4 March 2019

Commissioners
Independent Planning Commission
3/201 Elizabeth Street
SYDNEY NSW 2000

Attention: Mr Gordon Kirkby

Dear Gordon,

Bylong Coal Project
Relevant Information for the IPC's Consideration in Relation to Greenhouse Gas Emissions

1. INTRODUCTION

This letter provides contextual information in relation to the assessments completed to determine the potential direct and indirect impacts of greenhouse gas (GHG) emissions from the Bylong Coal Project (the Project) for consideration by the Independent Planning Commission (IPC) as part of its determination.

Whilst KEPCO considers that the environmental assessments completed as part of the approvals documentation supporting the State Significant Development (SSD) Application to date have addressed all regulatory requirements and expectations, this letter provides the relevant clarification over these assessments for the IPCs consideration. This clarification is being provided in light of recent commentary 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, consideration of 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.

2. OVERVIEW OF EXISTING ASSESSMENTS

KEPCO's approvals documentation in support of its SSD Application for the Project has quantified the direct and indirect GHG emissions associated with the Project and assessed the impacts of these emissions. These assessments should be read in conjunction with the information provided within this letter report.

The Secretary's Environmental Assessment Requirements (SEARs) outlined the specific assessment requirments, with further direction by the Office of Environment and Heritage (OEH).

The *Bylong Coal Project Environmental Impact Statement* (EIS) (Hansen Bailey, 2015) included an assessment of GHG emissions (Appendix O of the EIS) prepared by Pacific Environment Limited (PEL). This assessment quantified the GHG emissions associated with the Project, including Scopes 1, 2 and 3 emissions. The GHG assessment was completed in accordance with the methods outlined within the following:

- The World Resources Institute/World Business Council for Sustainable Development, *The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard Revised Edition* (WRI/WBCSD, 2004);
- *National Greenhouse and Energy Reporting (Measurement) Amendment Determination 2014* (No. 1); and
- Commonwealth Department of the Environment, *National Greenhouse Accounts (NGA) Factors 2014* (DoE, 2014).

The EIS included an Economic Impact Assessment (EIA) (Appendix AE of the EIS) of the Project. The Cost Benefit Analysis (CBA) accounted for the predicted GHG emissions associated with the Project. The CBA considered all Scope 1 and 2 GHG emissions, as well as the Scope 3 emissions associated with the transportation of product coal to port.

The Department of Planning and Environment's (DP&E) Preliminary Assessment Report provided an assessment of the GHG emissions associated with the Project and concluded that the Project's contribution to Australian and global GHG emissions would be very small and that the measures to reduce GHG emissions are reasonable.

The Planning Assessment Commission's (PAC) Review completed for the Project provided reference to the submission on GHG emissions, including those requesting the inclusion of Scope 3 emissions within the CBA. KEPCO's *Bylong Coal Project Response to PAC Review Report* (Hansen Bailey, 2018a) responded to these submissions with reference to the eeconomic assessment being completed consistent with the *Guidelines for Economic Assessment of Mining and Coal Seam Gas Proposals* (NSW Government, 2015).

In July 2018, KEPCO provided information regarding a revised mine plan for the Project which removed proposed open cut mining from the Tarwyn Park property. This information was requested by DP&E in response to concerns raised by the then PAC (now the IPC) and the Heritage Council of NSW about the impacts of the Project on the heritage values of Tarwyn Park. The avoidance of open cut mining on the Tarwyn Park property reduced the recoverable coal resource for the Project by approximately 4.6 Million tonnes (Mt) of Run of Mine (ROM) coal.

The GHG emissions of the Project were recalculated based on the reduced coal reserve. An updated air quality and greenhouse gas impact assessment (ERM, 2018) was included as Appendix F to the *Bylong Coal Project Supplementary Information* (Supplementary Information Report) (Hansen Bailey, 2018b). This assessment identified minor reductions in Scope 1, Scope 2 and Scope 3 GHG emissions due to the reduction in coal reserve. Scope 3 (indirect) GHG emissions associated with end use of product coal (i.e. power generation) were predicted at 197.4 Mt of CO_2-e.

The CBA (Appendix L of the Supplementary Information Report) was also updated to reflect the revised mine plan for the Project. The CBA considered the revised GHG emissions estimated by ERM (2018).

The DP&E Final Assessment Report for the Project provided an assessment of the forecast direct and indirect GHG emissions over its life and indicated that the forecast annual Scope 1 and 2 emissions from the Project represent 0.03% of Australia's commitment under the Paris Agreement.

