

**Economic and Social Impacts
of the Coppabella Mine
on the Nebo Shire
and the Mackay Region**

PART I: Study Overview
(Final Draft Report REVISED)

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April 2003

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1.0 INTRODUCTION

1.1 Report Overview

Coal mining is a major industry for Queensland, and an important contributor to the economy and social fabric of many regional communities. Coal generates wealth for Queensland in two important ways; by bringing in export income and by allowing electricity to be generated at low prices. Low cost electricity contributes to the living standard of Queensland residents, as well as allowing other industrial and tertiary industries to minimise energy costs.

Economic activity and growth can foster improvements in social conditions in a number of ways. These include the direct creation of jobs, with corresponding flows of income and wealth accumulation. Economic growth also allows more resources to be used for social services such as health, education and welfare, both through private and public spending.

The mining industry is a key part of the state's economy, accounting for over 10% of the Gross State Product (ACIL Consulting 2002a). It employs nearly as many people as the agriculture industry, but tends to pay much higher wage levels. Most mining activities are in regional areas, and require capital spending on infrastructure requirements. As a result of spending on wages, infrastructure and operating costs, mines provide direct injections of economic stimulus into regional areas. They also help to maintain regional employment and population growth.

At a broad level, the impacts of the mining industry on the state's economy and social capital are clear and substantial. At the regional and local level though, the impacts are not so easily defined, particularly for a single mine. This is for two key reasons. Firstly, it is not transparent what the economic and social impacts of mining are on a particular region or local area as compared to other industries and the provision of public services. Secondly, there is some diversity in the operations and supply of labour to mines, making it harder to identify the impacts of a particular operation on economic and social factors.

The identification of social and economic impacts of a mine can be important in negotiating the appropriate provision of services and infrastructure with local, state and commonwealth governments. A mine typically involves substantial infrastructure and labour requirements, with subsequent impacts on social infrastructure and capital. There may be both positive and negative aspects to the flow-on effects. Planning processes exist to identify and minimise these impacts. The Queensland Government streamlines a detailed planning and assessment process by assessing major new projects in an integrated manner. A single Environmental Impact Statement (EIS) is prepared to address a range of environmental, social, infrastructure and economic criteria.

While the approval process and the preparation of an EIS helps to ensure that there are no unanticipated impacts of a new development, there is often a negotiation process about who bears the cost of the impacts. The cost of many of the direct impacts is paid for by developers

or project proponents, while other costs may be met by the community or different levels of government. Benefits from new project developments also flow to these groups.

Many of the impacts of new development projects are not very transparent. Environmental and social impacts are often difficult to identify and to cost accurately. Many economic impacts are also difficult to identify clearly, because of time and spending lags and the problems involved in separating out influences from different industries. This lack of transparency about the full impacts of new development (both positive and negative) makes it difficult to negotiate agreements about who bears the costs and benefits.

These issues are explored in this study in relation to a single project in Queensland, the Coppabella Coal Mine. The research has been funded by Australian Premium Coals, which operates the Coppabella Mine using contractors to perform the mining operations. The research has been carried out between September 2002 and April 2003 by a team of researchers from Central Queensland University, drawing in particular on regional development, economic and sociology skills. As a research project, the findings of the study will be publicly available.

The Coppabella mine is located approximately 130 kilometres west of Mackay in Central Queensland. It is located in the Nebo Shire, close to the towns of Nebo (approximately 39 kilometers east of the mine) and Coppabella (10 kilometres west of the mine). Beef cattle is the traditional industry in the Nebo Shire, but there have been developments in coal mining in the region, as it overlays the northern end of the Bowen Basin.

The Coppabella Coal Mine is responsible for directly employing up to 340 people. However, the social and economic impacts of the mine on the local shire and the Mackay region are difficult to identify in detail. This is because there are other mines in the region which also contribute to the local economy, regional economic dynamics are also affected by changes in other industries, and social dynamics are influenced by government programs and other factors.

In this report, the key factors that contribute to economic and social changes are identified. These are presented respectively in Sections two and three of the report. The remainder of this introductory section of the report is structured as follows. In the next section, general background information about the coal industry and regional development in Queensland is presented. The Coppabella Mine and the local and regional area in which it is situated are described in Section 3, and the focus of the study is outlined in Section 4.

