Discussion Document: Accelerating renewable energy and energy efficiency Dec 2019

SUBMISSION BY BATHURST RESOURCES LIMITED AND BT MINING LIMITED

Energy Markets Policy
Ministry of Business, Innovation and Employment
PO Box 1473
Wellington

energymarkets@mbie.govt.nz

Background

1. Bathurst Resources Ltd (**Bathurst**) is a New Zealand company listed on the Australian Securities Exchange and is New Zealand's leading coal producer. All our operating mines are in New Zealand with our head office in Wellington. All Bathurst employees are based in New Zealand.

2. We currently have five operating coal mines (with a further two on care and maintenance), three owned in a 65/35 joint venture with Talley's Energy Ltd (through BT Mining Ltd). From north to south they are: Maramarua, Rotowaro, Stockton, Canterbury, and Takitimu.

3. Bathurst's revenue in terms of markets for our coal is divided between steel-making (74%), food and other industrial processing (19%), and electricity generation (7%).

4. Bathurst employs more than 550 FTEs, and produces annually 2.5 million tonnes of coal, of which 60 per cent is exported, and 40 per cent, goes into domestic (industrial) supply.

5. We support the New Zealand Government in a just transition to a net zero carbon economy by 2050. Bathurst is working towards this aim. This includes configuring Bathurst as a low-emissions company.

6. Bathurst's Scope 1 and Scope 2 emissions in FY19 were 120,527 tonnes of CO_2 equivalent, divided between: fuel consumption (56%), fugitive emissions from coal extraction (43%), and electricity related (1%).

7. The transition also includes contributing to and supporting New Zealand's economic prosperity, which is essential to the just and orderly transition the Government is seeking, and which will inevitably take time. Coal is embedded in the national economy, and will remain so until the economy and technology changes.

8. Bathurst will supply thermal coal for the domestic market for so long as our customers require our product. We see a just transition taking place over the next 20-30 years.

9. As New Zealand transitions away from the use of thermal coal for industrial heat processes, we see our business becoming almost entirely the extraction of coal for steel-making, for which there is no realistic alternative as a metallurgical input, commercially and at scale.

10. Bathurst will manage its investments in line with changing industrial customer needs, recognising that coal mines take decades to discover, develop and put into production.

General Comments

11. While a careful and measured transition to a low emissions economy is to be supported the timeframes sought to be achieved in the Discussion Document are untested, uncosted and unrealistic.

12. There is a lack of co-ordination between the many government initiatives currently in play that relate to climate change and reduction of emissions. There is also no overall economic analysis of how all these initiatives combined with the proposed changes around freshwater, indigenous biodiversity and the Resource Management Act will impact the primary production sectors and the regions of New Zealand. Rather there is a constant assumption that ambition is enough to produce the desired results without economic harm, this is not a responsible way to act.

13. The Discussion Document makes many assertions about alternative technologies already existing to replace fossil fuels etc but fails to undertake any quantitative analysis into how costly or practical it will be to replace existing infrastructure and whether companies are able to bear those costs and remain competitive (or even in business). What is theoretically possible in a perfect world with capital free to invest solely in energy efficiency is of course not how business works in fact.

14. Adoption of new technologies early in their life cycle is often more costly than waiting for the technologies to be bedded down and to reach economies of scale (this is acknowledged pages 35 and 36 of the Discussion Document). It is not clear why New Zealand a should be a guinea pig for new technologies and we agree that we might be better served by keeping abreast of international developments rather than trying to rush ahead by ourselves.

15. It is also asserted that one of the co-benefits of will ***likely*** be the diversification of the economy "*creating space for new industries or services – and help to move the economy beyond an economic growth model based on volumetric increase to one that improves productivity, creates more value and lifts the well-being of all New Zealanders*" (page 11).

16. This sentence encapsulates the problems with the Discussion Document. An assertion is made – *likely to* – and then a heroic assumption is made about what will be a complete restructuring of the New Zealand economy leading to a better than the current outcome based on a possibility which is not backed by any ground truthing. New Zealand depends for its economic wellbeing on primary production (be that agriculture, meat, mining, forestry or horticulture), and most of the technical innovations that occur in New Zealand takes place in those sectors which are highly productive.

