

2nd April 2019
Our ref: 1038_EGOVR:GM

Megan Dawson
Team Leader
Resources Assessments
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Megan,

**Re: Rix's Creek Continuation Project (SSD 6300)
Additional information relating to greenhouse gas emissions**

Introduction

The purpose of this letter is to provide clarification on previously submitted environmental assessments and additional information to the NSW Department of Planning and Environment (**DPE**) relating to the potential direct and indirect impacts of greenhouse gas (**GHG**) emissions from the Rix's Creek South Continuation Project (**Project**) to assist DPE with its assessment of the Project and final recommendation to the Independent Planning Commission (**IPC**).

Although Bloomfield Collieries Pty Ltd (**Bloomfield**), the operator of Rix's Creek Mine considers that the environmental assessments completed as part of the State significant development application for the Project (SSD 6300) (**Development Application**) to date have addressed all regulatory requirements, this letter provides clarification on relevant aspects of those assessments and additional information for DPE's consideration. This clarification and additional information is provided in light of recent commentary by Preston CJ in *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC, regarding the assessment of Scope 3 (indirect) GHG emissions for mining projects.

This letter provides an outline of the assessments which have been completed for the Project in relation to the forecast of direct and indirect GHG emissions. It also provides additional information in relation to these GHG emission forecasts having regard to current climate change policy frameworks, background to the effects of climate change and further information to demonstrate the demand for

product coal from the Project. Finally, the letter responds to four key questions concerning GHG emissions for the Project.

Overview of existing assessments

The Development Application documentation prepared for the Project has quantified the direct and indirect GHG emissions associated with the Project and assessed the impacts of these emissions. These assessments need to be read together with this letter.

The Director-General's Environmental Assessment Requirements for the Project issued on 3 March 2014 contain the specific assessment requirements for, amongst other things, GHG emissions.

The Environmental Impact Statement (**EIS**) for the Project included an assessment of GHG emissions prepared by Todoroski Air Sciences dated 26 August 2015 (Appendix L of the EIS). This assessment quantified the GHG emissions associated with the Project, including Scope 1, 2 and 3 emissions, and was completed in accordance with the methods outlined within the *“Technical Guidelines for the Estimation of Greenhouse Gas Emissions by Facilities in Australia – National Greenhouse and Energy Reporting (Measurement) Determination 2008”* (DoEE, July 2014).

The subsequent approvals documents prepared on behalf of Rix's Creek provided further economic sensitivity analyses with varying carbon price assumptions in response to stakeholder submissions and Government commissioned economic peer reviews. The latest economic analysis prepared by KPMG in 2018 valued the economic costs of the incremental scope 1 and 2 emissions of the Project at \$4.7 million (present value) using the direction provided within the *NSW Government Guidelines for the economic assessment of mining and coal seam gas proposals* (DPE, 2015) (**Economic Guidelines**).

In accordance with the Economic Guidelines, whilst a valuation of the economic costs for scope 3 emissions was estimated in the Revised Response to Submissions (RRTS), these global economic costs have not been considered within the Cost Benefit Analysis for the Project.

The Secretary's Environmental Assessment Report dated May 2018 (**Secretary's EAR**) provided an assessment of the GHG emissions associated with the Project and concluded that the Project's contribution to Australian and global GHG emissions, including Scope 1, 2 and 3, would result in a negligible increase in global temperature. Further, the Secretary's EAR concluded that GHG emissions could be managed appropriately under a continuation of existing conditions of development consent.

The review of the Project by the Independent Planning Commission (IPC) (August 2018) did not raise further comment in relation to the GHG emissions from the Project.

Additional Information

Consideration of the Paris Agreement

In December 2015, State parties to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to form the Paris Agreement, which calls upon its signatories (including Australia) to institute further efforts to combat climate change. The goal of the Paris Agreement is to limit the global temperature rise to 1.5-2°C above pre-industrial levels.

The Paris Agreement is not prescriptive about how its goal is to be achieved, but rather the State parties are required to formulate their own national commitments, referred to as Nationally Determined Contributions (**NDCs**).

Australia's NDC aims to reduce GHG emissions by 26-28% below 2005 levels by 2030. Australia's total GHG emissions in 2005 were reported at 559.1 Mt of CO₂-e. Australia's NDC requires annual emissions to be reduced to approximately 402-413 Mt CO₂-e by 2030.

As discussed in Appendix L of the EIS, the Project is predicted to generate approximately 823,790 tonnes (t) CO₂-e of Scope 1 emissions, 167,485 t CO₂-e of Scope 2 emissions, and 71.452 Million tonnes (Mt) CO₂-e of Scope 3 emissions. Therefore, the Project's Scope 1 and Scope 2 GHG emissions would contribute an estimated annual average of 0.047 Mt of CO₂-e each year, which represents about 0.009% of Australia's annual average emissions for 2013-2014 (542.6 Mt CO₂-e). Further to this, the Scope 1 and Scope 2 GHG emissions from the Project represent only 0.008% of Australia's NDC commitment made in relation to the Paris Agreement.