2.0 BACKGROUND TO THE COAL MINING INDUSTRY, AND SOCIAL AND ECONOMIC IMPACTS

Coppabella Mine is one of a number of coal mines in the Bowen Basin. The basin extends from Collinsville in the north to Moura in the south, and produced \$2.76 billion of coal in 1999/2000. This was 34% of Queensland's total mineral production (Department of Local Government and Planning 2002).

Mining activities tend to be carried out by larger scale firms. There are approximately 140 minerals and energy companies operating in Queensland in the year 2000. These firms directly employed approximately 16,400 people, and paid them almost \$1000 million in salaries (ACIL Consulting 2002a). A further 15 – 20% of jobs and salary payments would have been sourced through payments to contractors, and a further \$2,200 million paid to firms that provided goods and services to the mining industry (ACIL Consulting 2002a). It is estimated that there are up to 60,000 full-time and part-time jobs involved in the provision of goods and services to the mining industry.

The mining industry in Queensland accounted for around 17% of all capital expenditure in Queensland in 1999-2000 (ACIL Consulting 2002a). This amounted to \$1,215 million. The main areas of expenditure from an industry producing more than \$6 billion per year are as follows:

Salaries and wages	\$1.2 Billion
Goods and services	\$2.2 Billion
Infrastructure	\$1.2 Billion

Other areas of expenditure include exploration and research and development. These investments are important, because mining relies on new discoveries and better technology for extraction to be able to maintain or increase output. Currently about 10.2% of the Gross State Product, and about 1 in every 14 jobs is generated by mining activities (ACIL Consulting 2002a). The contribution is much higher for regional areas in Queensland where mining activities occur. The economic stability and growth of many regional areas is dependent on continued investment in the mining industry.

The importance of mining to regional economies is driven by the high incomes of employees in the mining sector. Average weekly earnings in the mining sector in Australia are higher than any other industry, and were \$1,424/week for a full-time employee in August 2001. Wage levels are approximately double weekly earnings in the retail trade and tourism industries (ACIL Consulting 2002a). The high levels of income in the mining industry mean that flow-on expenditure levels are high. Even though mining accounts for only 1 in every 14 jobs in Queensland, the industry accounts for significant job creation as income is spent in other industries. In terms of spending impacts on the Queensland economy, a job in mining is worth approximately two jobs in either the retail trade or tourism industries (ACIL Consulting 2002a).

The contribution of the coal industry to output and jobs in regions of Queensland has been reported by ACIL Consulting (2002a). These estimates are reproduced in Table 2.1. They show that the coal industry is responsible for approximately half of mining related jobs in Queensland, and that the bulk of economic and employment activity is in Central Queensland, where approximately 15,784 full-time job equivalents have been created by the industry. The estimates indicate that much of the employment and economic activity generated by the coal mining industry is captured within the same region.

Table 2.1 Annual economic benefits from coal and petroleum production.

Region	Gross output effects (\$M)	Additions to factor income (\$M)	Additions to Gross State Product (\$M)	Full-time job equivalents
Brisbane- Moreton	769.00	230.17	295.91	4558
Wide Bay-Burnett	584.61	127.38	220.41	3183
Southern	862.84	258.61	310.09	4114
Central	4636.64	927.22	1811.82	15784
Northern	634.95	97.14	312.75	3797
Northern-West	162.81	14.38	72.95	1098
Total Queensland	7650.85	1654.90	3023.93	32533
Rest of Australia	521.90	148.07	209.30	3322
Total Australia	8172.75	1802.97	3233.23	35855

Source: Mangan J. 2001 The significance of the mining industry to the Queensland Economy (unpublished). Quoted from ACIL Consulting 2002.

The following are examples of how income that results from mining in the Central Region flow to other areas of the economy.

- Purchases of high technology equipment and technical services assess by a mining firm.
- Machinery and equipment for maintenance purposes are purchased from local and interstate suppliers.
- Mining employees and their families spend their income on local goods and services such as housing, food, clothing, health services and recreation.
- Investors in mining firms receive dividends which they use for the purchase of goods and services (ACIL Consulting 2002b).