3. CONSIDERATION OF THE PARIS AGREEMENT

3.1. OVERVIEW

In December 2015, parties to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to form the Paris Agreement, which calls upon its signatories 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. Both Australia and the Republic of Korea (South Korea) are signatories to the Paris Agreement.

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

3.2. AUSTRALIA'S OBLIGATIONS

Australia's NDC aims to reduce GHG emissions by 26-28% below 2005 levels by 2030 (Australian Government, 2015). Australia's total GHG emissions in 2005 were reported at 559.1 Mt of CO_2-e (ABS, 2010). Australia's NDC requires annual emissions to be reduced to approximately 402-413 Mt CO_2-e by 2030.

As discussed in Appendix F of the Supplementary Information Report, the Project (under the revised mine plan) is predicted to generate approximately 2.1 Mt CO_2-e of Scope 1 emissions and 1.3 Mt CO_2-e of Scope 2 emissions. These values represent the total estimated Scope 1 and 2 emissions over the 25 year project duration. The average annual Scope 1 and Scope 2 emissions due to the Project would represent a negligible proportion (i.e. ~0.03%) of Australia's 2030 target.

Product coal from the Project is proposed to be used in the Republic of Korea. The GHG emissions generated by the use of thermal coal (which form the largest component of Scope 3 emissions) will be accounted for by the end user (i.e. the Republic of Korea) and not by Australia. If thermal coal is used in the Republic of Korea, the GHG emissions from that end use will count towards the Republic of Korea's NDC.

As outlined in Australia's NDC, the Australian Government's mechanisms for achieving its 2030 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. KEPCO has committed to a number of mitigation and management measures to minimise its GHG emissions. These measures will be described within the Air Quality Management Plan to be prepared to the satisfaction of DP&E. The mitigation and management measures proposed are consistent with the primary objective of the Emissions Reductions Fund to reduce GHG emissions.

3.3. THE REPUBLIC OF KOREA'S OBLIGATIONS

If it is essential to assess the Scope 3 emissions of the Project against an NDC, it is appropriate to consider the emissions from use of coal against the Republic of Korea's NDC.

The Republic of Korea's NDC aims to reduce its GHG emissions by 37% compared to the projected levels under a business as usual (BAU) case (The 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 (discussed further in **Section 6.1**). 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 **Table 1**.

Table 1
The Republic of Korea's Projected GHG Emissions

Year	BAU Case[1] (Mt CO_2-e)	NDC Case[2] (Mt CO_2-e)
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

The Republic of Korea's 2030 target under its NDC is approximately 620 Mt CO_2-e per year (based on a 37% reduction to the 2030 value under the BAU case). The total Scope 3 emissions associated with the use of the coal from the Project were estimated at approximately 197.4 Mt CO_2-e. This value represents the total GHG emissions from end use of product coal extracted over the 23 years of coal production. The annual average emissions associated with use of product coal from the Project equates to approximately 8.6 Mt CO_2-e per year. This annual contribution represents approximately 1.4% of the Republic of Korea's 2030 target. The annual average Scope 3 emissions associated with the Project are within the forecast increase in national emissions between 2020 to 2030. The Project will supply coal to assist in satisfying South Korea's anticipated demand for energy and is not incompatible with South Korea's commitments under the Paris Agreement.

4. 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 the 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 Final Assessment Report for the Project (DP&E, 2018) states that '*the policy is a framework to guide Government in its own operations, rather than a development control policy as such*'.

The Scope 1 and Scope 2 emissions over the life of the Project were predicted to be 2.1 Mt CO_2-e and 1.3 Mt CO_2-e respectively. The Scope 3 emissions associated with the production and transport of diesel, the supply of electricity and the transport of product coal to the Port of Newcastle were predicted to be 0.049 Mt CO_2-e, 0.192 Mt CO_2-e and 0.247 Mt CO_2-e, respectively. On an annual basis, these Scope 1, Scope 2 and Scope 3 (which occur within NSW) emissions associated with the Project equate to approximately 0.16 Mt CO_2-e. This represents a negligible proportion (0.1%) of NSW's annual emissions in 2011/12, which was reported at 154.7 Mt CO_2-e (State and Territory National Greenhouse Gas Inventory).

As identified earlier, it is predicted that the product coal will wholly be sold to and used in the Republic of Korea. It is not predicted that any product coal will be used in NSW.