17. While tourism is important to the economy it produces low paying jobs dependent on a buoyant international economy (and no pandemics) and if concerns around climate effects of travel increase then travel to and around New Zealand will necessarily be impacted given our distance from the main population centres of the world. And rightly so given that tourism is a nice to have but hardly essential if the world is genuinely in a climate emergency; unlike the primary sector which produces food for the world and other essential products for modern living e.g. coal for steel-making.

18. Governments of all hues have sought to move New Zealand from being a primary production economy to a service one for the last 50 years. The same arguments are used time and time again but we stubbornly remain a country that succeeds because we are good at growing things and

have the water and the land to do so – this is our competitive advantage. This is of course reflected in our unusual emissions profile compared to most other first world countries.

19. Accordingly care needs to be taken around the speed of any transition from using fossil fuels for process heat in industry to other forms of energy (assuming they are available at scale and are economic) and the robust objective analysis of the economic impacts on sectors and regions needs to be undertaken without relying on optimistic assumptions.

20. The accompanying marginal abatement cost curves analysis for New Zealand which accompanies this Discussion Document is very weak (and this is acknowledged by the number of caveats) and shows gains based on non-New Zealand literature survey assessments.

21. We note and agree with the Minister (in the Foreword) that "…*We will not develop a preferred package of options until we have heard your feedback, and have a good understanding of the costs and benefits.*"

Questions

Section 1: Addressing Information Failures

Corporate energy transition plans

22. Under a separate initiative *Climate-Related Financial Disclosures – Understanding Your Business Risks and Opportunities Related to Climate Change: Discussion Document* (Dec 2019) it has already been proposed that companies provide additional reporting on material climate-related financial information which will require auditing. We submitted on that document.

23. We think there will be duplication between reporting under that initiative and what is proposed here and potential for confusion over scope issues e.g. will reporting be for sites, scope 2 or 3 etc.

24. There is also the assumption that corporates should be transitioning to something and if they are not, and/or cannot, these public reports will be used to bring down public opprobrium on them. One of the *difficult to quantify* benefits is claimed (page 21) to be to *increase reputational drivers on the targeted entities.* (Perhaps a Freudian use of the word target?)

25. A divide and rule tactic (as we are currently seeing between urban and rural New Zealand over the environmental effects of dairying) is in the end futile and conveniently ignores the fact that companies produce goods for the public that wants them.

26. If there is guilt or shame to be induced for emitting CO_2 then it is everyone's to bear and it is simplistic to try and set up a system to blame corporates that are meeting a market demand.

27. Bathurst and BT will fall into the category of large energy users primarily through the diesel used to fuel our mining fleet. It is unlikely that we will be able to transition our entire fleet to another source of fuel in the short to medium term (and certainly not by 2030) and we do not think we will be alone.

28. The Discussion Document makes it clear that officials have no idea of what this reporting and auditing will cost businesses but simply state *compliance costs are not expected to be significant.* We doubt that very much. Our experience is that these type of audits are expensive (even assuming sufficient expertise is available) and when a company has multiple sites then the costs are multiplied.

29. To impose a mandatory requirement for the boards of companies to review the mandatory energy audits has the government directly interposing itself in the governance role of companies cutting right across the law relating to director's duties and obligations. It also seems to be suggested that directors and senior managers are going to be made legally responsible in some way for this reporting, being required to "*sign off the reporting*" (page 21) and this is not acceptable.

30. Energy usage is only one part of running a business and while the Discussion Document acknowledges this later on it is worth repeating here the reality of how a business is run:

    "Energy projects within a business compete internally with other capital investment projects. Even when those projects are privately profitable, they can remain unimplemented as other, more attractive, more easily quantifiable, or essential core business projects are prioritised… In addition, some businesses may have limited access to capital to allow them to implement cost-effective energy projects." (see page 45)

31. If a company is not making a profit then it certainly cannot afford to invest in new projects. If the outcome of reporting is that investors are reluctant to invest in that company then it will be even more unlikely to be unable to source additional capital. Putting companies out of business is a crude answer to improving energy efficiency.