The contribution of mining to the Queensland economy does not come at a high environmental cost. Only 0.03% of land in Queensland is currently disturbed by mining (ACIL Consulting 2002a). There have been past examples of mining activities that have caused off-site environmental problems, and there are about 100 abandoned mine sites in the State that need to be rehabilitated (ACIL Consulting 2002a). Much more rigorous standards regarding environmental impacts now apply to the mining industry in Queensland, which helps to minimise any impacts. However, there are still opportunities for the investment in rehabilitation to be linked more closely with the needs and priorities of the relevant communities (Rolfe 2001).

There have been changes in employment patterns within the coal industry over the past few years, which are also linked with some social changes. There are two major changes in employment patterns to note. First, there is increasing emphasis on the use of contractors to perform some or most of the mining operations. This change has been driven by searches for

efficiencies in production. Second, there is increased usage of variations on fly-in/fly-out operations, where mining companies no longer build mining towns or take full responsibility of employees outside of working hours. There have also been changes in industrial relations agreements and shift work patterns at many mines across the Bowen Basin.

One effect of the changes is that employees now have more choice about where they are located. Many employees now live in the larger centres or coastal cities and stay in company accommodation when they are completing a shift. Another effect is that there has been some turnover of people across mining towns as many mining companies have shed staff. Most of the mining towns have maintained population with increased employment by contractors and service industries.

These changes have to be viewed in the context of other demographic influences on regional Queensland. There have been population losses in many regional areas as increased efficiencies in agriculture and service industries mean that fewer people are employed in those sectors. In many cases the population movements are from rural areas and smaller towns to larger centres within regions. Better transport and communication facilities, increased emphasis on service industries and the increased scale of firms and enterprises are among some of the economic reasons why larger centres have grown at the expense of smaller ones.

There are also a number of social reasons why there have been population movements to larger centres. These include better employment opportunities (especially for partners), better education and health services, increased recreation opportunities, and quality of lifestyle factors. Currently there are a variety of employment patterns at the different mines across the Bowen Basin, ranging from fly-in/fly-out to the company town close to the mine site option. This means that there is some opportunity for employees to “vote with their feet”, and shift to the mining operation that suits their personal preferences.

3.0 OVERVIEW OF THE COPPABELLA MINE OPERATION, AND THE MOORVALE MINE OPERATION

3.1 Nature of the Mining Operation

Australian Premium Coals (APC) Pty Ltd is the project manager for the Coppabella Coal Mine which includes the original Coppabella site plus the Coppabella east extension, and the proposed Moorvale project. The Coppabella Coal Mine is a conventional open cut strip mine which produces a range of Pulverised Coal Injection (PCI) and Thermal Coal for the export market through the Dalrymple Bay Coal Terminal at Hay Point which is 120 kilometres by rail (Australian Premium Coals Pty Ltd 2000).

Mining at Coppabella commenced in July 1998. Based on current estimates of resources, the mine life for the Coppabella Mines is expected to be 25 – 30 years depending on the rate of production. Current production from Coppabella is approximately 5.5 million tons per annum. The Coppabella Mine includes the Coppabella East and Coppabella South (Moorvale) extensions.

The Moorvale property is located on the Peak Downs Highway approximately 10 kilometres southwest of Coppabella township, 50 kilometres south east of Moranbah, 50 kilometres south west of Nebo, and 160 kilometres south west of Mackay. Based on resources available the mine is expected to have an operational life of approximately 15 years. Coal is expected to be extracted from mid 2003. This operation will also be an open cut strip mine.

3.2 Resourcing the Mining Operation

The Coppabella mine is operated as a contract operation with staff employed at the contractor's discretion. Currently three major contractors are involved in operating the mine. These are Leighton Contractors Pty Ltd, Sedgman Operations Pty Ltd and Roche Mining Pty Ltd. Australian Premium Coals Pty Ltd directly employs fewer than 10 permanent staff in the Mackay region for the Coppabella Mine, but has more personnel located in the Brisbane head office. A summary of contractor functions is presented in Table 3.2.1.