5. POTENTIAL CLIMATE CHANGE IMPACTS

5.1. ENVIRONMENTAL IMPACTS

It is generally accepted that 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 the result of GHG emissions on a global scale, and are not solely attributable to any particular activity.

As explained in **Section 3.2**, the direct emissions attributable to the Project are small compared to GHG emissions on a national scale. Whilst the contribution (whilst negligible) 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.

5.2. ECONOMIC CONSIDERATION

The Economic Impact Assessment included in the Supplementary Information Report (Appendix L) was undertaken in accordance with the latest NSW guidelines, namely:

- NSW Government (2015), *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* (Economic Guidelines); and
- NSW Government (2018), *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* (Technical Notes).

The Technical Notes provide guidance on costing GHG emissions for the purposes of a CBA. The Technical Notes state that "*for the purposes of this analysis, only Scope 1 and Scope 2 emissions need to be reported, along with energy use and activity estimates used to derive these estimates*" (NSW Government 2018, p. 45)". Furthermore, the Technical Notes explain that the inclusion of Scope 3 emissions could result in 'double counting' because those emissions would have been included by both the producer and end user.

Gillespie Economics was commissioned to provide an analysis of the economic costs associated with Scope 3 emissions for contextual purposes, rather than for consideration within the CBA for the Project. This economic analysis is provided in **Appendix A** and summarised below.

The Supplementary Information Report assessed the Scope 3 GHG emissions associated with use of thermal coal produced by the Project at 197.4 Mt CO_2-e. Based on a global social damage cost of \$23/t CO_2-e, the global cost of these Scope 3 emissions over the life of the Project is \$1.9B (present value).

The Economic Guidelines (p. 9) state that CBA is concerned with the costs and benefits to NSW. Accordingly, the global cost (\$1.9B, present value) was apportioned to NSW based on the state's share of the global population. Using this approach, the cost to NSW due to global GHG emissions is \$6M (present value). It should be noted that this cost is substantially outweighed by the economic benefits of the Project to NSW (i.e. the net social benefit of the Project to NSW would be \$295M even if the cost of Scope 3 emissions attributable to NSW was considered).

The environmental cost of using the coal produced by the Project is relevant to a CBA for the electricity generating activities in the Republic of Korea. For such a CBA, the global damage cost of GHG emissions would need to be weighed against the benefits of generating electricity for the population of the Republic of Korea. The market value of the electricity generated through burning the coal produced by the Project is approximately \$7.3B (present value).

6. DEMAND FOR PROJECT COAL

6.1. THE REPUBLIC OF KOREA'S DEMAND

In 2017, the Republic of Korea released its *8th Basic Plan for Long-term Electricity Supply and Demand* (MOTIE, 2017) (8th Basic Plan), which forecast the nation's energy requirements for the period 2017-2031. The 8th Basic Plan shows that total energy demand in the Republic of Korea is expected to increase by 49.2% during this period (i.e. from 117 GW to 174.5 GW). There is expected to be significant growth in gas and renewable energy production to meet the forecast overall increase in energy demand.

The 8th Basic Plan also shows an ongoing reliance on coal fired power until at least 2031, although the total energy generated from coal-fired facilities is expected to remain relatively stable during this period. The projected energy supply for South Korea, as described in the 8th Basic Plan, is summarised in **Table 2**.

Table 2
Projected Energy Supply for South Korea 2017-2031

Year	Projected Energy Generation (GW)					
	Nuclear	Coal	LNG	Renewable	Other	Total
2017	22.5	36.9	37.4	11.3	8.9	117.0
2022	27.5	42.0	42.0	23.3	7.5	142.3
2026	23.7	39.9	44.3	38.8	6.1	152.8
2030	20.4	39.9	47.5	58.5	7.5	173.8
2031	20.4	39.9	47.5	58.6	8.1	174.5

As at 2017, the Republic of Korea had 61 operational coal fired power stations, with a combined capacity of 36.9 GW (MOTIE, 2017). The Republic of Korea is almost entirely reliant on imports to meet its coal demands.

6.2. KEPCO'S DEMAND

As a predominantly state-owned company, KEPCO is responsible for providing a safe and reliable supply of electricity to the South Korean population. KEPCO considers that coal-fired power stations are and will continue to be an essential component of the Republic of Korea's energy supply due to their reliable output. **Appendix B** provides a letter from KEPCO Australia's President and CEO which highlights the strategic importance of the coal to be produced by the Project to assist KEPCO in providing a reliable supply of electricity to its people whilst minimising its GHG emissions.