Q1.1-1.6

32. We do not support the proposal for any form of mandatory corporate energy transition plans or energy auditing and reporting. (Organisations are of course free to provide their own reporting on these issues as they wish).

33. The imposition of costs through the NZETS provides more than sufficient incentive for companies to address issues of energy efficiency and fuel sources where it is economic and technically viable to do so and they should be free to do manage their businesses as they wish without having the government and public second guessing them.

34. Further under general company law directors are already required to address material risks to the business and climate change related issues, including energy efficiency, will be addressed as relevant to the business in question.

35. The primary purpose of the proposed reporting appears to be naming and shaming. At present the general public seems ignorant of the fact that the goods and services (and their quality of life) they take for granted inevitably results in CO_{2e} emissions and that the scale of the transformation of the New Zealand economy that is going to be required to reach the ambitious targets adopted by government are novel in New Zealand's history and may result in extreme economic contraction.

36. While we do not support what is proposed is it notable that the government has left itself out of the scope of organisations that are to be covered.

Section 4: Phasing out fossil fuels in process heat

37. As the Discussion Document itself records emissions from fossil fuels used for process heat for industry make up only 8 percent of New Zealand's emissions while the industrial sector as a whole contributes 10 percent of GDP and employs around 11 percent of the labour force. (see page 14)

38. It is important therefore that proposed actions to phase out the use of fossil fuels do not cause a contraction of output for industrial processes (with production going offshore and a subsequent increase in imports to New Zealand).

39. While it is accepted that there are opportunities for processors to switch to using biomass, gas, and geothermal these will be particularly North Island solutions. Even if it is feasible to switch to electricity for the industrial process in question should a wholesale switch take place, this raises questions of the source of all the additional electricity that will be required not only for industrial processes, but for electric cars etc (and the associated transmission problems). It would be ironic (and inefficient given line losses etc) if additional gas and coal were used to meet the additional electricity demand.

40. We commissioned CRL Energy in 2018 to comment on viable alternatives to the use of coal in industrial applications in Canterbury (see CRL Energy report No18/11007 attached to this submission). While their work was limited to Canterbury it holds true for the rest of the South Island. They noted:

Alternatives to coal

The Ministry of Business, Innovation and Employment prepares annual figures comparing the price of energy in various sectors (not including coal or biomass). Although it does not consider regional differences or the capital cost of conversion, it serves as a useful comparison of how much Canterbury coal users would have to pay for different fuel options[5]:

- light fuel oil was an average $16.70 per gigajoule in 2017,
- natural gas was $7.00 per gigajoule (with LPG costing much more),
- electricity $35.50 per gigajoule for large scale industrial users,

Coal is competitively priced against all these alternatives (even assuming they would be practically available in Canterbury, which is not the case).

Canterbury coal users generally have no commercially feasible or economic alternatives to coal. This was best summarised by Carter Holt Harvey Pulp and Packaging in their 2015 evidence to Environment Canterbury on the proposed Canterbury Air Regional Plan[6]. CHHP&P owns and operates New Zealand's largest biomass energy plants and has considerable knowledge and expertise in this area. The company actively supports the development of such plants and is a member of the Bioenergy Association of New Zealand.

Nevertheless, CHHP&P stated that wood pellets are not economic for large plants and large scale use is generally limited to applications where there is an over-riding social imperative or even a subsidy. For large heat consumers green biomass must be used and it will be selected over coal "only where the initial capital investment and ongoing operating expenditure are not over-riding considerations in the investment decisions".