Table 3.2.1 Contractors at the Coppabella Mine

Contractor	Function	Shift Configuration	Employee Numbers (approx)
Leighton	Operate 2 pits	5 days on and 3 days off	84 – 90
Sedgman	Operate washplant	5 days on and 3 days off	14
Roche	Operate 1 pit	6 days on and 3 days off	180 – 190

3.3 Residence of Workers engaged in Mining Operations

The Coppabella Mine is typical of many newer mining operations in the Bowen Basin in that an associated mining town has not been built to house employees. Many employees live in

Mackay or other centres, and stay in accommodation at Nebo or Coppabella when on a shift roster. For example, Leighton provides a camp for shift employees at Coppabella, or pays employees an allowance if they make their own accommodation arrangements while on a shift roster. Some people commute from Moranbah or Mackay, although the latter arrangement is not desirable for fatigue and safety reasons.

Table 3.3.1 Accommodation patterns

Contractor	On Shift	Off Shift
APC	Broader Mackay Moranbah Nebo	Broader Mackay Moranbah Nebo
Leighton	Moranbah (31%) Nebo (22%) Coppabella (47%)	Moranbah Nebo Broader Mackay
Sedgman	Permanent staff of John BS Operations 93% Coppabella 7% Nebo CHPP Manager Nebo Sedgman visitors 100% Nebo JSIS maintenance Crew 100% Nebo	Broader Mackay Moranbah Coppabella Nebo Other
Roche	15% Broader Mackay 10% Moranbah 6% Coppabella 69% Nebo	62% Broader Mackay 10% Moranbah 3% Coppabella 10% Nebo 15% Other

3.4 Demographic Profile of the Mackay Statistical Division

The Mackay Statistical Division comprises the seven local government areas of Mackay City, Mirani, Whitsunday, Sarina, Belyando, Broadsound and Nebo. It covers a total area of 69, 175 kilometres which represents 4.0 per cent of the total area of the State (OESR 2001). The resident population of the Division is nearly 130,000 people, which represents approximately 3.6% of Queensland's. Approximately 60% of the population are located in Mackay City.

Annual growth rates for the population in the Division have been in the range 1.4% to 1.7%. This growth is concentrated in Mackay City, and the Shires of Whitsunday, Mirani and Sarina. Three local government areas have experienced population declines in recent times – Broadsound Shire, Belyando Shire, and Nebo Shire. The projected increase in population for the Mackay Statistical Division for the next 20 years is an average rate of growth of 1.2% per annum.

The region's major industries are agriculture, mining and tourism. The value of agricultural production to the area is \$484 million and mineral production \$2,442.9 million, with black coal contributing most of the latter. Mackay City has the highest value of agricultural production and Nebo Shire has the lowest. Hay Point Services and the Dalrymple Bay Coal terminals handle nearly 25% of Queensland's exports (by value).

3.5 Demographic profile of the Nebo Shire¹

The Nebo Shire comprises 10,009 km², of which the majority is used for low-intensity beef grazing purposes. There are three small towns in the shire, being Nebo, Glenden and Coppabella. Nebo is the administrative hub of the Shire, with the townships of Coppabella and Glenden established to support the mining industry. Coppabella was established in 1971 by Queensland Rail to house employees working in rail operations associated with transporting coal from a number of mines. Glenden was built as the residential base for the Newlands Mine which is mostly located outside the Shire boundaries.

Based on the 2001 Census, the Shire's population was 2,529 with 54% of residents in urban centres and 46% the rural balance. This represents an increase of 67 people (2.7%) since 1996 and a decrease of 105 people (4.0%) since 1991 (ABS 2001). Mining commenced at Coppabella in July 1998, thus any relevant impacts of the operation would be expected to be reflected in the 2001 Census data.

In 2001, there were 260 family couples with children (which comprised 55% of all families in occupied private dwellings, 176 couple families without children (38%), 29 one parent families (6.2%), and 4 other families (0.85%). There were 43 people (2.4% of persons) in occupied private dwellings in group households and 127 people (7.0%) in lone person households.

Population projections for the period 1996 – 2021 (Department of Local Government and Planning 2001) indicate a continuing population decline for Nebo Shire. However in a regional context, Mackay City, Mirani and Sarina Shires are expected to have population increases.

