

Conference Statement

Linking Science, Society, Business and Policy for the Sustainable Use of Abandoned Mines in the SADC Region

28 – 30 November 2017, Indaba Hotel,
Johannesburg, Gauteng, South Africa

Having deliberated on the sustainable use of abandoned mines in the Southern African Development Community (SADC) region, the conference delegates conclude the following:

- (1) In view of the **future expansion of mining for sustaining a growing and rapidly urbanising world population** with its ever-increasing use of mineral resources, new ways need to be found to avoid adverse ecological and economic impacts which are still all too often associated with closed and abandoned mines around the world. This is particularly true for countries in the Global South where most of the future mining is likely to take place.
- (2) **Impacts of mining legacy sites on local communities are generally most severe in resource-restricted economies.** This is especially true for countries heavily relying on the extractive sector while lacking resources for adequate remediation, as case studies from sub-Saharan Africa illustrate. As affordability frequently limits the extent to which remediation strategies are adopted, **innovative approaches and more cost-effective alternatives are required.** A number of promising examples were presented at the conference warranting follow-up studies and pilot projects.
- (3) Given the extremely long time scale of post-closure impacts – especially on frequently scarce water resources – it is generally **more cost-effective to avoid the formation of legacy sites in the first place than attempt remediation later on.** Combined with pro-active mine planning that keeps the desired after-use in mind right from the start, mine voids and other assets can be prevented from turning into liabilities relatively cost-effectively.
- (4) **Exploring the underground pumped hydroelectric storage (UPHES) concept in different countries illustrates the multitude of factors impacting on their feasibility.** General consensus exists that the concept, in principle, is technically feasible even under very challenging conditions. However, its economic viability is affected by a complex interplay of governmental policy, energy tariffs, market structure, ownership models, and geographical and other factors. Following on the successful conversion of the Kidston gold mine in Australia into a pump storage scheme on the surface, we recommend utilising favourable conditions in the SADC region for the transformation of mining infrastructure for energy storage and other opportunities.
- (5) It is also agreed that **any successful measure aimed at ensuring a sustainable after-use of closed mines can only be successful if all stakeholders work together towards reconciling potentially conflicting interests to find a solution**, i.e. mining communities, civil society, the mining industry, science, engineering and policymakers. Early and broad public participation, good communication, transparency, respect and honesty are key ingredients for succeeding with this difficult task.
- (6) One of the key issues in the SADC context is that **all mining stakeholders** (e.g. researchers, consultants, regulators and the mining industry) **need continuous improvement of their understanding of complex post-mining legacy issues.**

The delegates agree that **focal points of future research** are, *inter alia*:

- (a) Finding ways for reliable long-term *preservation of knowledge, data* and expertise as the basis of a resilient and adoptive post-closure site management.
- (b) The *internalisation of social and environmental post-closure costs* in planning and approving of mining operations to secure sufficient funds for structured closure and remediation.
- (c) Innovative technologies, including affordable low-tech and low-energy solutions, aimed at preventing legacy sites and transforming potential liabilities into future assets.
- (d) Health, safety and capacity building of workers involved in remediation.
- (e) Financing and/or enabling reference projects to gain experience in implementing innovative technologies.
- (f) Continuous exchange of experience in the field.