All of the product coal from the Project is proposed to be used overseas. The GHG emissions generated by the use of the product coal (which comprises the largest component of Scope 3 emissions) will therefore be accounted for by the end user (overseas) and not by Australia.

NSW Climate Change Policy Framework

The NSW Climate Change Policy Framework (OEH, 2016) states that the NSW Government's long-term objective is to achieve 'net zero' GHG emissions by 2050. The purpose of the framework is to define the role of the NSW Government in managing carbon emissions. The framework is not directed at private enterprises and does not provide any guidance on how development is to be undertaken.

The Scope 1 and Scope 2 emissions over the life of the Project were predicted to be 823,790 t CO₂-e and 167,485 t CO₂-e respectively. On an annual basis, Scope 1 and Scope 2 emissions associated with the Project equate to approximately 0.047 Mt CO₂-e representing a negligible proportion (0.031%) of NSW annual average emissions for 2011-2012 (154.7 Mt CO₂-e) as set out in the EIS GHG emissions assessment completed by Todoroski Air Sciences (Appendix L of the EIS).

Potential Climate Change Impacts

Human activities within the world have increased GHG concentrations within the Earth's atmosphere. It is widely considered that these increased GHG emissions on a global scale are exacerbating a number of climatic phenomena, including heatwaves, storms, droughts, cyclones and other extreme weather events. Anthropological climate change may increase the frequency, duration and intensity of such events. These environmental consequences are reported to be the result of GHG emissions on a global scale, and are not solely attributable to any particular activity.

The forecast emissions attributable to the Project are small compared to GHG emissions on a national scale. Whilst the (negligible) contribution of the Project towards anthropological climate change is not being disputed, the environmental impacts of GHG emissions on a global scale should not be attributed to the Project.

Demand for Project Coal

As outlined within Section 4.2 of the EIS, the Project will assist Bloomfield in supplying thermal and metallurgical coal to its existing customers which have indicated their ongoing demand for this coal. All of the coal produced by the existing operations at Rix's Creek Mine is exported to customers in Japan, Taiwan and South Korea, most of which have been long-term customers; some have sourced coal from Bloomfield for more than 35 years.

Bloomfield's long term steel-making customers have a number of blast furnaces in operation with design lives and demand that support an ongoing requirement for metallurgical coal, for at least the proposed term of the Project. Bloomfield's international thermal coal customers have indicated that whilst some of their older coal-fired power plants will close in the coming years, a number of new coal-fired power plants are due to come online. The development of these new technology Ultra Super Critical power plants along with the forecast increasing demand in electricity production in these countries will provide a continual demand for the thermal coal to be produced by the Project.

In the absence of coal from the Project, that demand would need to be filled by an alternate supplier. If the demand were met by the production of equivalent incremental coal volumes of identical quality to Rix's Creek coal, there would be no net increase in global emissions.

Responses to Questions

What are the likely Scope 1, 2 and 3 GHG emissions for the Project?

The likely Scope 1, 2 and 3 GHG emissions for the Project have previously been provided within Section 15 of the Air Quality and Greenhouse Gas Impact Assessment (Appendix L of the EIS) prepared by Todoroski Air Sciences.

Scope 1 and 2 emissions for the Project include the on-site combustion of diesel, petrol, petroleum based greases and oils, explosives, fugitive methane emissions, gaseous fuels and the on-site consumption of electricity. Scope 1 and 2 GHG emissions were calculated at 0.991 Mt CO₂-e over the 21 year Project life.

Scope 3 emissions for the Project were calculated based on the indirect emissions resulting from the purchase of diesel, petrol, petroleum based greases and oils, electricity for use on-site, the transport of product coal to its final destination and the final use of the product coal. Scope 3 GHG emissions were calculated at 71.5 Mt CO₂-e over the 21 year Project life.

What indicates that the likely GHG emissions are acceptable?

Scope 1 and Scope 2 GHG emissions from the Project are negligible, at maximum production representing only 0.008% of Australia's NDC commitment made in relation to the Paris Agreement.

Rix's Creek has committed to a number of mitigation and management measures to minimise its GHG emissions from the Project. These measures will be implemented as part of an Air Quality Management Plan to be prepared to the satisfaction of DPE.

As noted above, all the coal produced at Rix's Creek is exported to long-term customers in Japan and Taiwan and customers of several years standing in South Korea.

Japan and the Republic of Korea are signatories to the Paris Agreement and have set respective NDC targets which aim to reduce GHG emissions.

Japan set its NDC target to reduce GHG emissions by 26% by 2030 compared to FY 2013 (25.4% reduction compared to FY 2005). The GHG emissions target is therefore set at approximately 1.047 Billion tonnes (Bt) of CO₂-e. The annual average Scope 3 GHG emissions from Japan's sales share of coal from the Project represent only 0.20% of Japan's annual GHG emissions target.

The Republic of Korea Government set its NDC which aims to reduce GHG emissions by 37% compared to the projected levels under a business as usual (BAU) case (Republic of Korea, 2015). The Republic of Korea predicts that its GHG emissions will increase from 2020 to 2030 under a BAU case, due largely to expected increases in energy demand. Accordingly, the emissions targets under the Republic of Korea's NDC will also increase from 2020 to 2030, consistent with the trend under the BAU case.

