

Just to fill you in...

Jobs and mine rehabilitation in Queensland

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April 2018

Introduction

Lock the Gate asked The Australia Institute for assistance in estimating the potential employment impacts of increased mine rehabilitation in Queensland. This relates to the *Mineral and Energy Resources (Financial Provisioning) Bill* currently before the Queensland Parliament.

Lock the Gate hope this bill, if passed and implemented, will reduce the mine rehabilitation 'deficit' in Queensland: the area that has been disturbed by mining activities but has not been rehabilitated. Queensland government estimates suggest the area of land disturbed is 12 times greater than the area under rehabilitation, a substantial increase on 2006 when disturbed areas were only three times greater than areas under active rehabilitation.¹

Estimating employment impacts of rehabilitation

A Queensland government assessment estimates that there are 220,000 hectares of disturbed land from all mining in the state.² Lock the Gate suggest that – if properly resourced – initial rehabilitation of these areas could be completed in five years.

Most economic assessments of mine projects include rehabilitation spending and employment as part of the mine's operations, assuming rehabilitation is done progressively. The Queensland government estimates show that this does not occur in practice.

¹ Queensland Government (2017) *Better Mine Rehabilitation for Queensland, Discussion Paper*, p 10

² Queensland Government (2017) *Financial Assurance Framework Reform, Discussion Paper*, p 1

As a result, few published economic studies separately assess the mine’s production phase from the rehabilitation phase, making it difficult to assess the employment impact of rehabilitation. A partial exception to this is the assessment of the Adani Carmichael mine, the controversial coal proposal in the Galilee Basin. Adani’s Supplementary Environmental Impact Statement (SEIS) includes an estimate of the workforce involved in the final rehabilitation phase. Adani intends to cease coal production in 2071 but will keep a workforce of 250 people for a further three years to complete rehabilitation.³

Adani’s SEIS also includes a rehabilitation strategy, with information on total areas to be rehabilitated and general timelines.⁴ In total, Adani intends to rehabilitate an area of 26,837 hectares over a period of 45 years, or almost 600 hectares per year. Assuming that rehabilitation is progressive, with a similar sized workforce throughout, on average a worker can rehabilitate 2.4 hectares per year. This calculation is summarised in Table 1 below:

Table 1: Adani mine rehabilitation and workforce

People in final rehab phase	250
Area (ha)	26,837
Years	45
Area per year (ha)	596
Area per person per year (ha)	2.4

Source: GHD (2013) *Report for Carmichael Coal Mine & Rail Project SEIS – Economic Assessment*

Assuming Adani’s rehabilitation task is typical of Queensland’s wider situation – likely, as coal mines account for the vast bulk of the disturbance area – this figure can be used to estimate the number of jobs generated by eliminating the rehabilitation deficit. This calculation is summarised in Table 2 below:

Table 2: Employment and rehabilitation in Queensland

Area to be rehabilitated (ha)	220,000
Number of years	5
Area per year (ha)	44,000
Area rehabilitated per worker per year (ha)	2.4
Workers required to complete rehabilitation in 5 years	18,445

Sources: GHD (2013) *Report for Carmichael Coal Mine & Rail Project SEIS – Economic Assessment*; Australia Institute calculations

³ GHD (2013) *Report for Carmichael Coal Mine & Rail Project SEIS - Economic Assessment*, p 31, figure 22

⁴ EMM (2013) *Carmichael coal mine Closure and rehabilitation strategy*, table 3.1

Table 2 shows that based on Adani's estimates of rehabilitation and workers required, eliminating Queensland's rehabilitation deficit would require more than 18,000 workers for five years.

Conclusion

The purpose of this estimate is not to be definitive, but to provide some order of magnitude of how many people might be employed with increased mine site rehabilitation. Given that around 60,000 people work in Queensland's mining industry at present, expanding rehabilitation efforts for an intense period of five years would be expected to generate many thousands of jobs.

Many factors could affect the accuracy of this estimate. Rehabilitating some areas may be more difficult than others. The quality of rehabilitation required by government and expected by the community could affect this estimate substantially. If, as is likely, rehabilitation involves monitoring and maintaining landforms and ecosystems over extended periods, the five-year timeframe may be optimistic.

Overall, the details of how such a policy would be implemented are likely to affect employment numbers. It seems clear, however, that a major program to reduce the rehabilitation deficit would generate considerable employment, particularly in parts of regional Queensland where mining activity has declined in recent times.