SENATE INQUIRY SUBMISSION FROM THE COMMUNITY AND ENVIRONMENT SOCIETY OF THE AUSIMM

Rehabilitation of mining and resources projects as it relates to Commonwealth responsibilities

APRIL 2017

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ABOUT AUSIMM

The Australasian Institute of Mining and Metallurgy (The AusIMM) was formed in 1893 and is the leading organisation representing over 13 000 minerals sector professional members in the Australasian region, across industry, government and academia.

Our members include professionals from traditional disciplines such as mining engineers, geoscientists and metallurgists, as well as from emerging disciplines such as business management, health and safety, social and environmental science.

With a focus on 'enhancing professional excellence', the AusIMM provides members with an ongoing program of professional development opportunities to ensure our members are supported throughout their careers to provide high quality professional input to industry and the community.

PREAMBLE

The AusIMM Community and Environment Society represents around 1000 of AusIMM's 13 000 members. A brief overview of its role and vision, mission and purpose are included herein as Attachment A.

Importantly, part of the AusIMM Community and Environment Society advocacy is to implement Australia's *Strategic Framework for Managing Abandoned Mines* (MCMPR / MCA, 2010). Such an approach is aimed at encouraging jurisdictions, including at a national level, to shift toward more mature programs where leading practice in abandoned mine management is applied by engaging the pertinent expertise of relevant mining industry professionals to create socio-economic and environmental benefits.

The AusIMM's Policy and Advocacy Committee must ratify all submissions made on behalf of AusIMM member societies and committees. Therefore, this submission represents the AusIMM's position.

APPLICABLE TERMS OF REFERENCE

This submission is relevant to the following senate inquiry terms of reference:

(b) The adequacy of existing regulatory, policy and institutional arrangements to ensure adequate and timely rehabilitation

(e) The effectiveness of existing abandoned mines programs, with regard to repairing environmental damage and safeguarding human health

(h) The potential social, economic and environmental benefits of adequate rehabilitation, including job opportunities in communities affected by job losses in the mining and resources sectors

(i) international examples of effective rehabilitation policy and practice.

BACKGROUND

The Australian government, under the Coalition of Australian governments (COAG), led an Abandoned Mine Working Group (AMWG) through the development of a *Strategic Framework for Managing Abandoned Mines* (*Strategic Framework*) in the Minerals Industry (Ministerial Council on Mineral and Petroleum Resources / Minerals Council of Australia – MCMPR / MCA). This process commenced around 2005-06 and concluded with the publishing of the *Strategic Framework* in 2010 (MCMPR / MCA 2010).

As background to the above, an abandoned mine remediation workshop held in Brisbane in 2003 hosted by The University of Queensland (Australian Centre for Mine Environmental Research – Prof. L Clive Bell) presented details on the National Orphaned / Abandoned Mine Initiative in Canada and posed the opportunity for Australia to develop an equivalent entity.

During engagement by the Australian Government on the draft *Strategic Framework*, AusIMM was approached to provide input. At that stage in early 2010, the AusIMM had had no prior warning so was not equipped to provide an organisation-wide response. This prompted AusIMM, however, to embark on a process of internal engagement to inform its members of the *Strategic Framework* and to explore what this meant for industry professionals.

The process of internal advocacy is summarised in Figure 1. Attachments B and C provide the relevant AusIMM documents for Figure 1.

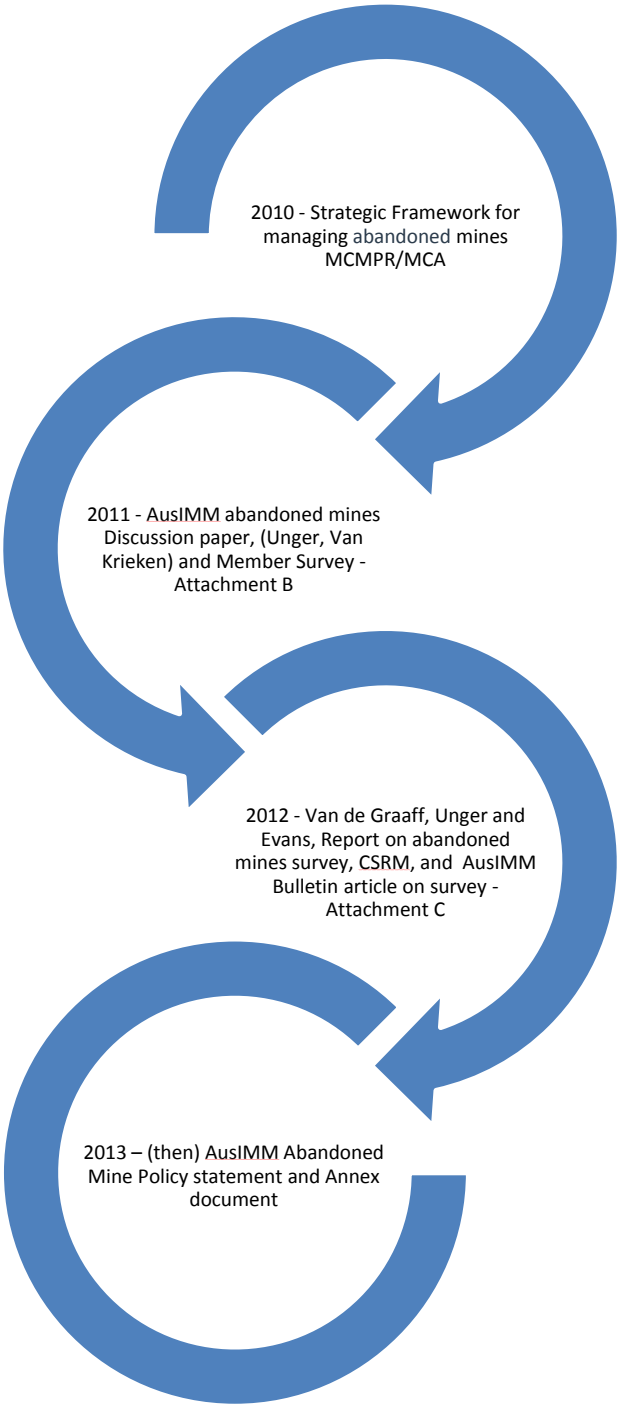

Figure 1. Flowchart of AusIMM's advocacy on the Strategic Framework

SUMMARY STATEMENT ON AUSIMM'S POSITION

The AusIMM supports the formation of an Australian Government-led national initiative on abandoned mines similar in purpose and form as the initiative in Canada (National Orphaned / Abandoned Mine Initiative (NOAMI – refer to: http://www.abandoned-mines.org/en/). The position was conveyed through an industry professional survey (Attachment C).

In the survey, almost half the respondents supported the formation of a multi-stakeholder advisory panel on abandoned mines at a national level. Since this time, there has been growing awareness of mine rehabilitation and abandoned mine issues in Australia.

A recent example was a multi-stakeholder summit in the NSW Hunter Valley (refer to http://www.crccare.com/knowledge-sharing/derelict-mines-summit/presentations). Gilles Tremblay who has led NOAMI for the past 15 years as well as MEND (Mine Environment Neutral Drainage), was an invited international speaker to this forum.

It is argued that the formation of a multi-stakeholder advisory panel on abandoned mines at a national level would benefit Australia, mining industry professionals and the environment by:

- Facilitating socially, environmentally and economically sustainable rehabilitation and beneficial post-mining land uses for these legacy sites which:
    - gives the community confidence in the industry's ability to rehabilitate and close mines effectively
    - demonstrates multiple and sequential land use (Standing Council on Energy and Resources, 2013 – refer to Attachment D)
    - supports the social license to mine.
- Providing employment opportunities in industry downturns, by facilitating a focus on abandoned mines and mining legacies managed by governments and other parties. This would buffer the impacts of global commodity trends which otherwise have significant impacts on mining professionals in Australia, and therefore, Australian capacity – particularly when expertise moves offshore
- Engaging with AusIMM members as this is a body of professionals where much of the applicable mining expertise resides.

CONCLUSION

The AusIMM supports the formation of an Australian government-led national initiative on abandoned mines similar in purpose and form as the NOAMI initiative in Canada.

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ATTACHMENTS:

A: The AusIMM's Community and Environment Society role flyer and the 2015-16 Strategic Plan.

B: Unger C. and Van Krieken A. (2011).

C: van de Graaff, S., Unger, C. and Evans, R. (2012).

D: Standing Council on Energy and Resources (2013).

ATTACHMENT A:

The AusIMM's Community and Environment Society role flyer and the 2015-16 Strategic Plan.

Community & Environment Society

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Role of the Community and Environment Society

The role of the Community and Environment Society (C&ESoc) is to encourage all AusIMM members to understand Community and Environment issues and implement best practice professional approaches through communication and collaboration with AusIMM branches, Services and professional groupings. Areas of interest include:

Areas of interest include:

- Community
- Environment
- Mineral exploration
- Geology
- Mine planning
- Environmental geochemistry
- Hydrogeology
- Mine Rehabilitation
- Closure planning

Membership includes Community and Environmental professionals as well as other professionals with an interest in, or role in community and environmental aspects of mining.

C&E Society activities include:

- Improving cross discipline collaboration
- Providing input, support and planning for the biennial Life of Mine conference
- Promoting the minerals sector to the wider community through involvement with broader AusIMM advocacy
- Hosting professional development opportunities via a range of mediums from regional road shows, technical presentations to webinars
- Membership services and participation
- Strengthening guidance to non C&E practitioners, for example considerations for JORC / VALMIN reporting
- Development and contribution to AusIMM publications (e.g. Spectrum series, Bulletin articles on C&E topics)
- Professional mentoring programs

Representing You:

The C&ESoc provides input into AusIMM policy positions, particularly around strategies for improving Australasia's sustainability performance
The C&ESoc provides comment on issues including:

- regulatory closure planning guidance
- regulatory surety systems
- emerging industry issues, e.g. climate change
- abandoned mines policy
- stakeholder and community engagement
- application of sustainable development principles

Effective Representation:

The Community and Environment Society Committee meets on a monthly basis via teleconference to discuss its goals, progress and how to best represent the AusIMM membership on Community and Environment subjects. The Committee is comprised of a broad range of disciplines including geology, mining engineering, environment and community disciplines. The AusIMM website, weekly e-newsletter as well as the AusIMM Bulletin are used to broadcast significant C&E related news and initiatives to AusIMM members. In addition the C&E Society webpage of the C&E Bulletin website provides updates on the latest news and events within the Community and Environment scope.

The C&ESoc is always open to new members and welcome the involvement of interested people to assist with committee initiatives.

Contact the Secretariat: dedwards@ausimm.com.au or visit the Community and Environment Society at www.ausimm.com.au/cesoc for further information.

THE AusIMM COMMUNITY AND ENVIRONMENT SOCIETY

C&E Strategic Plan, 2015-2016
15 April, 2015

VISION

Mining provides the raw materials and energy we need for everyday life. The communities and environments in which the mining industry operates are intrinsic elements of mining projects. The application of responsible mining practices and sustainable development principles is fundamentally important for mining projects to gain and sustain a social license to operate. Mining legacies must be positive or, at the very least neutral, enabling the transition to acceptable post-mining land uses. The community must be effectively engaged for this to occur.

