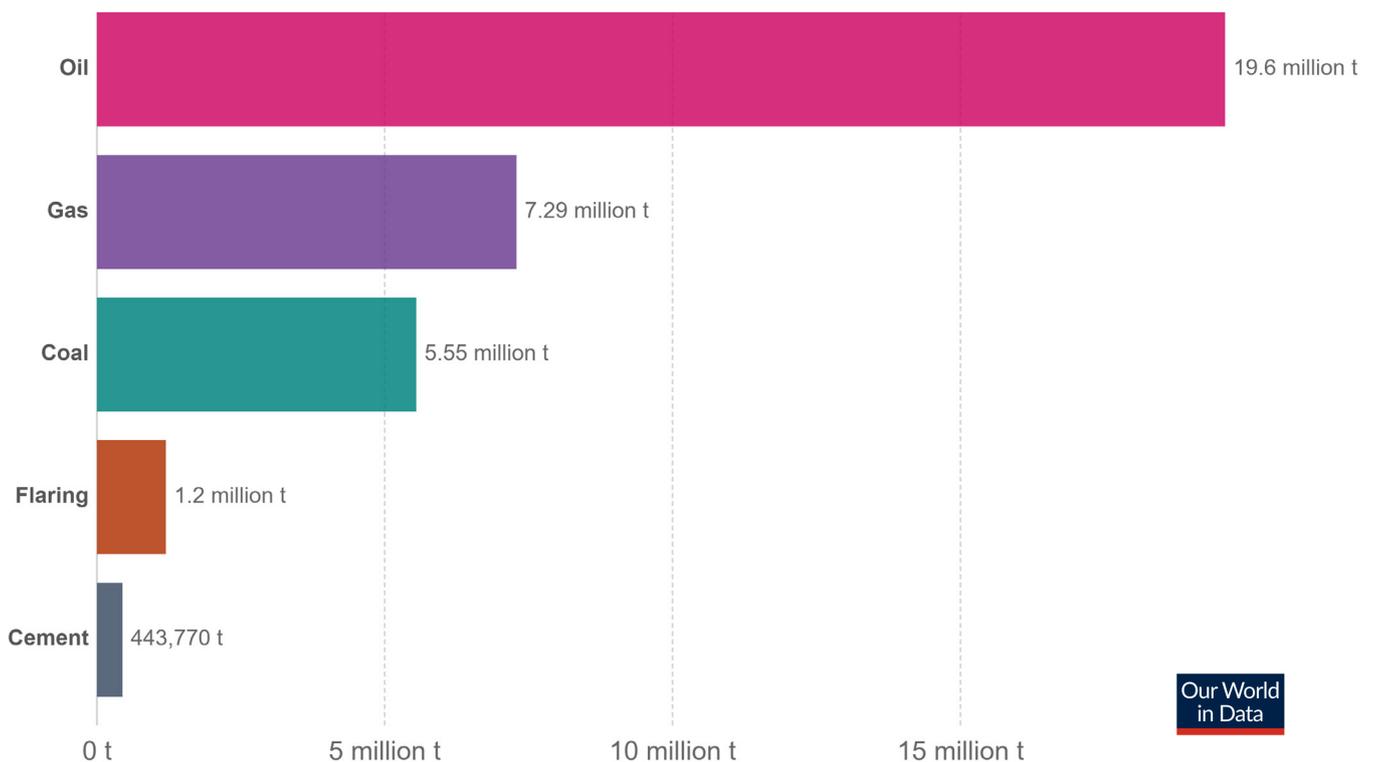
Successive governments have made climate change commitments, most notably the signing of the Paris Agreement in 2015, and successive amendments to the Climate Change Response Act, the latest, in 2019.

In 2018, New Zealand's total greenhouse gas emissions amounted to 78.9 million tonnes of CO₂e, of which 35.1 Mt was carbon dioxide.⁸ Coal use in New Zealand accounted for 5.6 Mt of CO₂ emissions⁹ – 7 percent of total emissions.

These emissions are not insignificant, but are much less than those coming from oil, which accounts for 24.8% of New Zealand's gross emissions including agriculture (mainly due to transport) and less than natural gas, which accounts for 9.2% of New Zealand's emissions, as is shown in the below graph sourced from Our World in Data.

To put it bluntly, this government's singling out of reducing New Zealand's coal use as a priority for meeting New Zealand's climate change commitments will do little to help our emissions profile while threatening large sectors of the economy.