In recent years, KEPCO has commenced the construction of five new High-Efficiency Low-Emissions (HELE) coal-fired power stations, which will allow for some of its older power stations to be decommissioned. This has been a significant investment decision from KEPCO, however the HELE power stations were considered necessary to meet the national energy demand whilst reducing fine particulates and GHG emissions.

The economic viability and efficiency of these new HELE coal power stations is highly dependent on KEPCO's ability to source high quality thermal coal. Newcastle product coal (5,700 Kcal, <16% ash, <0.4% sulfur) currently accounts for approximately 65% of coal imports from Australia and 21% of KEPCO's total coal imports internationally. The product coal from the Project will meet the specifications for Newcastle product coal and is therefore (as a vertically integrated project) strategically important to KEPCO.

As KEPCO is the dominant electricity provider in the Republic of Korea, there is no margin for shortfalls in energy supply. KEPCO's preference is to use high quality, low sulphur coal due its environmental and operational advantages. The coal from the Project meets that intent. However, if such coal is not readily available, KEPCO's power stations will continue to operate and will rely (and will probably need to rely) on substituted coal to ensure that its energy supply is not compromised. The use of lower quality coal in these power generation facilities will lead to a poorer environmental outcome.

7. CONCLUSION

We trust this letter provides information relevant for consideration of the direct and indirect GHG emissions of the Project in order for the IPC to make an informed determination of the Project.

Please do not hesitate to contact us should you have any questions or require any further information.

Yours faithfully

HANSEN BAILEY

Nathan Cooper
Principal

James Bailey
Director

CC: Stephen O'Donoghue – NSW Department of Planning and Environment

APPENDIX A

GILLESPIE ECONOMICS
CONSIDERATION OF SCOPE 3 EMISSIONS
ECONOMIC IMPACT ASSESSMENT

Bylong Coal Project

Consideration of Scope 3 Emissions

Economic Impact Assessment

Prepared for

KEPCO Bylong Australia Pty Ltd

C/- Hansen Bailey

By

Gillespie Economics

Email: gillecon@bigpond.net.au

March 2019

Executive Summary

Introduction

- KEPCO Bylong Australia Pty Limited (KEPCO) is seeking development consent for the Bylong Coal Project (the Project) in the mid-western region of NSW. The development application is currently being considered for determination by the Independent Planning Commission (IPC).

- KEPCO's approvals documentation for the Project has addressed the potential impacts of greenhouse gas (GHG) emissions.

- A recent judgment of the NSW Land and Environment Court in its Class 1 merits review jurisdiction considered Scope 3 GHG emissions (from the end use of the coal) in determining a coal mining project in NSW.

- This report has been prepared to provide further information to the IPC to ensure an appropriate level of consideration of Scope 3 emissions when making its determination of the Project.

Downstream Scope 3 Greenhouse Gas Emissions from Burning of Coal from the Bylong Coal Project

- Scope 3 emissions, associated with the burning of project coal in South Korea to generate electricity, are estimated to be approximately 197.4Mt CO2-e over the 23 operational years of the Project.

- The **global** social damage cost of these emissions over the life of the Project is estimated at AUD1.8B present value using a 7% discount rate. This is an economic cost that would normally be included in the CBA of electricity generation in South Korea.

- To put this in some perspective, the gross market value of electricity generated in South Korea from burning the coal during the life of the Project would be in the order of AUD7B (present value using a 7% discount rate) to South Korea. Consumer surplus benefits from the burning of project coal to generate electricity be in the order of AUD28B. There may also be a range of other costs and benefits to South Korea that would be included in a CBA of the burning of coal to produce electricity.

- The global social damage costs of South Korea's GHG emissions is now also being borne by South Korean businesses, including those in the power sector, via the introduction in 2015 of an Emissions Trading Scheme.

- The damage costs to NSW from South Korea burning coal from the Project to generate electricity for its people, would be approximately $6M, present value using a 7% discount rate. This would have little impact on the net benefits of the Project to NSW.

Long-term Coal Requirements and Substitution Effects

- The demand for coal is a derived demand arising from the demand for electricity. The absence of a supply of coal from one source (e.g. Australia) to fulfil this demand will result in coal being obtained from a substitute source. If the substitute source is lower quality coal, this will lead to poorer environmental outcomes.