The AusIMM Community and Environment Society vision is for responsible mining practices to be embedded into the mining industry by recognised professional disciplines, from exploration through to closure and for the industry being recognised as a valued contributor to sustainable development within the environment and communities in which it operates.

MISSION

The AusIMM Community and Environment Society's mission is to encourage all AusIMM members to understand C&E issues; implement best practice professional approaches to work that affects the community and environment and to promote these issues through communicating and collaborating with AusIMM Branches, AusIMM Services and other channels including other professional groupings.

In order to fully integrate Community and Environmental considerations into feasibility studies, operations and closure, the executive level of companies will need to be informed by highly skilled and experienced C&E professionals.

STRATEGIC PILLARS

Strategic pillars have been developed by the C&E Society Committee based on a review of the inaugural Strategic Plan and revised Mission and Vision. The pillars provide a simple framework which will be utilised to anchor a short and long term action plan.

COMMUNICATION

Effective communications underpin the three strategic pillars of Knowledge, Awareness and Leadership.

The development of a communications plan which includes establishing the optimal timing and communication mechanisms for each stakeholder will ensure they are informed and given the opportunity to provide valuable feedback to the C&E Society Committee.

KNOWLEDGE	AWARENESS	LEADERSHIP
Inform and Equip	*Connect and Activate*	*Embed and Evolve*
Inform AusIMM membership of the relevance and importance of community and environment aspects to the industry, highlighting where and how it affects different activities in the mining life cycle.	C&E Society will increase AusIMM member participation via connections across AusIMM disciplines, sub-entities, and internal and external groups. We are most effective when we collaborate and draw on the skills and perspectives of other	Understand AusIMM membership needs and provide recognition of C&E professional disciplines and achievements within the mining sector. The aim is that AusIMM members will be seen as employees of

Equip members of the AusIMM based on their disciplinary background with the applicable information, data, approaches and toolkits to deal and engage with community and environment aspects of the industry.	disciplines. We will seek to raise awareness of Community and Environment issues and drive improved industry outcomes through promoting leading practice information and tools, in conjunction with workshops and conferences.	choice. Provide guidance to continuously improve and champion industry best practice.

ADVOCACY

From both our surveys and member contributions together with C&E Committee deliberations, issues are being (and will continue to be) identified that warrant either internal advocacy within The AusIMM or externally, in the latter case in concert with the corporate AusIMM approach.

There is an imperative for our education system to produce well trained graduates, a major and ongoing advocacy item, and then for The AusIMM and the C&E Society to continually raise awareness of leading practices to ensure enhanced professionalism in C&E disciplines.

The issues highlighted by the last C&E survey have been utilised to guide the development of current additional advocacy issues for the C&E Society. These preliminary advocacy themes include promoting the following:

- **Engagement** – understanding, respecting and listening to communities, which strengthens social licence.
- **Community benefit** – benefits for communities should be evident at all scales: locally, regionally, jurisdictionally (state and nation) and globally.
- **Application of SD principles** – SD benefits are most evident when embedded in initial mine design and are then subject to continual improvement over the life of a mine. Integration of SD principles provides good outcomes for the environment by internalising costs, improving efficiency and reducing wastes and other impacts, and by effective community engagement.
- **Mine closure** – positive or neutral environmental legacies with beneficial post-mining land uses are essential for SD and an ongoing social licence to mine. This includes abandoned as well as active mines.
- **Abandoned mine management** – implementing Australia's strategic framework for managing abandoned mines (MCMPR/MCA, 2010). This will encourage jurisdictions to shift toward more mature programs where leading practice in abandoned mine management is applied by engaging the pertinent expertise of relevant mining industry professionals to create socio-economic and environmental benefits.

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ATTACHMENT B:

Unger C. and Van Krieken A. (2011). *Abandoned mine management in Australia*. An AusIMM discussion paper.

Final 8 March 2011

A Discussion Paper on

Abandoned Mine Management in Australia

By Corinne Unger MAusIMM, Environmental consultant, mine rehabilitation and closure planning on behalf of the AusIMM Sustainability committee

Ashley Van Krieken MAusIMM, Director of Member and Branch Services, AusIMM

This discussion paper has been prepared to facilitate dialogue among AusIMM members and the broader industry but does not represent a formal AusIMM policy position on Abandoned Mines.

Key questions for The AusIMM to address

1. Where does responsibility lie now, and need to lie in the future?
2. What has been done already to address negative legacies and positive opportunities?
3. What needs to be done to bring Australia in line with leading practice in other developed nations?

Introduction

Mining is a significant component of Australia's economy and was a key factor in assisting the country through the Global Financial Crisis. The benefits to individuals and communities are also well known and a considerable amount of attention is paid to the benefits operating mines have on local communities, regions and the environment.

Much less attention is given to the impact of mines once they have ceased operation, particularly those which are not closed in line with today's standards. The resulting abandoned mine and mining communities provide memories of times past, leaving a scar on the local environment. Globally, countries have put in place a range of programs and policies, very often complemented by company policies, to ensure that once a mine ends it is properly rehabilitated.

It may also be a perception that abandoned mines are all part of history, but mines continue to be abandoned for a range of reasons. If insufficient funds are set aside for financial assurance then there are no resources for rehabilitation once the sites revert to government hands. Those older sites with little or no financial assurance create greater challenges for management. Responsible agencies usually reside within state/territory governments, but there are examples where the Commonwealth government is also involved (eg. Rum Jungle).

In January 2011 the MCMPR (Ministerial Council on Mineral and Petroleum Resources) and MCA (Minerals Council of Australia) released their 'Strategic Framework for Managing Abandoned Mines in the Minerals Industry'. In December 2010, NOAMI (National Orphaned/Abandoned mines initiative) published their 'Policy Framework in Canada for Mine Closure and management of long-term liabilities: a guidance document'. These two documents provide additional context for this discussion paper.

This paper does not address rehabilitation and bond policies or regulation of active mines in Australia – it focuses on abandoned mines. Irrespective of who has contributed to the creation of abandoned mines, and who is responsible for them now, the negative legacies detract from the reputation of the mining industry as a whole.

Final 8 March 2011

This paper seeks to outline key concepts and issues for the industry to discuss and also serves as background for an 'abandoned mine survey' of AusIMM members in the future.

Abandoned Mine Legacy

At the end of its life, a mine has the potential to leave a legacy, either positive or negative. History has shown that in most cases the legacy left has been negative due to the following:

- Human health risk – contaminants from poorly maintained mines, tailing dams and tailings
- Safety risks – open holes (pits and shafts), collapsing tailings, impoundments, machinery and machinery parts
- Environmental risks – contaminated soil and water, loss of biodiversity
- Socio-economic impacts – communities left without livelihoods
- Political risks – where a country or state may be open to accusations of breaching international environmental legislation
- Reputational risks – in particular for companies as a whole and leading to potential restrictions on their licence to operate

These impacts are significant and paint a very negative picture of the industry. Research conducted by the Blacksmith Institute shows that mining legacy sites comprise five of the Top 10 and 10 of the Top 30 most polluted places in the world[1].

On the other hand, several projects have left a positive legacy both here in Australia and overseas. These positive externalities have included:

- Reduced impacts through the removal of hazards such as open pits, contaminated water and potential earth and soil movement;
- Contributions to community throughout the operation of the mine – employment, training, investment in sporting and community groups; infrastructure; targeted employment of indigenous populations, women etc;
- Increased economic benefit to the local community and broader region through tourism and/or other industry moving into the area;
- Improved community facilities and environment – parklands and native ecosystems established on mine landforms;
- Improved environmental outcomes where work around the mine site has facilitated broader environmental work within the region;
- Energy supplies and other infrastructure which remain after mining ceases; and
- Mining heritage tourism for new economies.

Through the work of various groups and surveys[2] it is clear that industry views on the issue of abandoned mines are diverse. Issues to be addressed include: who is responsible? legislative support and obstacles, funding, timeframes and planning. These issues are addressed in the remainder of this paper.

[1] IUCN-ICMM
[2] IUCN-ICMM / Eden Project Post-Mining Alliance

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Discussion areas

The following seek to define particular concepts and terms within the discussion document.

Negative Mining Legacy – the impacts of a closed mine that continue to negatively affect the environment or associated communities. Legacy impacts can be broadly divided into two kinds: those where the mine was 'abandoned' and those where it was 'orphaned'.

Abandoned Mine – a mine where the legal owner is known but unable or unwilling to take action

Orphaned Mine – a mine where the owner cannot be traced / identified

Regeneration

Regeneration[3] in the context of mining legacy is activity that enhances post-mining landscapes for the benefit of environment and affected communities. Generally these activities are influenced by local communities, local governments and mining companies. State and / or Federal Governments may also play a part. Clearly regeneration is the response needed to ensure a positive legacy from a mine rather than a negative legacy.

While there are a great number of technical environmental solutions being employed in the industry there seem to be fewer solutions which also deal with the negative social impacts. However, there are several instances around the world where technical solutions implemented through partnerships of the stakeholders noted above have provided considerable positive social impacts.

While there have been success stories many regeneration projects have also experienced barriers in their development. The principal ones are discussed briefly below and some of this information has been taken from the Eden Project Post-Mining Alliance (2007).

1. **Funding and finance**
   The regeneration of a mine site is for the large part not a cheap exercise. The cost of clean-up is often prohibitive for a company or even a government to undertake on its own. Experience shows that regeneration takes many years, even decades, and requires funding for much of that period until it is fully addressed.

   When examined in detail there are six different approaches to financing such activities that seem to have been applied.

   a. Government funding – most governments do provide some funding for mine legacy issues. Within Australia state governments allocate funds to assist in mine clean up.

      However, these funds are limited and governments must assess where they are best placed. Budgets are also susceptible to change due to budget volatility, new government policy and the general health of the government's budget.

[3] IUCN-ICMM

Some, but not all, states have formalised abandoned mine programs. Where there aren't formalised programs, rehabilitation is reactive rather than proactive (reacting to a fatality or fish kill for example). Few if any jurisdictions have accurate and complete inventories of abandoned mines, hence governments and the public are not aware of the full liability to society.

b. Levies of mineral production – across a range of industries including mining, governments have and do charge a levy to fund regeneration or pollution prevention/reduction programs. Considerations of a levy relate to the amount, what it is levied on, where along the supply chain it is applied and how it is administered and distributed.

   While there is little doubt that levies can be effective in raising considerable sums of money to fund a range of activities they can also have a considerable negative effect of the economic well being of an industry. As history has shown poorly designed levies can act as a significant disincentive for companies or industries.

c. International options – Groups such as the World Bank and the United Nations run programs to provide technical assistance and expertise in dealing with mining legacy in developing countries. These programs however tend to be allocated relatively small amounts and with their focus on developing countries are not applicable to Australia.

d. Public-private funding – This option has been most often used in Australia to fund major infrastructure projects with an ongoing benefit to the community, government and private partner. Such a process can also be applied to mine regeneration where both government and the mining industry share the burden of regeneration of a site. Such activities require strong commitments on the part of stakeholders and can often involve seeking additional funding through equity and debt markets, which in themselves can create potentially negative ongoing issues.

