Australia's National
Science Agency

Community perceptions of potential renewed copper mining, Kapunda, S.A.

This research looked into how residents of Kapunda view the mining sector in general and how it fits with town identity. Focus groups and interviews explored the extent to which a potential renewed mining industry would align to community values considering the possible application of copper in-situ recovery from an historic deposit in the town.

This research was publicly funded through the Australian Government Cooperative Research Centre Program, as part of a broader Project with Environmental Copper Recovery, SA. The research found that most participants are open to the prospect of a new copper ISR operation, provided it is well managed and environmentally responsible. Participants generally conveyed a high degree of confidence in the research process currently being undertaken and in the assessment processes conducted by regulators such that the mine would only go ahead if it met all appropriate safeguards.

View of Kapunda township and surrounds

The CRC Program supports industry-led collaborations between industry, researchers and the community. The research presented in this brochure summarises the principal findings from one component of a multi-partner project which brings together Environmental Copper Recovery, CSIRO, University of Adelaide, Mining 3, Terramin and Thor Mining. In addition to the social research summarised here, other components of the CRC Project focus on understanding groundwater flow, water and soil characteristics, chemistry of extracting mineral deposits and geophysics of the Kapunda copper deposit. These components have been designed to develop an integrated approach to the feasibility of extracting copper through in-situ recovery methods in Kapunda.

What is in-situ recovery?

In-situ recovery (ISR) is a form of extracting target metals from minerals without mining the rock that contains them. ISR is often referred to as 'keyhole mining'. Rather than removing ore from the ground, a solution is pumped underground to extract the target mineral in place (hence in-situ) then the solution is pumped back to the surface where the metal (e.g., copper) is recovered. Because it is not necessary to remove the ore, there is less surface disturbance compared with other mining methods, which avoids the creation of voids, reduces dust and noise, removes the need for tailings dams and requires minimal infrastructure. Solution flow control, containment and subsequent rehabilitation are essential within the mining area.

What we did

We conducted interviews and focus groups with community members reflecting a wide range of people across different segments. Participants ages ranged from 40 to 85 years and represented a diversity of positions within the community including Local Government Councillors, leaders of local groups. local business and educators. Several of the participants had a connection to the historic mine site, either through their interest in local history, where they lived or through their recreational activities such as visits to the site and its historical walking trail. The focus groups and interviews were conducted in Kapunda in 2019 by experienced social scientists and included a technical presentation given by a hydrometallurgist experienced in ISR mining. The presentation provided information about the technical components of ISR and how the Cooperative Research Centre-Project is investigating how these could be applied in Kapunda. Following the technical presentation, the focus groups and interviews proceeded to discuss concerns and perceived benefits from a potential ISR operation in Kapunda. The interviews and focus groups were transcribed and imported into qualitative analysis software. Analysis involved systematically grouping the responses into themes and then aggregating these themes relative to a social licence framework drawing on knowledge from other industries and locations. The findings were peer reviewed and presented in a final report which is publicly available

Mining heritage is part of Kapunda identity.

Findings

The research demonstrated that, in principle, a renewed mining industry would align to the existing values of residents. The identity of the town is strongly connected to historical roots in the mining industry (as well as the pastoral industry). However, the results also emphasised that the relaxed and friendly character of the town is very important so any mining activity would need to be consistent with this character. It is mining heritage that is important to the people of Kapunda rather than the mining industry as it exists today. This heritage is expressed in memories, photographs and embodied in the former mine site. Renewed mining activity is welcome if it resonates with this heritage and if it doesn't interfere with tranquillity and charm of the town as it stands today.

"it's a great thing for our town…an in-situ business… would be of worldwide interest… we want to be on the map…"

The sense of pride in the town is also important. The opportunity to be the first copper ISR operation in Australia was seen by many as good for the town's image, provided it was safe and environmentally responsible. It was also thought that hosting the first copper ISR operation would attract a range of visitors -from school students to international study tours- and that this would be good for the economy of the town. There was also an expectation for modest employment opportunities for the town and modest indirect benefits in the form of additional demand for local goods and services.

A number of potential concerns were raised through the interviews and focus groups including the potential for disturbance of the current site and reduced visual amenity. Many residents are fond of the historic mine site and would not want it heavily modified or to be faced with large fences, machinery and equipment. These concerns were shared by those who work in tourism and those who use the site for recreation purposes. A key factor here was the expected duration and magnitude of any potential disruption. Some participants also raised concerns about the potential for noise, dust, increased vehicle movements, subsidence and protection of aquifers from any chemicals used in the extraction process. For most participants this was a matter of re-assuring them that these issues were being avoided or managed effectively.

