50 thousand 'mines' away

By Mariana Marabini for HOPE Australia – 22nd April 2019

THE MINING INDUSTRY'S PANORAMA IN AUSTRALIA

It is widely known that the mining industry contributes significantly to Australia's economy. In detail, mining represents around the 8.2%* of the Australian Gross Domestic Product (GDP) for 2018 (1) and during the fourth quarter of last year, the average GDP from mining reached its historical highest level of 36,287 AUD million. Analysis shows that it is forecasts to grow for 2019 (2).

Furthermore, 55% of Australia's total export earnings is based in the mining industry, followed by services (21%), agriculture (10%) and manufacture (10%). Iron ore is the key commodity and Australia is its largest exporter in the world, taking 58% share of the global $66.6 billion market. The majority of this commodity heads to China, which imports 83% of the Australia's exports.

Despite the importance of mining for Australia's economy, it is not in the public eye that currently there are 400 active mines across the country and around 50,000 (3) abandoned ones (15,380 in QLD).

This means that there is big gap between the use of land for mining and the amount of land that has been rehabilitated afterwards.

By definition, an abandoned mine is "…*where mining leases or titles no longer exist, and responsibility for rehabilitation cannot be allocated to any individual, company or organisation responsible for the original mining activities*" (MCMPR/MCA 2010). Mined lands cause serious negative environmental and socio-economic impacts e.g. damage to flora and fauna, pollution of soil and water, and disrupted communities. Moreover, they have the potential of becoming a threat to human health, safety and for the environment.

After all, the industry that represents 55% of the Australian exports and 8.2% of the GDP, has left behind 50 thousand environmental risks and the responsibility of this issue can not be allocated to anyone.

*The following chart shows the contribution of main industries for the Australian GDP

Contribution to Australia GDP

Source: ABS (2018) Australian National Accounts, National Income, Expenditure & Production.

GDP From Others 14.0%
GDP From Agriculture 2.4%
GDP From Construction 7.8%
GDP From Manufacturing 5.8%
GDP From Mining 8.2%
GDP From Public 5.5%
GDP From Utilities 2.5%
GDP From Financial 53.8%

The reason for the existence of abandoned mine sites dates back to when the regulations were powerless and not specific about what should be done when mine leases are finished.

Nowadays, after the Environmental Protection Act 1994 (4) in Queensland, the mining companies have the obligation to develop

'Progressive Rehabilitation and Closure Plans' that include restoring the ecosystem, leaving the area in safe conditions - non-polluting and suitable for future sustainable land uses. The restoration plans are now part of the mine life-cycle (5). Once the plans are completed the land is handed back to landholders, traditional owners or government.

Although the awareness of the urgency to rehabilitate abandoned mines is increasing, this article aims to look at the the big picture and consider if Australia has the opportunity to add value and take advantage of these abandoned lands.

REPURPOSING

The International Council on Mining and Metals highlights that the rehabilitation plan can be the longest stage because ideally, it should restore the land towards its original state while considering the community needs. Additionally, the effort benefits everyone: the local community, the ecosystem and the reputation of the company.

In Kimberly, British Columbia in the south of Canada, the Sullivan Zinc mine (6) closed in 2001 after operating for more than a hundred years. Even though there are ongoing monitoring and water treatments, this 'after-mine' case is a pioneer example of repurposing to provide economic benefits to the community.

Eleven years before Sullivan's closure the plan to alleviate the impact and diversify the economy started. The main decisions were taken with strong participation of the community members. The actions included training for employees to be able to shift jobs to different industries; reforestation of the mining area and the creation of a ski center including new resorts and golf courses. Also, there is an active solar energy project which produces clean electricity for the community.

The new land uses created sustainable opportunities in the tourism industry, attracting hundreds of thousands of tourists per year. As a result, Kimberley's economy is keeping pace with increased growth and diversification.

Another interesting repurposing case of study is in the East of Germany (7). Lusatian Lake District is nowadays a recreational area with 26 artificial lakes, but it used to be an open-cut mine region dedicated to the extraction of lignite (brown coal).

To strengthen the industrialization of Europe after World War II, mining was intensively developed. In particular, this area was comprised by 30 sites and operated for over a

150 years. After the reunification of Germany in 1990, many of these sites closed down due to changes in the orientation of the national economy.

As a result, two Federal government owned and funded entities were created with the aim of remediating and rehabilitating the land across the Lusatian region. The new town planning vision encouraged communities to take on the opportunity for new purposes of living there.

The main actions that took place were: reforestation; treatment and cleaning the water polluted by mining; use of land for solar panels and wind turbines.

As a result, the tourist industry has strongly developed across the region, attracting curious people to enjoy the outdoor lifestyle of the largest artificial lake area in Europe. The park also preserves some mining machinery as cultural heritage and provides hotel accommodation for overnight visitors.

Even though there is a lot of controversy about artificial lakes and their potential flooding consequences, the new innovative environment keeps the region alive, remains as a holiday scape and is a key energy source for the region (8).

OPPORTUNITIES FOR IMPROVEMENT

The Canadian case shows how important it is to the mining company to help the 'afterlife' of the land. In contrast, in the German example, it was the government which founded and provided the structure to recover the land and give a new reason for the community members to stay. Despite the origin, both cases have been successful for the environment and the local socio-economic development and growth of the region.

In Australia (9), the mining regulation is undertaken at the State level and the Commonwealth Government legislates only about environmental matters. In consequence, there is no centralised data about how many of the 50,000 abandoned mines are being rehabilitated.
However, collated information estimates that only less than 2% are currently under care.

It is interesting to note that rehabilitation of the land in Australia considers the environment, landscape and ecosystem but there are no policies in place to focus the plans towards an economic development of the affected regions.

On the 20th of March of 2019 the Senate inquiry report "Rehabilitation of mining and resources projects as it relates to Commonwealth responsibilities" (9) was published. The Closure Planning Practitioners Association submitted that the "current regulatory frameworks do not adequately account for social and economic considerations in planning for final post-mining land uses".

Furthermore, Naturally Spatial claims: "An examination of alternative land uses such as grazing, recreation, and even urban development, as opposed to reestablishment of natural ecosystems, affords the potential for communities to harness unforeseen employment opportunities after a mine has closed"

In addition, Australia ICOMOS (International Council for Monuments and Sites) outlines that "cultural and heritage values associated with mine sites are generally not well incorporated into rehabilitation and closure planning in Australia".

In conclusion, the are 50,000 opportunities for the Australian State Governments and the Commonwealth to implement social and economic strategies in order to engage communities and develop new post-mining land uses. Is it possible to set up a time frame to implement this? Is it possible to take the mining heritage and re-use the land? What is needed to encourage innovative new land uses in Australia? What is needed to empower local communities to be part of this initiatives? There are inspiring examples across the globe, could we not be 50,000 'mines away' from them?

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