   However, the emergence of ethical investment funds and the growing social and environmental consciousness of investors, which has seen funds moved out of companies perceived to have a negative environmental position and into those that are seen as positive, suggest that this option may be more viable.

e. Trust funds – there are a number of instances globally where funds have been established with the sole purpose of funding mine remediation and regeneration. Within Australia, similar concepts such as the future fund have applied the same principle. Such concepts spread the collection and subsequent payment of monies out over time thereby removing the need to find large sums of money in relatively short periods. Such a program exists in Tasmania[4] .

[4] http://www.mrt.tas.gov.au/portal/page?_pageid=35,831282&_dad=portal&_schema=PORTAL

f. Non-government organisations (NGOs) can support communities as they transition to self-reliant post-mining economies. The Broken Hill Community Foundation[5] was established to provide a sustainable community capital fund that facilitates employment opportunities and encourages social development during the final phases of mining.

2. Legislation and regulation

The impact of legislation and regulation is a considerable factor in any consideration of this issue. Legislation can create both positive and negative responses and can link closely to funding issues. These can influence company and community decisions from a very early stage and where they are implemented in a careless manner or with little thought to the broader implications, can act as an incentive or disincentive for companies to pursue particular actions. Equally, much legislation can contradict other legislation creating confusion and uncertainty amongst stakeholders in the industry over a variety of issues and activities.

One need only look at the reaction to the Rudd -Gillard Government's proposed Mineral Resources Rent Tax (MRRT) for iron ore and coal. These types of actions by governments can cause companies to cease operations and move out of the country, impacting directly on the economy, but also (in the context of mining legacy) leaving a site or sites inadequately closed out.

Financial assurance is an example of legislative control used to prevent abandoned mines. Poulin et al (2007) reviewed the impact of bonds and regulatory frameworks for approval of mining projects and found the bond policy to be of secondary importance to a streamlined and transparent regulatory process.

On the other hand, legislation which fosters cooperation and requires clear planning and direction for companies when first planning a mine can provide a positive effect on the industry and ultimately mine regeneration.

Once a site is abandoned, ambiguity exists where legislative controls and leading practice guidelines were once effective. Abandoned sites can fall into a legislative 'black hole'. While, in principle, the same mitigation measures are applicable (albeit to a 'brownfields' landscape) they are not always applied at abandoned mines. eg. for mining heritage conservation, or water quality standards.

Regulatory reporting

The National Greenhouse and Energy Reporting Act 2007 (NGER) (2008 and 2009 amendments) requires reporting on greenhouse gas emissions from 'decommissioned' underground coal mines. Currently in some jurisdictions landowners are reporting on this. It is not clear whether government departments managing these sites are reporting on greenhouse emissions from abandoned coal mines, of if they are reporting, how that is being done.

In the absence of a national inventory of sites, there may be several aspects regarding impacts from abandoned mines which are not being captured. In addition to cumulative

[5] http://bhcf.org.au/

impacts on emissions there can be AMD (acid and metalliferous drainage) impacts on water catchments, and limitations on land use.

Performance reporting

It is difficult to identify annual work programs for abandoned mines on a state/territory-wide scale. Leading practice methods require annual plans and performance reports at regular intervals to provide transparency. This was reported by the Canadian Auditors-General when they reviewed federal and provincial contaminated land, orphaned and abandoned mine programs[6].

Legislation for secondary mining at abandoned mines

If a mining company wishes to explore or mine a formerly abandoned mine, then there are challenges delineating responsibilities in both a physical and environmental context (Tasmania has some examples where this has been overcome). Existing legislation may not be sufficiently flexible to address environmental controls and rehabilitation of sites where secondary mining is proposed (eg. reprocessing of wastes). This could be a disincentive for mining companies to explore these potentially prospective sites whilst also helping clean up past negative legacies.

Voluntary agreements

The ICMM sustainable development principles, the MCA's Enduring Value process and the GRI sustainability reporting framework represent a hierarchy of approaches to implementing and attempting to measure sustainable development in the mining industry. Each has significant contributions to make but, by their nature, remain high-level, general and of less relevance at the operational level….the legacy of many centuries of mining activity across the globe is not addressed in any meaningful way by any of these approaches (Worrall et al, 2008).

Voluntary agreements generally leave communities little recourse in case of a breach, unlike government legislation which can stipulate significant penalties where breaches occur (Worrall et al, 2008). While this statement relates to active mining tenements, it should be noted that a lack of transparency in abandoned mine programs can also leave communities, in particular landholders and local government, little or no recourse when an abandoned mine's impacts are neglected.

3. Partnerships and engagement of local communities

An inability to engage effectively with local communities and government agencies during the mine operations can lead to significant challenges at the end of a mine life. A lack of engagement leads to a lack of activity due to confusion (who's doing what), duplication (different groups working on the same problem) and ultimately animosity among key stakeholders. An inability to reach agreement with local communities can

[6] http://www.churchilltrust.com.au/fellows/detail/3411/

often restrict the ability of a company or government to implement the most effective plan.

The development and empowerment of community groups to undertake remedial projects appears the most effective strategy. This has been done in the past through funding provided either by government or mining companies to various groups for projects that contribute positively to the regeneration of a mine site and continued prosperity of a local community.

In addition the increasing focus by the industry on heritage issues is another factor that can impact on mining legacy. With geoheritage tourism increasing and a growing interest in the heritage aspects of the Australian economy, these projects offer an additional avenue for funding and recognition.

4. **Knowledge sharing**

There is little doubt that the sharing of experiences and knowledge can have very significant benefits to companies and individuals. To a large extent it would seem that much of the activity undertaken has been done in a relatively isolated manner and thus many groups may have been 'reinventing the wheel' when solving their particular problem.

The AusIMM has existing toolkits and facilitates the sharing of knowledge on technical issues, through its conferences, technical talks and publications, but perhaps not as much on issues such as mine end-of-life and regeneration activities. Such knowledge sharing could reduce costs considerably and remove or significantly reduce several of the barriers noted above.

Conclusion

This paper has broadly outlined the problem of mining legacy and the many barriers and factors that can impact mine regeneration. Each area raises a number of questions and these are listed in the complete discussion paper however the three main questions are:

1. Where does responsibility lie now, and need to lie in the future?
2. What has been done already?
3. What needs to be done?

Member feedback on these questions and others will be collected via a survey to be distributed in the first quarter of 2011. The responses from this survey and any comments received directly from this discussion paper will be reviewed by the AusIMM Sustainability Committee ahead of a report being presented to The AusIMM Board for its consideration of the appropriate policy position The AusIMM might take on this issue. Please email your comments to: policy@ausimm.com.au

References

Broken Hill Community Foundation http://bhcf.org.au/

Final 8 March 2011

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ATTACHMENT C:

van de Graaff, S., Unger, C. and Evans, R. (2012).
AusIMM Abandoned Mines Survey Report.

AusIMM

Abandoned Mines Survey Report

February 2012

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AusIMM Abandoned Mines Survey

Executive Summary

Following the release of the Strategic Framework for Managing Abandoned Mines in the Minerals Industry (December 2010, MCMPR/MCA), the AusIMM Sustainability committee developed a discussion paper on abandoned mines. This paper introduced the strategic framework to AusIMM membership at large and also provided an overview of global projects and polices on abandoned mines. The discussion paper was planned as a precursor to a member questionnaire to guide decision making and to decide whether a policy or some other form of communication to members was required in the future. The paper raised the three key questions which AusIMM was seeking clarification on, in order to clarify the organisation's role. They are:

1. Where does the responsibility for abandoned mines lie now, and need to lie in the future?
2. What has been done already to address negative legacies and positive opportunities?
3. What needs to be done to bring Australia in line with leading practice in other developed nations?

The survey was designed by the Sustainability committee in collaboration with the AusIMM Director Member Services and was undertaken in mid-2011. 499 responses were received in total. The distribution of respondents' areas of expertise was broadly in line with 2010 AusIMM membership data. From the responses the following conclusions have been drawn:

1 Responsibility

- The minerals industry and governments were cited as the stakeholders most responsible for creating abandoned mines, as well as for rectifying the negative impacts of abandoned mines.
- Ensuring opportunities for secondary mining and/or positive post-mining land uses are implemented was seen as a responsibility for the minerals industry, governments, communities and partnerships/collaboration between stakeholders.

2 Progress on legacies

- Over half of the respondents considered there to be positive opportunities for abandoned mines in Australia. Examples of mines in Australia where positive secondary mining projects and/or post-mining land uses have been implemented include Kalgoorlie, Woodlawn and Capel.

3 What needs to be done?

- The role of the mining industry in managing abandoned mines was seen by respondents as involving a varied range of activities, including supporting the rehabilitation process, providing expertise/policy advice, taking responsibility for abandoned mines, working with other stakeholders, providing financial support/resources, undertaking closure planning and providing leadership.

- Ways in which the AusIMM can contribute to the management of abandoned mines in Australia include educating and informing, developing policy, sharing operational knowledge of specific sites in collaboration with governments, providing a specialist expertise network, and advocacy.

- Almost half the survey respondents agreed that Australia should have a multi-stakeholder advisory panel on abandoned mines at a national level, as exists in Canada.

This report will be discussed further by the sustainability committee to progress communication within AusIMM membership.

1 Background

In March 2011, the AusIMM released a discussion paper (Unger and Van Krieken, 2011) which sought to facilitate dialogue among AusIMM members and the broader industry on the issue of abandoned mine management. The discussion was followed by an on-line questionnaire, distributed to all AusIMM members located in Australia and overseas.

The discussion paper and questionnaire were grounded in three central research questions:

1. Where does the responsibility for abandoned mines lie now, and need to lie in the future?
2. What has been done already to address negative legacies and positive opportunities?
3. What needs to be done to bring Australia in line with leading practice in other developed nations?

The responses received from the questionnaire and any comments received directly from the discussion paper will be reviewed by the AusIMM Sustainability Committee ahead of a report being presented to the AusIMM Board for its consideration of the appropriate policy position the AusIMM might take on this issue.