CO₂ EMISSIONS BY FUEL, NEW ZEALAND 2018



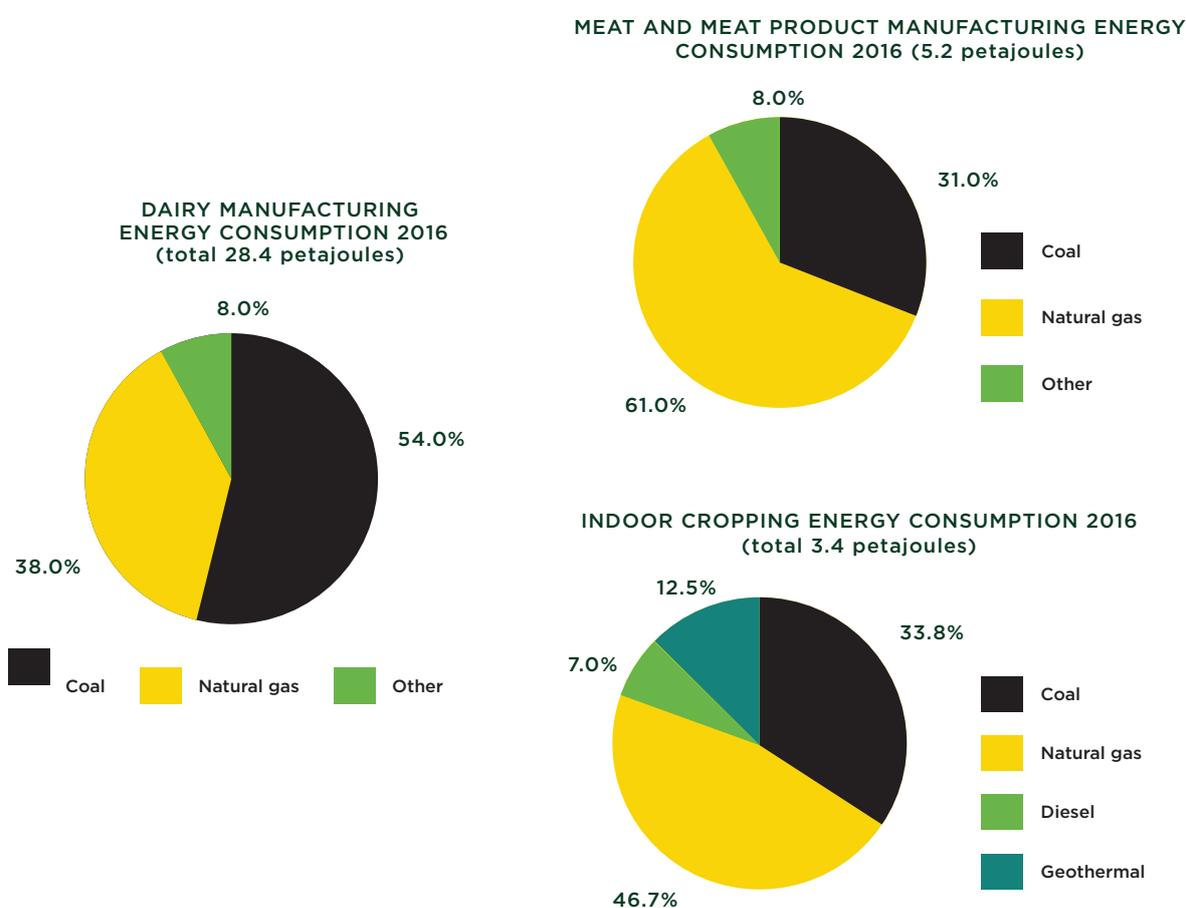
Source: Global Carbon Project (GCP) and Carbon Dioxide Information Analysis Center (CDIAC) Global Carbon Project (GCP) and Carbon Dioxide Information Analysis Center (CDIAC)
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

8 (Ministry for the Environment, 2020)

9 (Our World in Data, 2020)

COST, EFFICACY, AND RELIABILITY OF ALTERNATIVES ARE WHY NEW ZEALAND STILL NEEDS COAL

In 2019, New Zealand consumed about 63 petajoules¹⁰ of coal (about 7% of New Zealand's total energy needs). This was used mainly across the electricity, steel manufacturing, and food producing sectors. Other significant consumers include manufacturing of non-metallic minerals such as cement, lime, glass, and ceramics. Coal's use alongside natural gas backing up an electricity system dependant on generation from renewable sources with varying output is difficult to displace, as is its use as a chemical feedstock at the Glenbrook steel mill. As such, much of the focus on reducing New Zealand's coal consumption has centred on process heat. The figures below show the extent to which New Zealand still relies on coal and natural gas to process animal proteins such as milk and meat products, or to grow fresh fruit and vegetables in hothouses.



ELECTRIFICATION AND CONVERSION TO WOOD FUELS HAVE LIMITED ABILITY TO REPLACE FOSSIL FUELS AT PRESENT

The two main alternatives put forward for coal in industrial use are electricity or wood products such as chips, pellets, or wood waste. There are significant limitations to either of these options.