The CHHP&P evidence added that the use of biomass for fuel "brings its own problems which are not always fully appreciated at first sight" and listed the following examples:

- The net heating value of wood waste is only about one third to one quarter that of coal so to generate the same heat requires significant additional quantities of the input fuel resulting in the need for large scale on-site storage piles and the number of heavy

[4] Statistics NZ (2018) https://www.stats.govt.nz/information-releases/regional-gross-domestic-product-year-ended-march-2017#canterbury

[5] MBIE (2018b) Energy Prices. Energy Data and Modelling, Ministry of Business, Innovation and Employment. http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/statistics/prices

[6] CHHP&P (2015) Submission to Environment Canterbury on the proposed Canterbury Air Regional Plan by the Engineering Manager for Carter Holt Harvey Pulp and Packaging. Record Number: C15C/162685 www.ecan.govt.nz

lorries required to transport in the fuel and truck out the resulting ash can be overwhelming (and create their own environmental effects).

- Wood contains sulphur and so biomass boilers emit sulphur dioxide, similar to coal and oil boilers.
- Boiler technology and combustion control equipment required to burn biomass efficiently are complex, bulky and costly. In part this is because biomass is, unlike gas, coal and oil, a non-homogeneous material with variable fuel properties. As a result biomass units are larger and more costly than units burning fossil fuels.

As an indication of the significant quantities of wood that would be required, CRL Energy has calculated (see Appendix) that to replace the useful heat from 430,000 tonnes of coal in Canterbury, an equivalent of 2,370 hectares of 25 year old *pinus radiata* would have to be felled for fuel wood (which does not take into account any wood required for timber or other purposes). MPI assessed that in 2015, the Canterbury region had a plantation resource of 98,223 hectares[7]. Replacing 430,000 tonnes of coal every year would need 60% of these forests (or from elsewhere) to be dedicated to harvesting for fuel wood on a 25 year rotation. There would be major losses of timber availability and export income from forestry.

There is potential for innovation with woody biomass, including co-firing with coal which is a well understood technology option. and there are alternatives to conventional pine plantations, such as short rotation coppice (that are better suited to energy supply and wood fuel suppliers may prepare partly dried (or charred) wood on an industrial scale to improve boiler operation and to reduce trucking volumes). Nevertheless the reality is that these do not presently exist at sufficient scale in Canterbury to replace coal and would also require to be in place several years prior to any conversion of coal boilers.

41. For biomass to be a realistic alternative to coal will require sufficient forests to be planted and to be mature (which will take decades and is a complete mismatch for the timeframes in the Discussion Document) and for companies to have access to the capital required to alter or replace their existing coal boilers.

42. The timeframes posited in Section 4 are far too short and do not provide for a just transition. There is now under 10 years between 2020 and 2030 and while for governments which work on a 3 year electoral cycle this may appear a long period of time this is not so for industry. There seems to be a disconnect between the real world and the theoretical one in what is being proposed in this Section.

43. A just transition from fossil fuels to non-fossil alternatives is something that is going to take decades not years unless New Zealand is prepared to accept a sharp contraction in economic output.

44. Proposing to ban and phase out coal fired boilers is going to leave companies with stranded assets and likely with limited means to invest in alternative technology, which will in any event be more costly to run, impacting on their future viability. This will affect disproportionately the regions of New Zealand where employment opportunities are already limited, with knock on effects on the local communities.

45. The Discussion Document divides coal fired boilers into 3 categories and we support those divisions provided the definitions are clearer and we suggest the following:

    "Low, medium or high which are defined as:

Low:	*less than 100°C with the temperature rated at the boiler exit;*
Medium	*100°C to 300°C inclusive with the temperature rated at the boiler exit;*
High	*greater than 300°C with the temperature rated at the boiler exit*."

Q4.1

46. We do not oppose the banning of new ***low*** rated coal fired boilers (provided the definitions set out above are adopted). We however oppose an outright ban on new ***medium*** rated coal fired boilers.

47. Given the other measures already in effect, for example the NZETS, if a processor considers it economic to install a new medium rated coal fired boiler then they should be free to do so. The emissions from that boiler will be accounted for through the NZETS by the purchase of units. It is unclear from the Discussion Document when such a ban would be implemented but as pointed out above even if this is also proposed for 2030 there is not a sufficient time period for alternative economic and technically viable fuel sources to become available for medium rated process heat requirements.