A total of 499 responses to the questionnaire were received. This brief report summarises the key findings of the questionnaire, and is divided into sections which reflect the main research themes. These themes are as follows:

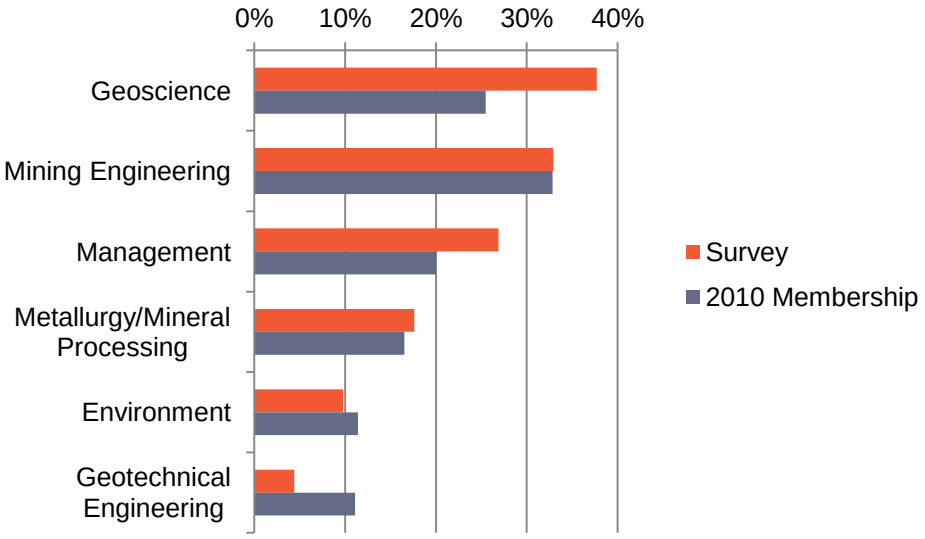
- Details of the Respondents
- Knowledge & Awareness of Abandoned Mines
- Positive Impacts
- Negative Impacts
- Regulation
- Stakeholder Roles & Responsibilities
- Additional Comments
- Summary

Answers to open-ended questions on these topics were analysed by identifying the range of issues raised and coding responses accordingly.

2 Details of the Respondents

2.1 Area of Expertise

Figure 1: Which of the following describes your area of expertise? (select up to two)

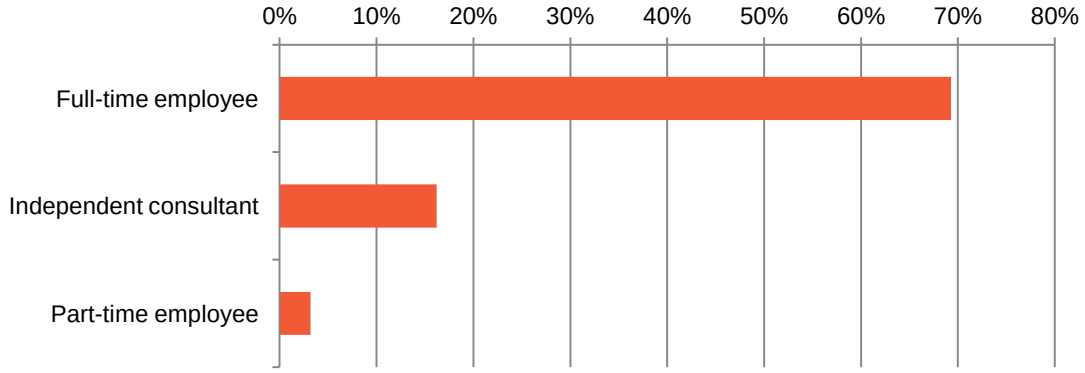


The technical disciplines of geosciences and mining engineering dominated the survey responses. A large number of respondents (134, 26.9%) also had expertise in management. This distribution of expertise is broadly in line with 2010 AusIMM membership data (AusIMM, 2010). Smaller, specialised areas were generally under-represented.

Due to the small number of respondents in the 'other' category, this is not included on the chart. However, responses in the 'other' category included: consulting, research, mine closure, hydrogeology, finance, tailings engineering, sustainability, resource estimation, materials engineering, industrial relations, exploration, minerals marketing, gas processing, groundwater, and community relations.

2.2 Employment Status

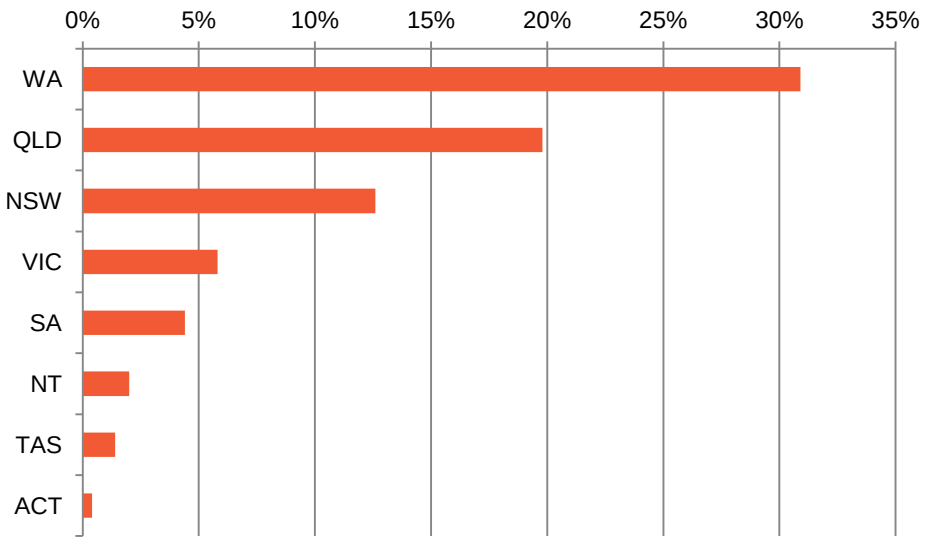
Figure 2: Which describes your current employment situation?



The overwhelming majority of respondents (346, or 69.3%) were full time employees.

2.3 Work Location

Figure 3: Where do you undertake the majority of your work?



Within Australia, respondents mainly undertook work in the resource intensive states of Western Australia (154 or 30.9%) and Queensland (99 or 19.8%).

Respondents were also able to specify whether they conducted the majority of their work overseas. Almost one quarter of respondents indicated that their work has an overseas component. Table 1 below details all the countries in which respondents undertook the majority of their work.

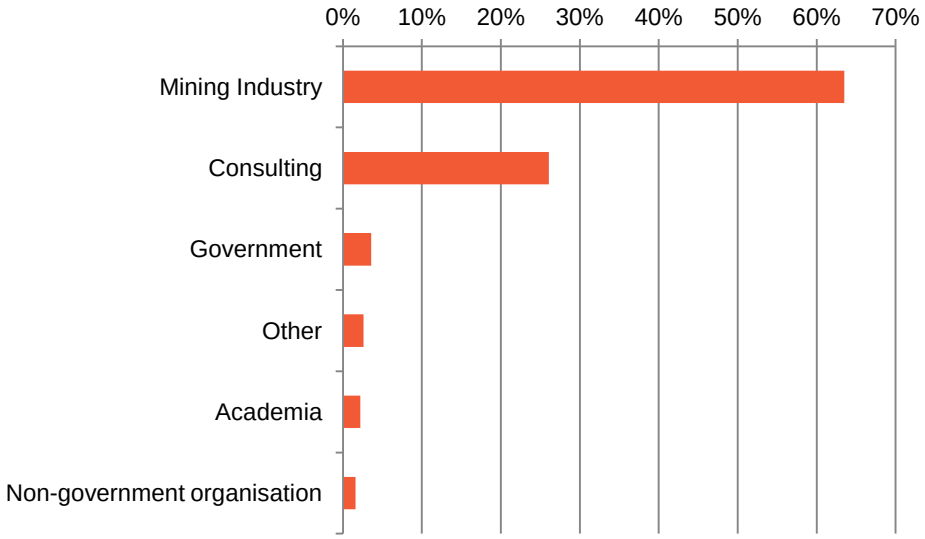
Table 1: Overseas Work Locations

Africa	Egypt, Mali, Namibia, Algeria, Botswana, Democratic Republic of Congo, Burkina Faso, Niger, Liberia, Mauritania, Zambia, South Africa, Tanzania, Ghana
Asia	Indonesia, China, Thailand, Bangladesh, Philippines, Malaysia, Mongolia, South Korea, India, Hong Kong, Singapore, Cambodia, Lao PDR, Kazakhstan
Australasia	Australia, PNG, New Caledonia
Latin America	Brazil, Chile, Peru, Guyana, Mexico, Caribbean
North America	Canada, USA
Europe (inc Russia)	UK, Finland, Romania, Scandinavia, Slovakia, Sweden

2.4 Organisation

As displayed in Figure 4 below, the majority of respondents (317, or 63.5%) work in the mining industry. Responses in the 'Other' category included: finance, legal, banking, manufacturing.

Figure 4: Which best describes the organisation you are involved in?

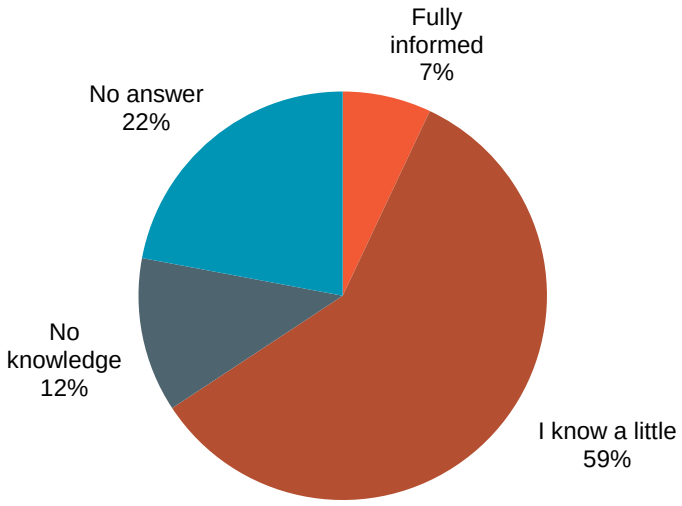


3 Knowledge & Awareness of Abandoned Mines

3.1 Level of Knowledge

Figure 5 below indicates a very low knowledge base for respondents in regards to abandoned mines, who manages them, where they are located in Australia and what impacts and opportunities exist. Only 7% of respondents considered themselves to be 'fully informed'.

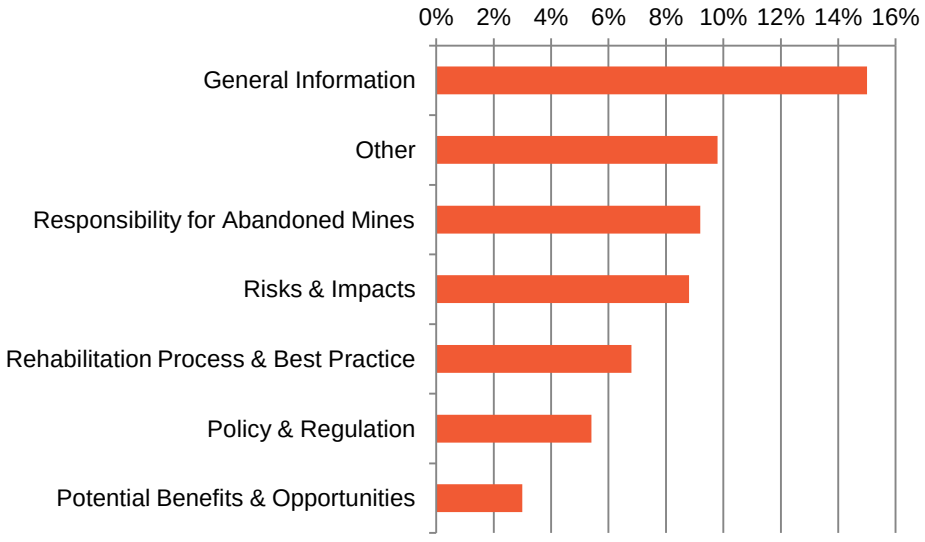
Figure 5: How much do you know about abandoned mines, who manages them, where they are located in Australia and what impacts and opportunities exist?