At the time of the 1996 Census, the overall unemployment rate of the Shire was 3.2%, compared with 9.7% for Queensland. The Shire had 0.1% of Queensland's employed persons and 0.0% of Queensland's unemployed persons. The employment participation rate (of people in the appropriate age categories) was 74.6%, which is higher than that recorded for Queensland (63.2%) (ABS data cited in OESR (2001), p. 9)

In 2001, the Shire's median weekly income was \$700 – 799. Due to differences in methodologies and other factors, the figures from 1996 and 1991 are not directly comparable. It is worth noting that the median income in these years was \$500 – 599, and \$300 – 399 respectively. This suggests that there has been a substantial rise in shire incomes as mining activities have developed.

In the context of the ABS' Social Economic Index, Nebo Shire was 992, where the nominal average index value for determining socio-economic disadvantaged areas is 1000 (ABS 1996, in Department of Local Government and Planning 2002). While the region is expected to

¹ Information drawn from the ABS, 2001 Census Basic Community Profile and Nebo Shire Snapshot.

realise population growth over the next 20 years, the Nebo Shire is expected to experience population decline over the period. 'The issues facing the inland towns and rural areas are likely to be significantly different. The decline in population, particularly in the working age group, may lead to difficulties in maintaining existing service levels and a decline in local economic opportunities.' (Department of Local Government and Planning 2002, p.13).

4.0 FOCUS OF THE STUDY

The economic and social impacts of mining developments in central Queensland are topical for a number of reasons. Some of the key ones (in no particular order) are:

- Communities look to new mines as a way of achieving regional development goals, and are therefore interested in predicting economic and social spinoffs,
- Communities in central Queensland associated with mining have tended to have stable or growing populations over the 1980s and 1990s, while communities reliant mostly on agriculture (eg those in western Queensland) have tended to suffer population declines,
- There are social impacts occurring from both restructuring in the mining industry and from introducing new mines – these can be both positive and negative,
- The local economic impacts of mining developments tend to be reduced for fly-in/fly-out or other flexible labour supply arrangements compared to permanent local workforce arrangements,
- There is interest in planning for the future to ameliorate the social and economic impacts of mine closures,
- The distinction in responsibilities about the provision of social and economic infrastructure has been blurred in the past when mining companies constructed mining towns for employee accommodation,
- There are often calls on mining companies to contribute to regional development and social infrastructure projects that are outside of their direct commercial interests,
- The impacts of mining developments on local government operations and budgets are not always easy to identify accurately,
- Community acceptance of new mining projects has become more critical and greater attention is paid to addressing adverse social and environmental impacts that might arise,
- There are perceptions in many communities that mining activities do not generate many local or regional benefits compared to more traditional industries such as agriculture.

These issues are being addressed in the mining industry in different ways.

- At a planning and regulatory level, the Environmental Impact Assessment (EIA) process that is undertaken for major projects in Queensland is becoming more rigorous and complete. The EIA process typically covers social, cultural heritage and other impacts as well as the environmental assessments.
- At an information level, there has been some work to identify the economic and employment impacts of the mining industry on state and regional areas. For example, Pacific Coal, which operates the Blair Athol, Kestrel, Tarong and Hail Creek projects in Queensland has been assessing community attitudes in the relevant regions, as well as modelling the economic impacts of their operations (e.g. ACIL Consulting 2002a).

- At a community engagement level, there have been greater efforts made by mining companies to engage with communities. Some of the mechanisms used include planning groups involving community members, public briefings and information sessions, funding for events and infrastructure, support for environmental and social programs, and the establishment of community trust funds or other publicly available funding programs.
- At a community planning level, there has been substantial interest from communities, local and state governments and other bodies in addressing social and other issues. An example of a community planning initiative was the Positive Futures for Mining Communities Forum held in Moranbah in November 2000.

The key aims of this study are to add to the work and information that already exists by focusing on three key tasks:

- A. Identify the economic impacts of the Coppabella Mine on the Nebo area and the Mackay region. A key focus is to identify the extent to which people in the Nebo community participate in the wealth generation process that flows from having a coal mine in the area, and to explain how that wealth is generated.**
- B. Identify the social impacts of the Coppabella Mine on the Nebo area and the Mackay region. A key focus is to identify where the establishment of the Coppabella Mine has impacted on social patterns in the area.**
- C. Assess the perceptions of local and regional populations to environmental and social impacts of mining activities in the region.**

The results of the study are reported in the Part II: Economic Impacts Assessment and Part III: Social Impacts Assessment.

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