Sovereign Approaches to Meeting Paris Agreement Commitments

- Under the Paris Agreement, Scope 3 emissions associated with the burning of coal from the Bylong Coal Project are the responsibility of South Korea. South Korea has the sovereign right to determine how it will meet its Paris Agreement commitments.

Contents

1.0 Introduction

KEPCO Bylong Australia Pty Limited (KEPCO) is seeking development consent for the Bylong Coal Project (the Project) which is located in the mid-western region of NSW. The Project involves the construction and operation of a coal mine utilising open cut and underground mining methods to recover up to approximately 6.5 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal for a period of approximately 25 years. The development application for the Project is currently being considered for determination by the Independent Planning Commission (IPC).

KEPCO's approvals documentation for the Project has addressed the potential impacts of greenhouse gas (GHG) emissions.

The NSW Land and Environment Court (2019) in its Class 1 merits review jurisdiction delivered its judgment in *Gloucester Resources Limited v Minister for Planning* (the Judgment), which related to whether to grant consent for a mining project in New South Wales. In making its decision, the Court had regard to Scope 3 greenhouse gas (GHG) emissions.

This report provides additional information regarding the economic assessment of Scope 3 GHG emissions for the Project.

2.0 Downstream Scope 3 Greenhouse Gas Emissions from Burning of Coal from the Bylong Coal Project

In accordance with the NSW Government (2015) *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* and NSW Government (2018) *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals,* Scope 3 emissions were not included in the CBA of the Bylong Coal Project.

From a CBA perspective, Scope 3 emissions are part of a separate project (i.e. the burning of coal in South Korea to generate electricity) which has its own set of costs and benefits. Scope 3 emissions, associated with the ultimate burning of project coal in Korea to generate electricity, are estimated at in the order of 197.4 Mt CO2-e. The **global** social damage cost of these using the same assumption as used in the CBA of the Project is $1.8B present value using a 7% discount rate.

To put this in some perspective, the gross market value of electricity generated from burning the coal would be in the order of $7B (present value using a 7% discount rate) to South Korea. Consumer surplus benefits from electricity production would be in the order of $28B.[1] There may also be a range of other costs and benefits to South Korea that would be included in a CBA of the burning of coal to produce electricity.

[1] Estimated using the approach outlined in the Asian Development Bank (2013) *Cost-Benefit Analysis for Development: A Practical Guide*, Mandaluyong City, Philippines: Asian Development Bank, 2013 and assuming static base electricity production of 497 TWh (South Korea Ministry of Trade, Industry and Energy 2017,The 8th Basic Plan for Long-term Electricity Supply and Demand 2017 - 2031), 1 tonne of coal generates 1,507 KWh of electricity (https://www.quora.com/How-many-units-of-electricity-are-produced-from-1-ton-of-coal-in-thermal-plant), base price of electricity of USD0.11/KWh (https://www.globalpetrolprices.com/South-Korea/electricity_prices/), AUD:USD exchange rate of 0.75 and a price elasticity of demand of -0.272 (Tingwen Liu, 2015. "The Residential Demand for Electricity in South Korea," International Journal of Economics and Empirical Research (IJEER), The Economics and Social Development Organization (TESDO), vol. 3(2), pages 73-85, February).

The damage costs to NSW households[2] from South Korea burning coal from the project to generate electricity for its people, would be approximately $6M, present value using a 7% discount rate and the apportionment approach supported by NSW DP&E (2017). This would reduce the net social benefits of the Project (based on the revised mine plan) to NSW from $301M to $295M ($380M to $374M with company tax estimated in accordance with the NSW Guidelines 2015).

3.0 Long-term Coal Requirements & Substitution Effects

The demand for coal is a derived demand. In relation to thermal coal, what is actually demanded is electricity. To supply this electricity, KEPCO generation companies have constructed 8 power stations since 2005.

These facilities include:

- Samcheonpo coal power plant (3,240MW);
- Yeongheung power (5,080MW);
- Boryeong coal power plant (4,000MW);
- Shin-Boryung (1,852MW);
- Taean coal power plant (6,100MW);
- Dangjin Power (6,040MW);
- Hadong coal power plant (4,000MW); and
- Samcheok Green (2,044MW).

In addition to this, there are a number of new coal-fired power stations under construction including Shin-Seocheon project (1,000MW), Gosung Hai project (2,080MW), and Gangneung An-in project (2,080MW).