3.2 Areas of Interest

When asked what they would like to know more about, survey respondents provided a diverse range of answers. Their responses have been clustered as follows.

Figure 6: What would you like to know more about?



75 (15%) respondents cited General Information about Abandoned Mines in Australia as a topic that they would like to know more about. Representative responses included the following specific concerns:

- The location of abandoned mine sites
- The characteristics of abandoned mine sites (underground/open cut, commodities mined, size of mine, former owners)
- The history of abandoned mine sites
- Reasons for abandonment
- Proportion of abandoned mine sites which have been successfully rehabilitated
- Proportion of abandoned mine sites which have not been addressed

A number of respondents also suggested that the creation of a register, database or map of abandoned mine sites throughout Australia would be very useful.

46 (9.2%) respondents cited Responsibility for Abandoned Mines as a topic that they would like to know more about. Representative responses included the following specific concerns:

- Who is responsible for managing abandoned mine sites?
- How are responsibilities/liabilities assigned?
- What are the responsibilities of mining companies in relation to abandoned mines?

44 (8.8%) respondents cited Risks and Impacts resulting from Abandoned Mines as a topic that they would like to know more about. Representative responses included the following specific concerns:

- The potential risks and impacts resulting from abandoned mines
- The scale of issues resulting from abandoned mines
- Which mines have major issues
- The cost of addressing impacts of abandoned mines

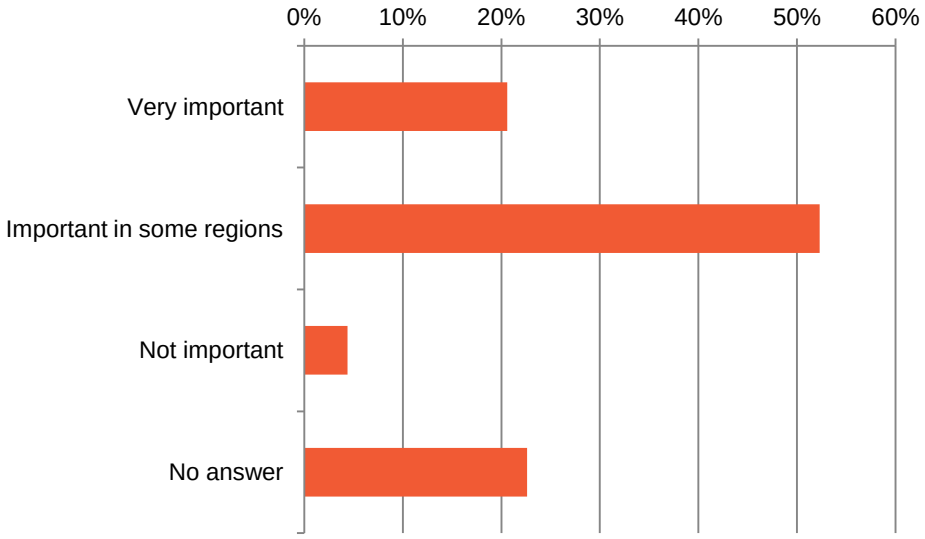
As responses to the survey question were very varied, a large number of responses (49 or 9.8%) were clustered in the ‘other’ category. Some of the responses in the ‘other’ category included:

- How to improve the public opinion of mining
- How are the views of affected people taken into consideration when addressing abandoned mine sites
- Whether there are partnership/research/joint industry groups working on the issue of abandoned mines
- Current MCA and government positions
- Definition/terminology/classification – how are abandoned mine sites defined?
- Community expectations
- The process of abandoning a mine
- The remaining resource potential of abandoned mines

3.3 Public Perception

When asked how serious a problem abandoned mines are to the public perception of mining in Australia, the majority of respondents (261 or 52.3%) stated that it is important in some regions.

Figure 7: How serious a problem is abandoned mines to the public perception of mining in Australia?

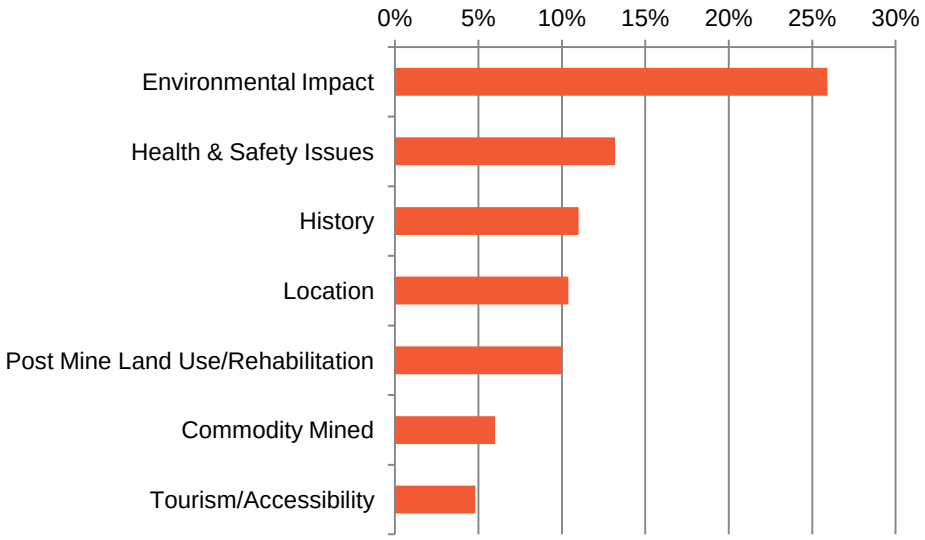


3.4 Awareness & Significance of Abandoned Mines

Respondents were asked to list the names of three abandoned mines they are aware of in Australia. While there were high levels of variability in the responses, the most common mine sites cited were Mount Morgan (53), Rum Jungle (41), Mary Kathleen (35) and Wittenoom (17). Other representative responses included Croydon, Mt Todd, Captains Flat, Bounty, Mt Lyell, Meekatharra, Mt Oxide, Burra, Horn Island, Goldsworthy and Brukunga.

Respondents were asked to provide a reason for why the abandoned mines they had listed were significant. Their answers were then categorised as shown in Figure 8 below.

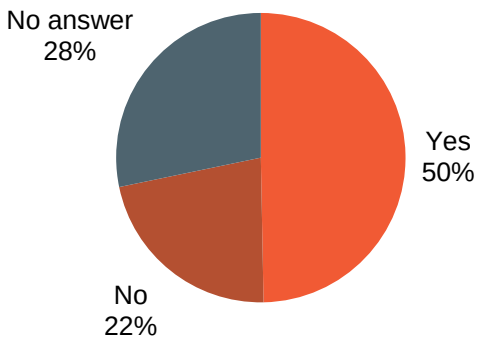
Figure 8: Why are these abandoned mines significant?



3.6 Creation of Abandoned Mines

As cited in Figure 9 below, half of the survey respondents believe that we are still creating abandoned mines.

Figure 9: Do you think we are still creating abandoned mines?



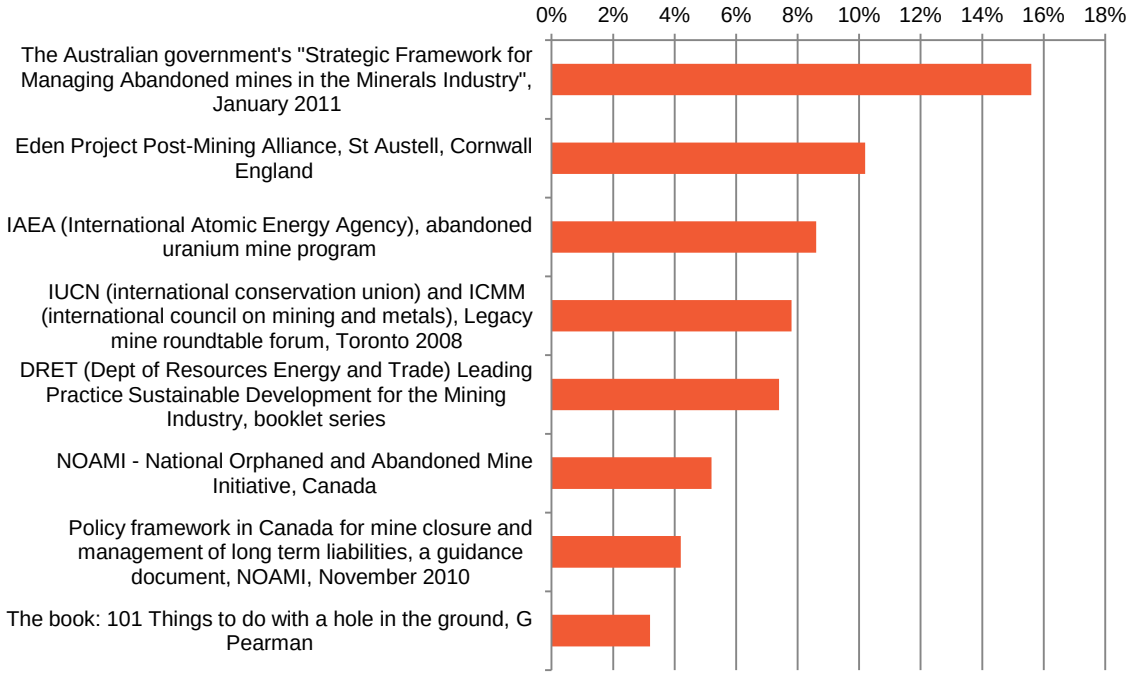
Respondents were also asked to list any mining operations that they are aware of which have been abandoned in the last 10 years. While 162 respondents answered the question, common themes could not be found in the data due to the variability of responses. Some of the mine sites that were cited include: Browns Creek, Mt Todd, Windamurra Vanadium, Mt Morgan, Mt Leyshon, Mt Oxide, Norseman, Kidston, Beenup Mineral Sands, Big Bell, Hellyer and Selwyn.

Several of the sites nominated are not in fact abandoned, but rather remain under the control of mining companies prior to eventual relinquishment e.g. Kidston. This highlights the need to be clear on terminology in this area, and to cater for a range of states and some ambiguity in any further work.

3.7 Resources & Frameworks

Respondents were asked whether they were familiar with a number of different resources and frameworks regarding abandoned mines. The respondents that were familiar with the particular items are displayed in Figure 10 below. Respondents were most familiar with the Australian government's "Strategic Framework for Managing Abandoned mines in the Minerals Industry", (MCMPR/MCA 2010).

Figure 10: Are you familiar with the following?