10 (Ministry of Business, Innovation, and Employment, 2020)

BARRIERS TO WOOD BEING USED AS AN ALTERNATIVE TO COAL

The starting point with wood and biomass alternatives to coal is availability. In the 2019 calendar year, coal across all its uses in New Zealand met demand for 63 petajoules. Crown research institute, Scion, is charged with providing research and information on the forestry sector. It estimates there are, for 2020, between 20 and 25 petajoules of recoverable biomass.¹¹ But national figures are less important than regional figures, noting that the biomass supply is heavily concentrated in the Bay of Plenty (wood waste) and Canterbury (agricultural waste). Biomass feedstock are not generally economic to transport long distances.¹²

Supply of wood fuels is already an issue, and this will only grow more acute. During the 1990s when New Zealand was experiencing a plantation forestry boom, the average number of new hectares planted per year was 55,400 ha. In the 2000s, this fell to 13,400 ha, and by the 2010s, it was just 7,600 ha.

Harvesting rates and recoverable woody biomass residues are projected to fall in the coming decades.¹³ Scion projections forecast a peak recoverability of 22 petajoules of biomass in 2022, then dropping to 15 petajoules by through the 2030s. Almost half of this potentially recoverable residue is concentrated in Canterbury and the Bay of Plenty due to crop and forestry waste, respectively.¹⁴ In 2019, New Zealand consumed about 599.3 petajoules of energy, of which coal constituted about 63 petajoules and natural gas 84.5.

While present and forecast biomass supplies fall well short of probable demand from coal and gas consumers nationally, at a local level, these gaps can be greater still.

To give one local example, the West Coast is estimated¹⁵ to consume 1.4 petajoules of coal per annum – residual biomass supply is estimated at 0.22 petajoules per annum.

Whichever way one wishes to slice the numbers, the use of biomass in place of coal doesn't add up.

COST IS THE BIGGEST BARRIER TO ELECTRIFICATION

The main barrier to electrification for industrial energy users in New Zealand is cost. Until there is significant expansion to existing electricity generation and lines capacity this issue will continue. For now, electricity is simply too expensive to be feasible for businesses and industries currently using coal. To quote directly from some industrial users:

“...previous investigation into electrification our Edendale plant, in Southland, estimated that we would have increased the site's operating costs by about 50 percent, and this would also have required an investment from Fonterra of about \$160 million in upgrading the electrical supply to the site.” – **Fonterra, 2019**¹⁶

“One large processor stated that if it was to go to completely electric power (and abandon coal and gas), the electric power demand would double, as well as result in significant capital cost to change over. One processing plant, for example, uses almost 10,000 tonnes of coal a year, at almost \$2.5 million. To change to electricity, the cost would be \$4.6 million a year.” – **Meat Industry Association**¹⁷

“...being rurally located and needing significant energy, the power companies cannot supply the amount of electricity that would be required due to transmission constraints. It is also cost prohibitive as a fuel source. For example, a South Island based greenhouse grower advised conversion to electricity would triple their energy costs.” – **Horticulture New Zealand**¹⁸

11 (Hall, 2017)

12 (Scion, 2018)

13 (Hall, 2017)

14 (Hall, 2017)

15 (Ministry of Business, Innovation, and Employment, 2019)

16 (Fonterra, 2019)

17 (Meat Industry Association, 2019)

18 (Horticulture New Zealand, 2020)

EXPORT COAL USED IN STEEL PRODUCTION WHERE THERE IS ALSO NO ALTERNATIVE

As recently as September this year, the European Commission included coking coal in its list of critical raw materials.¹⁹ The reasons for coking coal being on this list were for its applications in sectors where steel is essential. This includes the mobility and automotive sector, energy intensive industries, and renewable energy. Technologies attributed to coking coal uses specified in the list include coke for steel, carbon fibres, and battery electrodes.

Steel manufacturing at the scale it operates at today would not be possible without coal, particularly coking coal, which constitutes the majority of coal mined on the West Coast. Coking coal from the Buller and Grey coalfields is exported to steel mills in the Asia-Pacific region, predominantly Japan, India, Australia, and Korea.

The peculiar qualities of West Coast coals achieve greater efficiencies than those of other countries, meaning the carbon intensity of steel production is reduced by the inclusion of West Coast coals in the blends.

CLIMATE POLICY SHOULD CONSIDER THE COMPLEXITIES OF THE PROBLEM

Minerals West Coast acknowledges the impact of coal use on the climate. The emissions for which coal is responsible in New Zealand are incredibly difficult to displace with existing technology while maintaining the competitiveness of coal users domestically and internationally against competitors from other countries.

Targeted bans on coal boilers and a pricing of NZETS units above and beyond the prices our competitors internationally risks compromising the sectors crucial to New Zealand's regional economies.

Minerals West Coast urges this government to engage with coal miners and coal users respectfully when drafting climate policy.

CONCLUSION

On behalf of Minerals West Coast, thank you for giving these matters due consideration. We would welcome the opportunity to engage on these matters further should you wish to do so.

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19 (European Commission, 2020)

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