KEPCO made the decision to establish its largest overseas greenfield resources project in Bylong due to the suitability of the coal resource to KEPCO's modern coal power infrastructure. The absence of a supply of coal from one source will result in a substitute source being found. If KEPCO is required to obtain alternative coal supplies this is likely to come from countries such as Indonesia and would have a higher ash and sulphur content. Burning of lower quality coal to generate electricity would result in poorer environmental outcomes.

4.0 Sovereign Approaches to Meeting Paris Agreement Commitments

The Paris Agreement is not prescriptive about how its signatories are to achieve its objective. Each nation is responsible for setting its own emissions target and developing systems for reducing GHG emissions. From an economic perspective, reducing GHG emissions is not a costless process. The most efficient approach is via first choosing the lowest cost alternatives. For individual countries this may or may not be via changes in the electricity sector. In this respect, in 2015 South Korea commenced an Emissions Trading Scheme (KETS). Such schemes allows the economy to adjust in a least cost way. South Korea also recently announced a proposal to increase its share of renewable electricity generation. However, coal fired electricity will continue to have a central role in electricity generation in South Korea. Based on the Korean Government's '8th Basic Plan for Electricity Supply and Demand' published at the end of last year, coal-fired power plant capacity will increase 8% from current levels by 2030. It is up to South Korea to determine how it reduces its emissions from the burning coal to generate electricity.

[2] NSW Government (2015) state that a CBA of the Project should only include costs and benefits to NSW households.

APPENDIX B

LETTER FROM KEPCO AUSTRALIA HIGHLIGHTING THE STRATEGIC IMPORTANCE OF PROJECT COAL

KEPCO AUSTRALIA PTY LTD

Level 12, 141 Walker Street
North Sydney, NSW 2060
Phone: 02 8904 9508

4 March 2019

Mr Gordon Kirkby
Chairperson – Bylong Coal Project Panel
Independent Planning Commission
By email: ipcn@ipcn.nsw.gov.au

Dear Mr Kirkby,

Bylong Coal Project

I write to you to clarify several matters in relation to the Bylong Coal Project. I want to assure you that this project is economically viable as KEPCO's vertically integrated model means that the coal resource will be fully allocated over the life of the project. In Australian terms, KEPCO is an energy generator, distributor and retailer. Its primary business is the provision of electricity within the Republic of Korea (ROK) with the company's market share being approximately 80 per cent. With the Bylong Coal Project, KEPCO is seeking to secure high quality coal for our existing High-Efficiency Low Emissions (HELE) coal-fired power plants.

As you may be aware, ROK is not blessed with natural coal resources. Our demand for electricity has led to ROK becoming one of the largest coal importers in the world. In 2017, KEPCO imported approximately 93 million tonnes of coal of which approximately 29 million tonnes was sourced from Australia, including 19 million tonnes from New South Wales alone. KEPCO projects that its thermal coal consumption will increase to approximately 110 million tonnes by 2020. Australian coal is highly sought due to its superior quality, low ash and sulphur content, thereby complying with strict parameters required for South Korea's HELE coal-fired power plants. HELE power plants have been vitally important in ensuring a reliable and affordable energy supply for the people of South Korea. Since 2005, KEPCO generation companies have constructed 8 power stations.

These facilities include:

Coal Fired Power Station	Generating Capacity (MW)
Samcheonpo	3,240
Yeongheung	5,080
Boryeong	4,000
Shin-Boryung	1,852
Taean	6,100
Dangjin	6,040
Hadong	4,000
Samcheok Green	2,044

KEPCO AUSTRALIA PTY LTD

In addition to this, there are a number of new coal-fired power stations under construction including Shin-Seocheon project (1,000MW), Gosung Hai project (2,080MW) and Gangneung An-in project (2,080MW). Each of these power stations are designed and constructed for an operational life of around 40 years, which demonstrates KEPCO's ongoing demand for thermal coal for years to come.

In 2011, KEPCO made the decision to establish its largest overseas greenfield resources project in Bylong due to the suitability of the coal resource to KEPCO's modern coal power infrastructure. This project is important to and will ensure the stability of supply for the KEPCO owned power stations. If KEPCO is required to obtain substituted coal supplies, it is likely to have a higher ash and sulphur content and will be sourced from countries such as Indonesia. This will have an adverse effect on the Australian and New South Wales economies and the Korean environment.

Yours sincerely

LEE, JONGSEOP
President & CEO
KEPCO Australia Pty Ltd

CC – Stephen O'Connor and Wendy Lewin, Commissioners, Independent Planning Commission

CC - Stephen O'Donoghue – Department of Planning and Environment