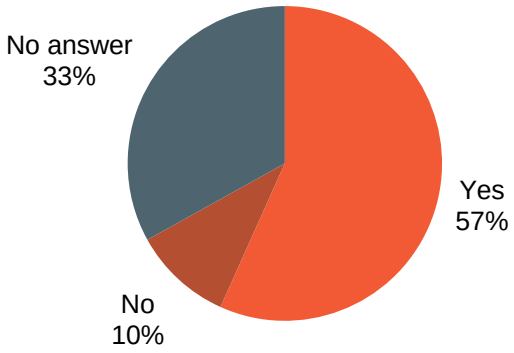


The majority of respondents (351, 70.3%) were not familiar with any of the resources and frameworks listed in regards to abandoned mines, and did not provide any other examples.

4 Positive Impacts

Respondents were asked whether they thought there were positive opportunities for abandoned mines in Australia. As displayed in Figure 11 below, the majority of respondents, 57%, thought that positive opportunities are possible.

Figure 11: Do you think there are positive opportunities for abandoned mines in Australia?



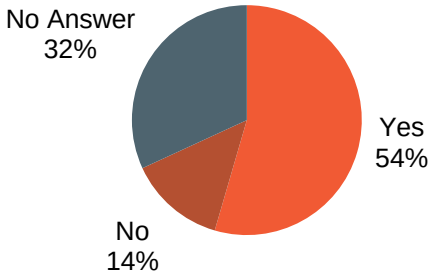
Respondents were also asked to provide examples of a mine/s in Australia where positive secondary mining projects and/or post-mining land uses have been implemented on abandoned mine sites. 221 survey respondents answered the question. The responses were very varied, with Kalgoorlie (21), Woodlawn (9) and Capel (8) the most frequent mine sites named. Other responses included Burra, Stradbroke Island, Mary Kathleen, Collie, Mt Morgan, Kanowna, Mt Lyell, Mt Etna, Browns Creek, Mt Windarra, Mt Carbine, Brukunga, Kangaroo Flat, Goldsworthy, Jarrahdale, Rum Jungle and Joshua Brook.

5 Negative Impacts

5.1 Environmental Impacts

The majority of survey respondents (272, or 54%) thought there were larger environmental concerns for the mining industry in Australian than abandoned mines.

Figure 12: Do you think there are larger environmental concerns for the mining industry in Australia than abandoned mines?

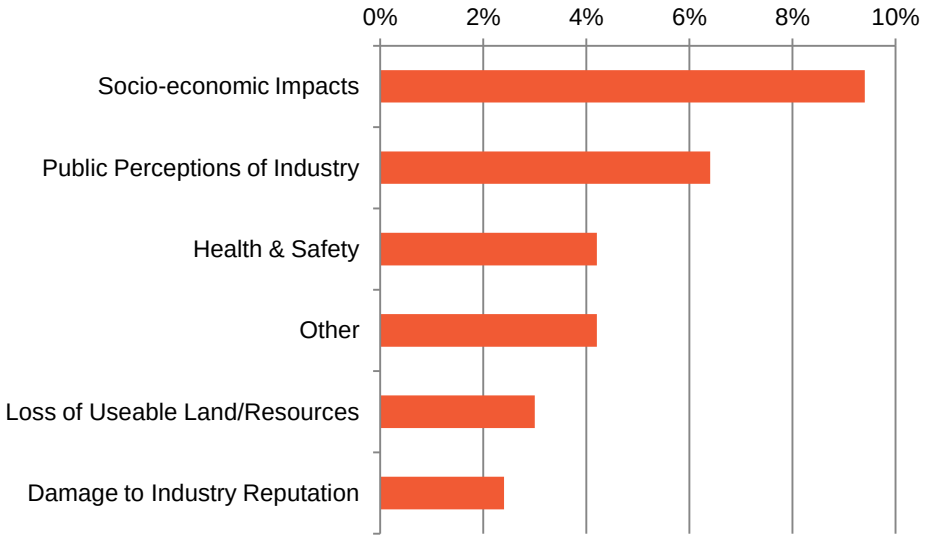


Of those who answered in the affirmative, 240 respondents went on to identify specific environmental concerns. Representative responses included concerns regarding water usage and management, emissions, mining's impact on ecosystems and biodiversity, rehabilitation of mine sites, current operations, dust, waste management, contamination/pollution, acid mine drainage and tailings, climate change, uranium mining, and competing land uses.

5.2 Non-Environmental Impacts

Respondents were asked whether they knew of any other non-environmental negative impacts caused by abandoned mines. The responses were clustered into the following categories.

Figure 13: Do you know of any other non-environmental negative impacts caused by abandoned mines?



47 (9.4%) respondents cited socio-economic impacts caused by abandoned mines. Representative responses included the following specific impacts:

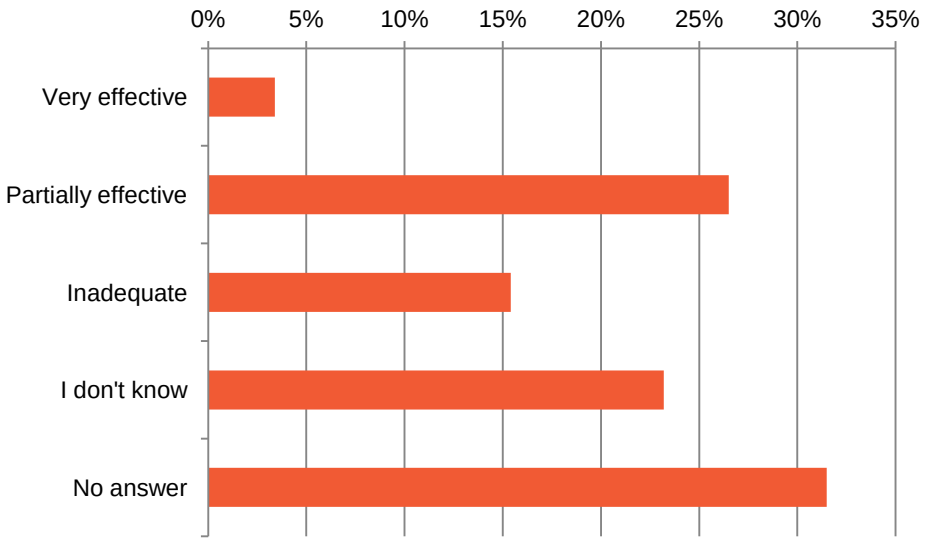
- Decrease in the number residents and visitors to the area
- Financial impact on communities
- Creation of 'ghost towns'
- Increased social and community resistance to mining
- Loss of jobs and livelihoods
- Loss of sense of community
- Loss of services
- Lack of opportunities for local people
- Impact on local councils and their ability to sustain infrastructure

These findings highlight an overlap between abandoned mines and the more general issue of mine closure.

6 Regulation

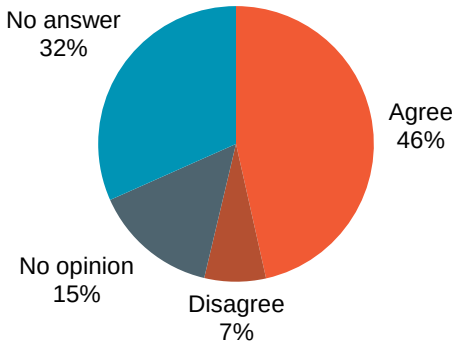
Figure 14 below displays how effective survey respondents think the current regulatory and voluntary frameworks are for managing abandoned mines. 209 (41.9%) respondents thought that the frameworks are either partially effective or inadequate. It should be noted, however, that a large number of respondents did not have an opinion (116, 23.2%) or did not answer the question (157, 31.5%).

Figure 14: How effective do you think the current regulatory and voluntary frameworks are for managing abandoned mines?



As displayed in Figure 15 below, the 232 (46%) survey respondents agreed that Australia should have a multi-stakeholder advisory panel on abandoned mines at a national level, as exists in Canada.

Figure 15: Do you think Australia should have a multi-stakeholder advisory panel on abandoned mines at a national level as exists in Canada (i.e. National Orphaned/Abandoned Mine Initiative)?

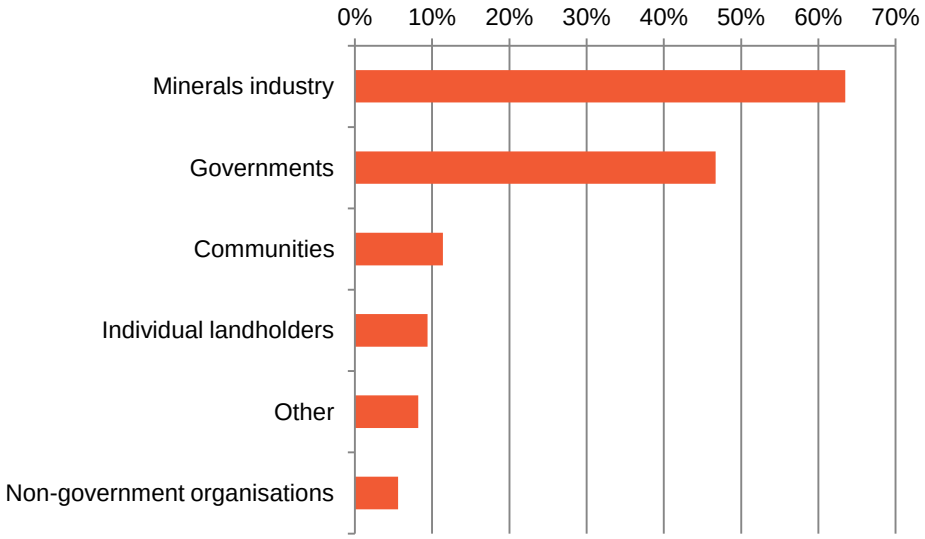


7 Stakeholder Roles & Responsibilities

7.1 Creating Abandoned Mines

A large number of survey respondents thought that the minerals industry (317, 63.5%) and governments (233, 46.7%) were responsible for creating abandoned mines.

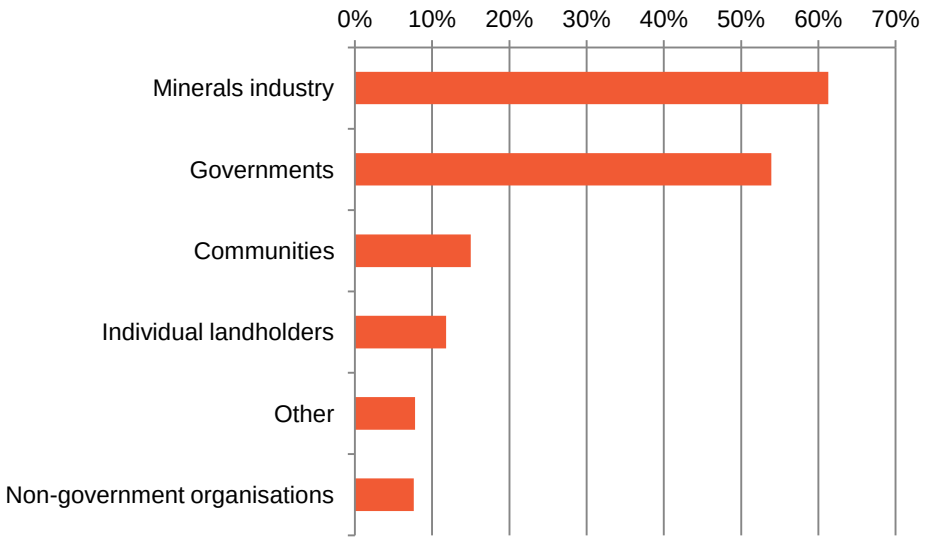
Figure 16: Who do you think is responsible for creating abandoned mines?



