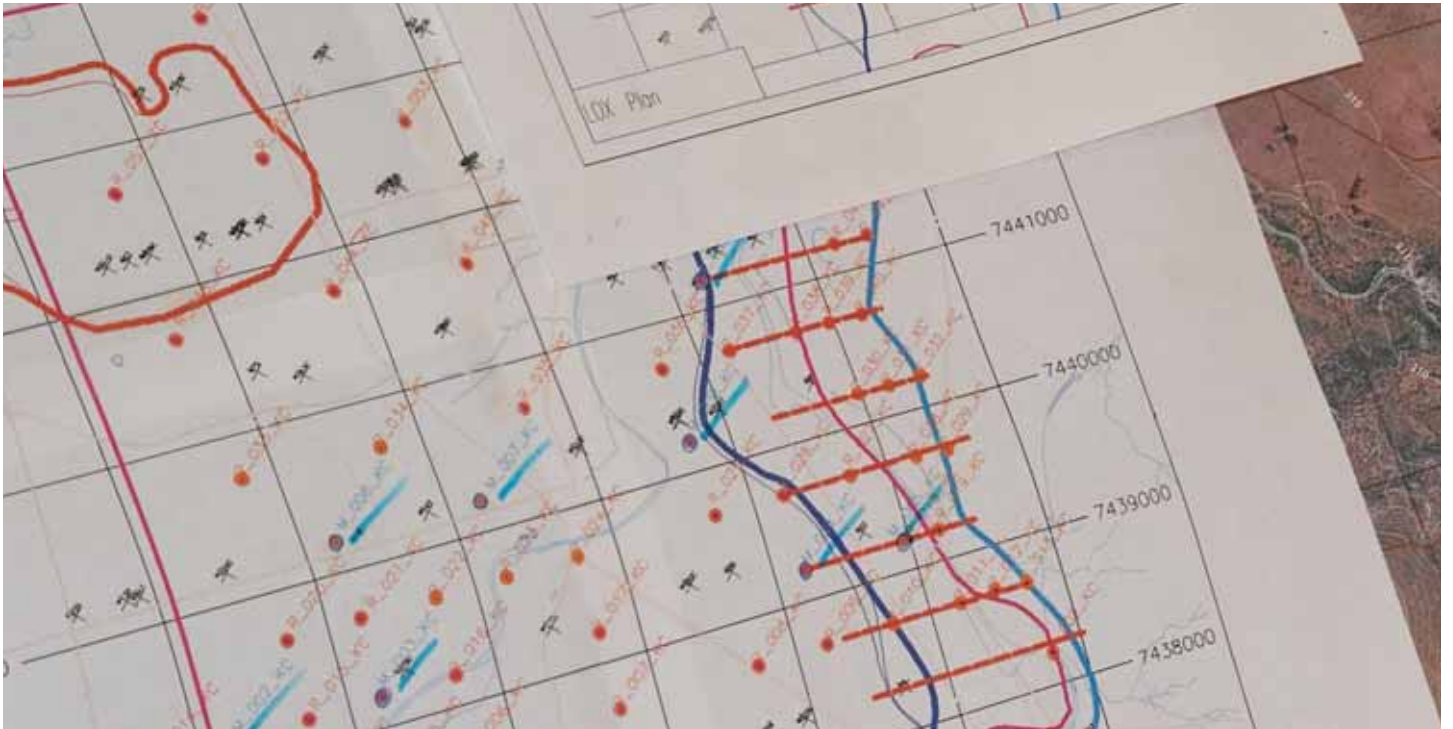


# 27 | Cumulative Impacts



## Section 27 Cumulative Impacts

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### 27.1 Introduction

The Terms of Reference (TOR) for the Kevin's Corner Coal Mine Project (the Project) Environmental Impact Statement (EIS) require that direct, indirect and cumulative impacts be identified and assessed with respect to environmental values and potential extent of impacts.

The potential environmental, social and economic impacts of the mine component of the Project are assessed in Volume 1 of the Kevin's Corner Coal Mine Project EIS, respectively. Where possible, adverse impacts are avoided or mitigated via implementation of sound environmental protection and management criteria. Additional supporting information is presented in the EIS technical appendices (Volumes 2).

Cumulative effects may occur due to the compounding and synergistic interactions arising from other developments, occurring in the same area or over similar time frames to the project being assessed. Environmental values may be impacted as a result of a geographic overlap of project areas, scheduling overlap or using the same infrastructure, services and resources. Many of the cumulative effects associated with the Project are derived on a broader scale from transport, economic and social interactions between the Project and other existing or proposed projects within the project vicinity. Closer to the Project site cumulative effects associated with the Project may include air quality (dust), groundwater, surface water, noise etc.

The Project cumulative impact report (Volume 2, Appendix X) assesses the cumulative impacts of the development of the proposed mine components of the Project. The cumulative impact assessment is based on the best information publicly available when this EIS was prepared, which was limited to the development stages of other projects. A summary of the key findings for the cumulative impact assessment for the Project is provided below.

### 27.2 Objective

The objective of the cumulative impact assessment is to present clear and concise information on the cumulative impacts on specific environmental values that could occur as a consequence of the Project operating in conjunction with any other existing or proposed developments.