Q4.2

48. We do not oppose the phasing out of ***low*** rated coal fired boilers (as defined above) over a rational time period. However careful consideration needs to be given to small industrial coal users, such as tomato growers in the South Island, who will have no economic alternatives if coal cannot be used and whether it makes sense to drive these operations out of business with their production simply being replaced by imports. We also query how long hospitals and schools, which are reliant on these type of boilers (and which have limited funds to purchase new equipment), will need to transfer to alternative energy sources. As announced separately the government will need to provide additional funding to assist this transition.

Q4.4

49. This proposal seems to suggest the government is going to run a company's business by telling it how to phase out fossil fuels. We think that this is best left to the experts and those who are legally liable for the performance of the company i.e. the directors.

Q4.5

50. No we do not think this is an appropriate suggestion. Again it is not the proper role of government to dictate how industrial production is to be run through the guise of national directions.

Section 5 – Boosting investment in energy efficiency and renewable energy technology

51. The quite extraordinary suggestion is made that the government could force companies to spend on energy projects that the government deems they should. Quite how far it is thought acceptable in a democracy for a government to interfere with the private rights of legal entities is not known but this is an astonishing proposal.

52. The market based economic system, including a market based primary policy tool for addressing climate change i.e. the NZETS, under which New Zealand is currently run, leaves investment decisions to individuals and companies who take the risk of losing their investments. If the government wishes to nationalise companies then it should do so upfront rather than through the backdoor.

53. While this proposal is not recommended *at this stage* the fact that it is thought reasonable to even put it on the table shows little regard for the corporate structure, its purpose in a market based economic system and the law of rights and responsibilities that have developed over many centuries around this system.

Q5.1-5.5

54. For the reasons set out above we oppose regulation and note that government incentives almost always skew outcomes, are open to arbitrage and rarely do governments pick winners (nor should they attempt to do so).

Section 6: Cost recovery mechanisms

55. Given that the intention of the proposals set out in this Discussion Document are aimed at ending the use of coal in New Zealand it is rich to then propose that coal users should pay an additional levy to speed that process along!

56. Currently, as we understand it, the levies paid to EECA in respect of petroleum, gas and electricity are linked to EECA carrying out activities to improve the energy efficiency of the use of these energy sources <u>not</u> as is proposed here to fund the ceasing of the use of coal.

57. In addition to normal business taxes and the costs imposed through the NZETS, coal is taxed through royalties and levies under the Energy Resources Levy - with all coal mined in New Zealand coming from open cast mines.

58. The beneficiaries of anything that EECA might do in this space will be those in the biomass industry, electricity industry and renewables generally. They should be the ones to fund initiatives that will benefit them financially.

59. If coal were to be levied to fund research into using coal more efficiently then there might be a case for that, this however is simply another cost imposition on coal designed to make it too expensive to use. However as pointed out above the costs of alternatives are much higher and therefore the risk remains that companies will cease to operate rather than being able to afford to use another fuel source.

60. There is also no case to be made for levying coal used in non-energy processes for example steelmaking as there are no realistic alternatives.

Q6.1-6.2

61. We do not support cost recovery mechanisms or any further costs imposed on coal. Directing proceeds from the auctioning of emissions units to fund the proposed initiatives would be supported, and coal will already be disproportionately paying its way.

Section 7: Enabling development of renewable energy under the Resource Management Act 1991

62. It is important that environmental bottom lines are bottom lines for all activities. Flora and fauna adversely impacted by a development do not care whether it is as a result of coal mining or wind farms. Accordingly, it is inappropriate for renewable energy projects to be given a free pass with respect to environmental bottom lines. Either the environment and its protection is important or it is not.

63. Local impacts of renewable developments are best considered by local authorities and it is highly unlikely that national standards will appropriately address and protect local environments. Accordingly we do not support government pre-approval of renewable developments.

64. Spatial planning is another form of picking winners and not supported and this concept is best debated in the context of the proposed Resource Management Act reforms.

Bathurst Resources Limited/BT Mining Limited

Richard Tacon

Chief Executive Officer

25 February 2020