7.2 Rectifying Negative Impacts

A similar and closer attribution of responsibility exists between the minerals industry (306, 61.3%) and governments (269, 53.9%) in regards to rectifying the negative impacts from abandoned mines.

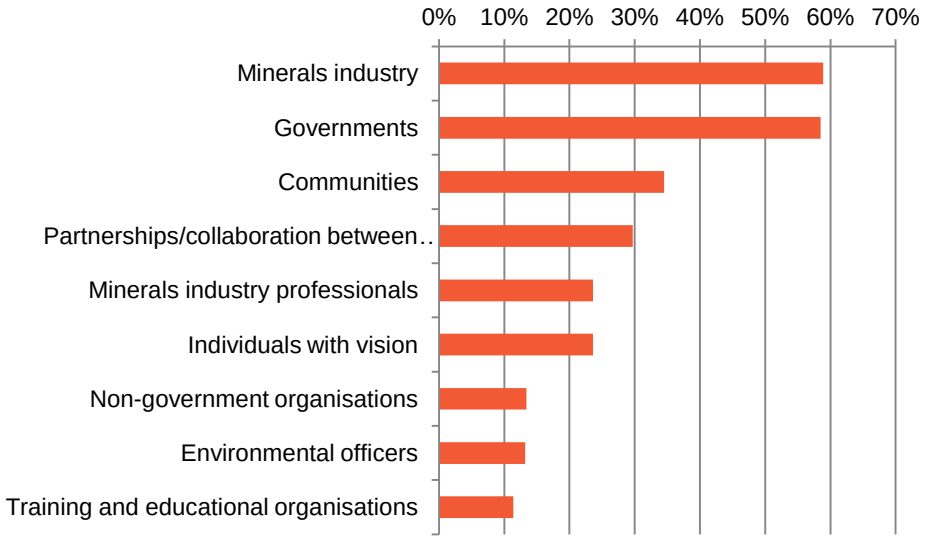
Figure 17: Who do you think should be responsible for rectifying the negative impacts from abandoned mines?



7.3 Ensuring Positive Post-Mine Land Use

When asked who is responsible for ensuring opportunities for secondary mining and/or positive post-mining land uses are implemented, survey respondents again tended to identify the minerals industry (294, 58.9%) and governments (292, 58.5%). Other stakeholders, such as communities (172, 34.5%), partnerships/collaboration between stakeholders (148, 29.7%), minerals industry professionals (118, 23.6%), and individuals with vision (118, 23.6%) were also selected.

Figure 18: Who do you think is responsible for ensuring opportunities for secondary mining and/or positive post-mining land uses are implemented?



7.4 Role of the Mining Industry

Survey responses to the question “What is the role of the mining industry in managing abandoned mines?” were highly varied. Where possible, responses have been clustered into the following categories (see Figure 19 below).

Figure 19: What is the role of the mining industry in managing abandoned mines?

36 (7.2%) respondents cited supporting the rehabilitation process as a role of the mining industry in managing abandoned mines. Representative responses included the following specific activities:

- Ensure that rehabilitation is effective but allows for future re-openings
- Finance management and rehabilitation
- Ensure that business practices prevent abandoning a mine or mining project without provisions for rehabilitation and closure
- Ensure sites are remediated in a timely manner
- Participate in ongoing management of rehabilitation, if necessary

32 (6.4%) respondents cited providing expertise and advice as a role of the mining industry in managing abandoned mines. Representative responses included the following specific activities:

- Help develop tools to limit damage from abandoned mines
- Share information, case studies, learnings and best practices
- Provide expertise and advice to policy makers and government organisations
- Help educate the public around abandoned mines.

31 (6.2%) respondents cited taking responsibility for actions as a role of the mining industry in managing abandoned mines. Representative responses included the following specific activities:

- Taking responsibility for the areas and communities in which companies operate

- Addressing problems which may result from abandoned mines
- Taking responsibility for legacy issues

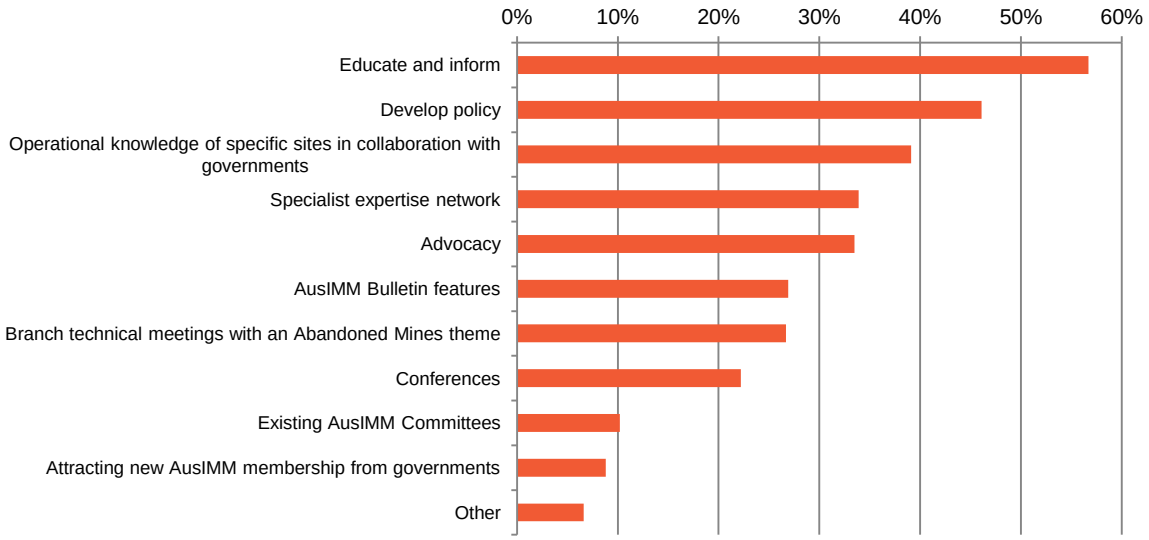
28 (5.6%) respondents cited working with other stakeholders as a role of the mining industry in managing abandoned mines. Representative responses included the following specific activities:

- Work with government to create a practicable operating environment that minimises the risk of abandoned mines occurring
- Seek partnerships with community during mine life to plan for closure
- Collaborate with governments to develop policy
- Collaborate with non-government and community-based organisations

7.5 Role of the AusIMM

Figure 20 below displays survey responses to ways in which the AusIMM can contribute to the management of abandoned mines in Australia.

Figure 20: How can AusIMM contribute to the management of abandoned mines in Australia?



The most common response was for the AusIMM to educate and inform (283, 56.7%), followed by developing policy (230, 46.1%), operational knowledge of specific sites in collaboration with governments (195, 39.1%), specialist expertise network (169, 33.9%), and advocacy (167, 33.5%).

8 Additional Comments

The final question offered respondents an opportunity to make any additional comments. Due to the small number of respondents who answered the question, and the variability fof responses, no common themes could be found.

9 Summary

A summary of the survey results shows:

Knowledge & Awareness

- Only a small percentage of respondents (7%) considered themselves fully informed about abandoned mines, who manages them, where they are located in Australia and what impacts and opportunities exist. This finding suggests a very low knowledge base, and the need for further education of AusIMM members about the issue of abandoned mines.

- Respondents are keen to know more about general information regarding abandoned mines, such as the location and characteristics of abandoned mines sites, reasons for abandonment, the proportion of abandoned mine sites which have been successfully rehabilitated and the proportion which have not yet been addressed. Other areas of interest include who is responsible for managing abandoned mine sites, what are the risks and impacts of abandoned mines, what are the existing policies and regulations, and further information on rehabilitation processes and best practice.

- A number of respondents suggested that the creation of a register, database or map of abandoned mine sites throughout Australia would be useful.

Positive & Negative Impacts

- While the majority of respondents (57%) think that there are positive opportunities for abandoned mines in Australia, not many respondents could provide examples where positive secondary mining projects and/or post-mining land uses have been implemented. The most commonly cited example was Kalgoorlie, however only 21 of 499 respondents provided this response.

- The majority of respondents (69%) think that there are larger environmental concerns for the mining industry in Australia than abandoned mines.

- Respondents cited the largest non-environmental negative impacts caused by abandoned mines as socio-economic impacts, deteriorating public perceptions of the industry, health and safety issues and the loss of useable land and resources.

Regulation

- When asked how effective they think the current regulatory and voluntary frameworks are for managing abandoned mines, a large number of respondents either did not have an opinion or did not answer the question.

- Almost half (46%) of survey respondents agreed that Australia should have a multi-stakeholder advisory panel on abandoned mines at a national level, as exists in Canada.

Stakeholder Roles & Responsibilities

- The minerals industry and governments were seen as being primarily responsible for the creation of abandoned mines, as well as for rectifying the negative impacts from abandoned mines. However, respondents identified a wider range of stakeholders (including communities, partnerships, minerals industry professionals, and individuals with vision) as having responsibility for ensuring opportunities for secondary mining and/or positive post-mining land uses are implemented.

- Respondents viewed the role of the mining industry in managing abandoned mines as involving a diverse range of activities, which includes supporting the rehabilitation process, taking responsibility for abandoned mines, providing expertise and advice, working collaboratively with other stakeholders, and providing financial support and resources.

- Key activities which the AusIMM can engage in to contribute to the management of abandoned mines in Australia include developing policy, educate and inform, sharing operational knowledge of specific sites in collaboration with government, advocacy and participating in a specialist expertise network.

References

AusIMM. 2010. Analysis of The AusIMM Membership as at 30 April 2010.

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Unger, C and Van Krieken, A (2011) A Discussion Paper on Abandoned Mine Management in Australia for members of the AusIMM. Available: https://www.ausimm.com.au/content/docs/abandoned_mine_management_in_australia.pdf

ATTACHMENT D:

Standing Council on Energy and Resources (2013).
Multiple land use framework.

Multiple Land Use Framework

SCER
Standing Council on Energy and Resources

Multiple Land Use Framework

Introduction

The Multiple Land Use Framework (MLUF) has been developed to address challenges arising from competing land use, land access and land use change[1]. The aim of the MLUF is to enable government, community and industry to effectively and efficiently meet land access and use challenges, expectations and opportunities.

The MLUF is intended to be used where land access and land use conflict has the potential, real or perceived, to arise. Whilst it has been developed with the minerals and energy resources sectors in mind, the underlying concept can extend to all sectors, interests and values including but not limited to agriculture, minerals and energy resources, environmental, heritage, cultural, tourism, infrastructure, community and forestry. The framework supports the ability of local and regional communities and governments to maximise land use in a flexible, environmentally sustainable manner over time.