The Republic of Korea's estimated GHG emissions under the BAU case and NDC case are outlined in the Table below. The total annual average Scope 3 GHG emissions from Korea's sales share of coal from the Project represent only 0.10% of the Republic of Korea's GHG target for 2030.

Table - The Republic of Korea's Projected GHG Emissions

Year	BAU (Mt CO ₂ -e)	Case ¹	NDC (Mt CO ₂ -e)	Case ²
2020	782.5		571.2	
2025	809.7		591.2	
2030	850.6		620.9	

1. Values sourced directly from the Republic of Korea's NDC
2. Calculated based on BAU case values

Taiwan is not an existing signatory to the Paris Agreement. However, it has proactively introduced its own voluntary GHG emission reduction goals which have been legally enforced under the *Greenhouse Gas Reduction and Management Act*. The voluntary goals include reducing its GHG emissions by 2% from its 2005 levels by 2020 and reducing its emissions by up to 50% less than 2005 levels by 2050 (i.e. from 277 Mt CO₂-e in 2005 to 138 Mt CO₂-e in 2050). The total annual average Scope 3 GHG emissions from Taiwan's sales share of coal from the Project represent only 0.53% of the Republic of Korea's GHG target for 2050.

The scope of the Cost Benefit Analysis (CBA) prepared for the Project to date has been limited to the consideration of environmental externalities resulting from activities associated with the extraction and processing of coal at Rix's Creek. As such, the CBA excludes any consideration of the costs and benefits associated with the end use of product coal (i.e. steel-making and power generation) which is forecast to occur outside Australia. It is also noted that the demand for coal by Bloomfield's customers will unlikely be impacted by any changes in production levels at Rix's Creek with their coal requirements being sourced from other suppliers should the Project not proceed.

Notwithstanding, the economic cost of carbon resulting from the Scope 3 emissions at the NSW level may provide useful information for consideration of the downstream emissions from the Project. As noted earlier, the RRTS valued the total Scope 3 emissions of the Project as the generation of 71.5 Mt CO₂-e of Scope 3 GHG emissions.

The Scope 3 NSW share of the economic cost of carbon from international countries using the coal from the Project (in steel-making and power generation) is calculated as NSW's proportion of the world population multiplied by the total cost of the Scope 3 emissions. This cost is approximately \$0.28 Million (real, 2015) using a 7% discount rate as derived from the global cost of carbon calculated by KPMG. These costs of carbon to NSW households have a negligible effect on the \$614.2 Million net present value calculated for the Project.

What is the likely impact of the Project on Australia's commitments under the Paris Agreement and NSW aspirations under its Climate Change Policy Framework?

As indicated, the annual average Scope 1 and 2 emissions from the Project are negligible (at 0.008%) in respect to Australia's NDC targets under the Paris Agreement. The Australian Government's mechanisms for achieving its 2030 NDC

target are its Emissions Reduction Fund and Renewable Energy Target. The Emissions Reduction Fund provides incentives for businesses to implement emissions reduction initiatives. Businesses that take positive steps to reduce their GHG emissions are granted carbon credit units, which can either be sold back to the government or to other businesses that need to offset their emissions.

As indicated above, Rix's Creek has committed to a number of mitigation and management measures to minimise its GHG emissions from the Project. The mitigation and management measures proposed are consistent with the primary objective of the Australian Government's Emissions Reductions Fund to reduce GHG emissions.

Further, the scope 1 and 2 emissions from the Project are also minor (at 0.031%) in comparison with total NSW emissions in 2011-2012. Current NSW Government Policy does not provide any direction into how to apply it to private developments. Accordingly, the Project is not inconsistent with this NSW Government Policy.

What is the likely impact of the Project on the climate system, environment and people?

The continuation of mining operations associated with the Project will assist in satisfying an existing and ongoing market and the demand generated specifically by Rix's Creek's long-term power generation and steel-making customers. The coal from the Project will be utilised to generate electricity and produce steel which will provide a wide range of benefits to people across the world. Whilst the (negligible) contribution of the Project towards anthropological climate change is not being disputed, the environmental impacts of GHG emissions at a global scale should not be attributed to the Project.

The assessments completed for the Project have indicated that the likely GHG emissions are negligible in comparison with Australia's NDC target for 2030 under the Paris Agreement. Further, the Project is not inconsistent with either the Australian or NSW Government's climate change policies.

The GHG emissions resulting from the final end use of the product coal from the Project is accounted for within the respective NDC targets set by the respective Countries under the Paris Agreement.

Conclusion

We trust that this letter provides information relevant to the DPE's assessment of the Project and, in particular, its consideration of the direct and indirect GHG emissions of the Project for the purposes of making a recommendation to the IPC. Please do not hesitate to contact us if you have any questions or require further information.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Geoff Moore', with a stylized, cursive script.

Geoff Moore
Chief Development Officer
The Bloomfield Group