"I think there's some scepticism in the town as to whether tourism and mining can coexist in one big happy family"

Recommendations

Listening to issues and concerns

The research demonstrated that only a minority of the town had heard about the potential new copper ISR operation. Among those who had heard of it, most could see benefits for the town in general and/or individual businesses which may benefit in the supply chain by providing goods and services to the operation. Others had never heard of the proposed Copper ISR operations but were happy enough to consider something that could be good for the town. Some who had heard of the potential Copper ISR operation raised issues and concerns either in terms of socio-economic effects or environmental effects. The science of social licence clearly demonstrates the importance of early and effective community engagement and listening to the concerns of all residents are important, whether or not the proponents agree with the concerns. The science of social licence also clearly shows that attempting to address those concerns in a way that meets community expectations is crucial to maintaining a social licence. Where it is unfeasible to address concerns that meets local expectations, it is important to recognise the concern and explain why the proponents have taken a particular course of action. Residents may not like a certain course of action, but they are more likely to accept it if they know that their voice has been heard and there is a reasonable explanation for the course of action taken.

Communication

Different members of the community have different levels of interest. One of the most affected groups are those residents living close to the site for the proposed ISR operation. These people will have distinct issues and concerns and need to be listened to and communicated with separately. Other members of the community who are interested but not directly affected are seeking updates on what's happening with regard to science information, field trials and the approvals process. These people would like to be kept informed particularly once something conclusive becomes known about the viability or characteristics of the project. A third segment are those who are not very interested and not much affected. These people may not have strong views on the proposed new development either way. Even though they may not seek much information about the project they may like to have the option to find out more, knowing that the information is available if they want it. They would generally only become more interested if things were to proceed.

Avoid overstating benefits and minimising risks

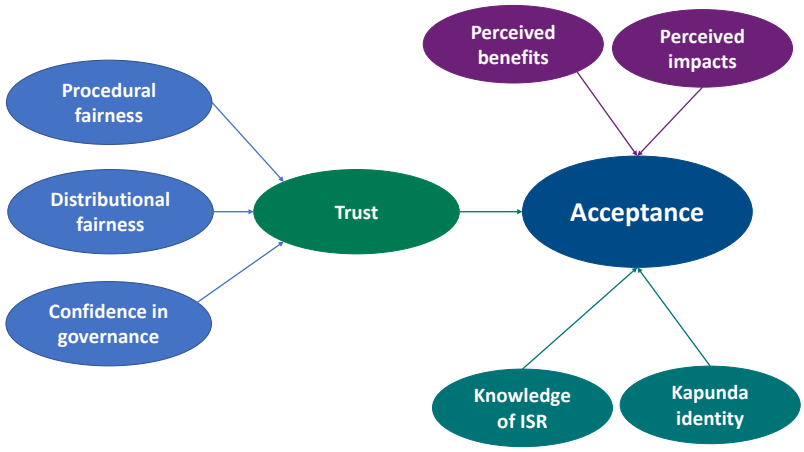
Most participants had a sense of realism about the potential for economic effects and conveyed a sense that even modest benefits would contribute to maintaining the prosperity of the town. There were some exceptions: some participants were concerned that the proponents may have overstated the benefits and understated the risks. This perception seemed to stem from a view that the proponents had been selective about their engagement with residents, allegedly favouring those who stood to gain from the proposed mine. To address this concern (regardless of whether it is accurate or not) the key issue is to be clear in stating the expected effects and not overstating benefits nor belittling risks. As discussed in the previous section, the science of social licence shows that recognising perceived concerns and being clear about how they are being managed contributes to building trust.

The physical proximity of the site, which is located close to the centre of town, places greater attention to the potential environmental implications of the proposed development, particularly for issues such as dust, noise and vehicle movements. In addition to technical solutions, managing these issues requires high levels of trust in the science, the assessment process and the proponents. Maintaining this trust will be aided by being transparent about the findings from the research process and through effective and ongoing community engagement processes to understand any emerging issues or changing concerns. A key part of trust in a small community such as Kapunda is whether the community believes that the way different members of the community are treated is fair.

Social licence framework

The social licence framework showed a range of factors affecting acceptance of copper ISR mining in Kapunda.

- **Kapunda identity:** Participants described the town as friendly and relaxed with a strong sense of community.
- **Knowledge of ISR and the proposed development:** Participants had a range of levels of understanding about ISR methods. More clarity is needed around the size, scope and timeframes of the potential project.
- **Perceived benefits:** Copper ISR could put Kapunda 'on the map', potentially increase employment and support local business.
- **Perceived impacts:** Visual amenity and tourism could be negatively affected by unsightly fences or infrastructure.
- **Distributional fairness:** Participants felt it is important to avoid a situation where benefits and impacts are spread unevenly across the town.
- **Procedural fairness:** Findings showed it is crucial that people have a voice and that their concerns are genuinely considered.
- **Confidence in governance:** Participants were confident that a new project would only proceed if it passed careful assessment at Local and State levels drawing on rigorous research conducted by the University of Adelaide and CSIRO.
- **Trust:** was seen as built on genuine engagement and depends on full disclosure about project scope and potential impacts.



Factors affecting acceptance of potential new ISR mining activity in Kapunda © CSIRO

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