Conceptually, the objective is to maximise the net benefits to present and future generations from a combination of land uses which benefit the wider community, now or in the future.

The MLUF provides a consistent approach to land use development and planning across all jurisdictions. It is intended to be flexible and adaptive to resolving land use tensions and conflicts across the short to long term.

The MLUF consists of four outcomes, eight guiding principles and nine components. It combines adaptive capabilities (leadership, partnerships, planning, engagement, information and continuous improvement) and technical solutions (assessment and approvals processes underpinned by sound scientific and engineering guidance and practice).

The MLUF is designed to operate within established regulatory and policy frameworks relating to land ownership, usage and access. The principles and components will not alter existing land rights assigned under Crown land, freehold, native title and pastoral leases. However, the framework may influence the way in which rights and obligations related to land tenure are imposed on users by State and Territory Governments.

With this in mind, it is at the complete discretion of jurisdictions to determine the scope of their individual Framework and the nature in which they will implement it, so long as it continues to align with the fundamental concept of the MLUF.

Multiple and Sequential Land Use

Multiple land use is where land is used for different purposes simultaneously and sustainably with a view to maximise the benefits for all Australians. The objective is to retain options for current and future use to maximise the net benefits of all forms of land use for present and future generations.

Sequential land use involves different use of land over time. It may include a return to a former use or the development of an alternative land use.

[1] The MLUF was developed by the Standing Council on Energy and Resources for the minerals and energy resources sector. Exposure of the draft framework to key stakeholders from other industry and land uses indicate the framework is applicable to land use change situations that do not involve the mineral and energy resources sector.

Guiding Principles

The MLUF guiding principles underpin key areas of activity required to achieve multiple and sequential land use outcomes. The principles should be embodied into the mindset of governments, community and industry in land use planning, policy and development.

- **Best use of resources -** Maximise the social, economic, environmental and heritage values of land use for current and future generations.
- **Coexistence –** The rights of all land users are recognised and their intentions acknowledged and respected. Ensure land use decision making does not exclude other potential uses without considering the benefits and consequences for other land users and the wider Australian community.
- **Strategic planning** – Inter-governmental planning to recognise community expectations and capacity to adapt to land change. Effective planning gives greater certainty to industry.
- **Tailored participation of communities and landholders –** Directly affected landholders should be informed and consulted on multiple land use options and potential for coexistence to promote a greater understanding of mutual benefits and to resolve problems.
- **Engagement and information –** Open and constructive debate and analysis of different multiple land use options. Stakeholders should be willing to listen and appreciate the views, concerns and needs of all land users.
- **Decision making and accountability** – Risk-based approach in the assessment of land use capability, including the benefits and consequences. Clear accountability and governance around the decision-making process.
- **Efficient processes –** Streamlined, transparent and consistent approvals processes. Those who are responsible for the planning, assessment and approvals processes are clearly identified.
- **Accessible relevant information –** Easy access to accurate information regarding land capability, and examples of multiple and sequential land uses.

Components

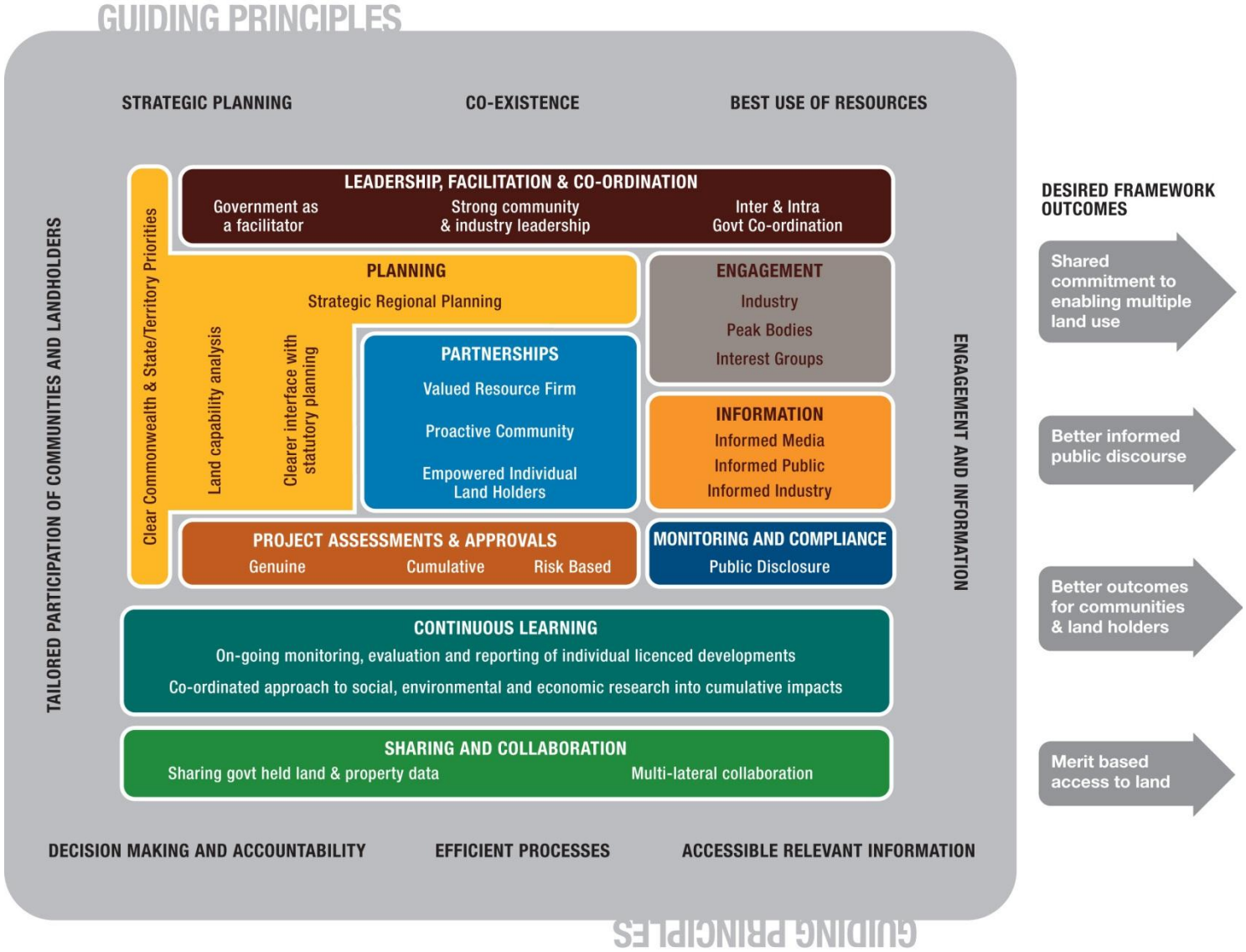
The MLUF defines areas of activity, supported by the overarching principles (outlined above), that must be part of successful multiple and sequential land use:

- **Leadership, Facilitation and Coordination** - Strong leadership from government, industry and the community is central to successful multiple/sequential land use outcomes. Articulate the broad areas of responsibilities of government, industry and the community in terms of facilitating and leading the required changes to optimise multiple and sequential land use.
- **Planning** – Seek clarity regarding governments' objectives and intentions. Describe the optimal approach to enable regions to benefit from land use change.
- **Partnerships -** Partnerships between industry and affected stakeholders play an important role in achieving mutually beneficial multiple and sequential land use outcomes. Identify what needs to be done in order for regional communities to be prepared for land use changes. Extensive stakeholder consultation assists decision making and avoids inappropriate development and/or exclusion of land from other potential uses.
- **Engagement** – Early engagement to enable stakeholders to clearly understand any proposed land use activity. Progress a tripartite approach, with government, industry and community working, to resolving policy, planning and investment conflict. Guidance as to how to engage with key stakeholders with an interest or involvement in land access and usage issues.
- **Information** – Education and adoption of evidence-based approaches is an important feature of successful multiple land use planning approaches. Inform the broader community, industry and media about the importance of land access and land use to the future viability of all industries and the ongoing sustainability of regions. Inform media and industry about what governments

are doing to protect the public interest with respect to regulating industry and protecting social and environmental values.

- **Assessments and Approvals** – Project approvals are streamlined through applying risk-based approaches that are based on best available science, evidence and sustainable development principles. Transparent and consistent approvals processes which account for multiple and sequential land use, and identify related issues such as water, heritage and cultural values.
- **Monitoring and Compliance –** Improvement in the transparency and understanding of how Government/s ensure industry complies with conditions/regulations set to protect the public interest. Increased confidence in the regulator through efficiency in enforcement.
- **Continuous Improvement** – Drawing on past experiences in decision making will improve multiple and sequential land use outcomes. Outline the necessary coordination of investment and the resulting outputs of the investment in the areas of activity, to better understand the cumulative effects of land use change and development across economic environmental and social dimensions.
- **Sharing and Collaboration** - Collaboration between organisations such as government and industry bodies can support sharing of data and information, and quality assurance, accuracy and correct application. Provide mechanisms and opportunities for government, industry and community to share land related information to identify potential issues and opportunities for multiple and sequential land use outcomes.

Diagrammatic representation of the MLUF concept (Sinclair Knight Merz 2012)



Desired Outcomes

Outcomes sought by the MLUF:

- **Shared commitment by government, industry and the community to multiple and sequential land use -** Minimise incidences of conflict over land use by improved ability to recognise differing needs and benefits to all stakeholders early, then using a risk-based approach to mitigate adverse impacts and realise mutual benefits.
- **Better informed public discourse -** Increased transparency and consistency in land use decisions, public access to relevant information, improved understanding of land access regulations relevant to each activity, as well as recognising the benefits of coexistence and collaboration through multiple land use approaches.
- **Merit based land use decisions -** Ensure land is not designated for a single use only, excluding other potential uses, without fully understanding the consequences. Providing certainty for industry and improved community confidence in land use decisions.
- **Deliver acceptable outcomes for affected communities and landholders –** Promote the view that multiple and sequential land use approaches can benefit all stakeholders and engender greater confidence in, and positive engagement by, communities and land holders affected by industry developments.

Next Steps

Key stakeholder engagement on the MLUF across government agencies at the Commonwealth, State and Territory levels and with key industries including agriculture, demonstrates broad support for the implementation of the MLUF. The value of the framework has been recognised during inter and intra government discussions on current land access and use challenges. Resource agencies have committed to the implementation of the MLUF with learnings shared through the Standing Council on Energy and Resources (SCER).

The MLUF is designed to operate within established regulatory and policy frameworks relating to land ownership, usage and access. The principles and components will not alter existing land rights assigned under Crown land, freehold, native title and pastoral leases. However, the framework may influence the way in which rights and obligations related to land tenure are imposed on users by State and Territory Governments.

The MLUF is a fresh approach to changes in land use. By reducing tensions that can arise between stakeholders, we achieve a better economic, social and environmental outcome that leads to sustainable outcomes for future generations.

The State and Territories resource agencies will be the driver for designing the implementation model. There is already widespread understanding across government and the Multiple Land Use Framework terminology is being used. We have an opportunity to help resolve land use issues that support the co-existence of various land uses in a sustainable and profitable manner.