The cumulative impacts are to be considered at a local, regional and state/national level, accumulating over time and to the exacerbation of impacts in intensity or scale, frequency or duration, and in either isolation or combination with other known existing or planned impacts.

The requirements of relevant State Planning Policies, Environmental Protection Policies, National Environmental Protection Measures and other strategies and regulations are addressed in assessing the cumulative impacts of the Project on the existing environment.

### 27.3 Methodology

The methodology used to assess the Project's cumulative impacts consisted of the following tasks:

- Identify appropriate geographic boundaries for the analysis of cumulative impacts. Where potentially interacting projects are not located close enough for the relevant impacts to overlap, cumulative impacts are less likely. The extent of the assessment boundaries will vary according to

the nature of the impact being assessed. The impacts identified within the EIS have fallen within three identified geographical areas of influence:

- **Local:** includes the area surrounding the Project and adjacent projects;
  - **Regional:** where the impacts extend beyond the immediate local project area, and include the local township of Alpha, and extend out to around 100 km from the Project; and
  - **State/National:** provides for more extensive impacts on the Queensland or Commonwealth.
- Identify the impacts of the Project in isolation using existing baseline conditions, which include the impacts from existing projects and activities in the relevant geographic areas. These impacts have been described in detail in the relevant sections of the Volume 1 of the EIS.
  - Identify relevant projects within the areas of influence of the Project that are either proposed or approved but not yet operational that could generate impacts that could potentially interact with similar impacts from the Project.
  - Identify appropriate temporal boundaries for the analysis of cumulative impacts. Where the schedules of potentially interacting projects do not overlap (primarily for construction activities), cumulative impacts are less likely.
  - Assess the significance of the cumulative impacts with respect to beneficial or detrimental effects.

In assessing the significance of potential cumulative impacts, the extent of compliance with established standards or guidelines was used where the impacts could be expressed quantitatively.

Where the impacts were expressed qualitatively, the probability, duration, and magnitude/intensity of the impacts were considered as well as the sensitivity and value of the receiving environmental conditions.

The significance of each impact was then determined for each geographical area according to the assessment matrix given in Table 27-1.

Table 27-1: Assessment Matrix

Aspect	Relevance Factors			
	Nil	Low	Medium	High
Probability of impact	0	1	2	3
Duration of impact	0	1	2	3
Magnitude / Intensity of impact	0	1	2	3
Sensitivity of receiving environment	0	1	2	3

It should be noted that the numerical output from the Assessment Matrix has not been presented in this document, but was used purely as a means of including or excluding further assessment within an geographic area.

Using the methodology outlined above, the cumulative impact assessment was completed for each environmental value relevant to the development of the Project.

## 27.4 Overview of the Project

The Project is a proposed combined open cut and underground coal mine with product coal capacity of 30 Mtpa located within a well known thermal coal deposit in the Galilee Basin, Queensland. Water and power supply infrastructure to service the mine are necessary components of the proposed development.

Cumulative impacts that may impact on specific environmental values for the mine site are identified in Table 27-2. A break down of the potential cumulative impact that could be resultant from interactions of the Project (Mine) and other existing or proposed projects at regional and local levels is presented in Volume 2, Appendix X).

The proposed projects located adjacent to the Project that have the potential to have a significant cumulative impact particularly on social and environmental values in the local area include:

- Alpha Coal Project (Alpha), a proposed 30 Mtpa open cut mine located on mining lease application (MLA) 70425, immediately south and adjoining the Alpha MLA;
- Waratah Galilee Coal Mine (Waratah), which is a proposed 25 Mtpa open cut coal mine adjoining Alpha MLA to the south;
- Galilee Basin Power Station, a proposed coal-fired power station producing 900 MW (net) immediately to the south of the Alpha MLA;
- South Galilee Coal Project (SGCP), which is a proposed 15-20 Mtpa open cut and underground mining operation located to the south west of the Alpha township;
- Powerlink power transmission line, a proposed transmission lines from Lilyvale substation to a new Galilee Hub substation (during construction phase) to supply power to the Project; and
- SunWater raw water line, a proposed water pipeline from Mora nbah to a raw water dam within Alpha Coal Project MLA.

A conservative approach to the cumulative impact assessment was taken by assuming simultaneous construction of all projects. However, this is unlikely be the case as some projects may be deferred or some may even be cancelled.



## 27.5 Conclusion

Table 27-2: Potential Cumulative Impacts – Kevin's Corner Coal Mine Project

Environmental Value	Kevin's Corner Coal Mine Project
Land	Medium
Land Use	Medium
Landscape Character	Low
Nature Conservation	Low
Surface Water	High
Groundwater	Medium
Air Quality	Medium
Greenhouse Gas	Medium
Noise and Vibration	Low
Solid Waste	Low
Traffic and Transport	Medium
Non Indigenous Cultural Heritage	Medium
Indigenous Cultural Heritage	Medium
Social and Community	High
Hazard and Risk	*
Economics	High

\* Not assessed for the mine as all of the risk items were restricted to site.