

UNEP has just released an excellent study by Philip Peck on mine closure and dealing with abandoned mines. See the "explanatory summary" below. The full report is available at: <http://www.envsec.org/>

It is long, but well worth reading. The standards are very high.

Mining for Closure: Policies, practises and guidelines for sustainable mining and closure of mines

The *Mining For Closure* report aims to present a basis for action within South Eastern Europe (SEE) and the Tisza River Basin (TRB) towards the development of corporate practice, regulatory frameworks, governance guidelines and/or financial and insurance markets suitable for the support of a modern mining industry in the region. Further the report seeks to help SEE and jurisdictions in the TRB deal with the legacies of past mining activities.

In particular, the report seeks to present a number of options and ideas that can be applied to address the funding and execution of mine closure and mine rehabilitation while still achieving social and economic conditions suitable for new and ongoing mining activities. The recommendations and guidance contained in the report supports other initiatives by international bodies that provide guidance to national and international institutions in their role as stakeholders in the mining activities. Further, it seeks to support ongoing national efforts to align legislative frameworks with European legislation, international legislation and best international practice.[1] However, *Mining for Closure* also provides the foundation for filling an important deficiency in international action – namely seeking to deal with abandoned and orphaned mine sites and the serious environmental and social risks associated with them. This issue has particulare relevance for the SEE and the TRB region.

The report comprehensively outlines the challenges and the need for sustainable mining; establishes the rationale for best environmental practice in mining – or *mining for closure* as it will be termed within this document; outlines the important stakeholders in mining and a manner of assessing their relative salience; provides a discussion of the mechanics of mine closure and abandonment; and then presents a summary framework and principles for mining in SEE and the TRB and delineates the next steps forward that need to be taken in the SEE and the TRB regions.

The rationale for mining for closure in SEE and the Tisza River Basin

The mining sector is an important contributor to local and national economies in SEE and the TRB. However, in parts of the region, it is often characterised by inappropriate planning, and operational and post-operational practices taking place within inadequate regulatory frameworks. Poor or negligible implementation of mine rehabilitation and closure activities has been one outcome of note. In SEE and the TRB this has resulted in,

and continues to cause, significant adverse environmental and health and safety impacts and related liabilities.

Increasing expectations for environmental protection, desires for reduced human health risks, competition for land, and the increasing value of the natural environment for recreational space have led to marked improvements in regulatory requirements and mining practice in a number of countries. Furthermore many mining companies have introduced management policies, practices and technologies that markedly reduce the environmental harm caused by mining. Continued improvement in mining practice can be expected as can stakeholder expectations for ever higher standards. Due to the prevalence of mining legacies in SEE and the TRB, the manner in which mines are closed is central to this.

As a part of general improvements in international mining, mine planning, mine closure practices and the conduct of mine operations to facilitate environmentally acceptable closure have also evolved significantly in recent years. While in the past communities often saw that the only choice available was whether a deposit should be mined or not, it has been clearly shown that the manner in which a mine is planned can have a major positive influences on the magnitude and duration of impacts during the life cycle and after mine closure.

Future mines and existing mines that continue operations will need to include closure as an integral part of a project life cycle. They will need to be designed to ensure that future public health and safety are not compromised; environmental resources are not subject to physical and chemical deterioration; post-mining uses for the site are beneficial and sustainable term; adverse socio-economic impacts are minimised; and socio-economic benefits are maximised.

It is anticipated that mining will continue to underpin the economies of many countries in SEE and the TRB in the future. Ongoing and new developments to process and mine the mineral resources of “mining nations” will be vital for many of them to pursue sustainable development. However, mining activities that result in legacies such as those that exist today are unacceptable – jurisdictions in SEE and the TRB must embrace *mining for closure* practices. In recognition of this importance, the report is intended to help facilitate mining policy development, capacity development and institutional development that can yield a sustainable mix of social, economic, and environmental outcomes from mining. In contrast to countries that have already implemented ‘good international mining practices’, countries in SEE and the TRB have yet to develop sufficiently sophisticated corporate governance, regulatory frameworks, or financial and insurance markets to adequately address mine closure rules or funding. This will require innovative approaches, flexibility and new partnerships between governments, industry, communities and other stakeholders in SEE and the TRB.

Comprehensive mine closure for abandoned mines, presently operating mines, and future mines remains a major challenge for virtually every mining nation in the world. To accommodate the need to close abandoned mines and to ensure that existing and future mines are appropriately closed will require the cooperation of a diverse stakeholder community, new and innovative methods of financing closure and major policy and legislative change in most nations to ensure post-mining sustainable development, Clark et al. (2000).

Mining for closure requires recognition that mining is a temporary use of land, but that

the nature of **potential** impacts can be exceedingly long term. Further, such impacts can negatively affect a wide range of stakeholders and economic development in addition to the ecological environment. *Mining for closure* is a sustainability issue – not just an environmental issue.

Approaches to new mining projects

Mining for Closure seeks to assist National actors in the development of reclamation and decommissioning standards that are in-keeping with leading mining nations; that address closure options, processing and ongoing reclamation; that have appropriate terms and conditions for site reclamation and decommissioning; that ensure that closure plans are updated, and that ensure that sufficient financial security (bonds, assurances, etc.) are in place prior to development.

Approaches for dealing with orphaned and abandoned mines

Mining for Closure also strives to aid National actors in the exploration of potential partnerships and approaches for remediation of orphan and abandoned mining sites focusing on the creation of future economic and social values in the context of a healthy environment, rather than simply aiming to “clean up”. Such partnerships will likely involve both the public and private sectors, and may well embrace players who are not usually engaged in post-mining regeneration. Needed are innovative technological solutions, creative financial mechanisms, new legal instruments and unconventional partnerships. Needed is also the full engagement of policy makers and legislators at all levels of government, of companies, the investment community, local communities and non-governmental organisations.

Capacity in Mining for Closure

In the context of SEE and the TRB, the task at hand encompasses more than ensuring mine closure and rehabilitating mining legacies. The strengthening of institutional frameworks is also vital to manage and reduce trans-boundary risks related to such hazardous activities, to facilitate the successful management of trans-boundary natural resources and to influence the evolution of social norms. There is a clear need for a capacity-building programme to enhance the ability of national agencies and mines inspectorates to deal with the legacy of mining sites in the region. Moreover, it must be ensured that new mining projects are based on sound environmental and security principles. Mining for Closure attempts to lay the foundation for a programme to apply a combination of capacity-building tools including pilot studies, knowledge transfer, case study analysis, regional workshop(s) to exchange experience, and development of

country action programmes. National actors should be assisted in building agency capacity in the following areas, *inter alia*:

- environmental impact and risk assessment, and screening of new mining projects;
- incorporation of public security measures and emergency preparedness into mining permits and licences;
- dealing with non-active mines, including abandoned sites;
- capacity building for governmental and regulatory actors involved, or to be involved in activities such as those listed above.

Furthermore, Mining for Closure is meant to promote a more open and informed debate surrounding the need for mining and the ability of mining to serve as a valuable economic driver for development while improving the environment. Awareness raising among all stakeholders with regards best environmental practice in mining will be central to this.

[1] Such as the UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention); the Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances (Seveso II Directive); the UNECE Convention on the Transboundary Effects of Industrial Accidents, Helsinki (Industrial Accidents Convention, 1992); the Danube River Protection Convention (Sofia, 1994); the UNECE Convention on the Protection and Use of Trans-boundary Water Courses and International Lakes (Helsinki, 1992); the UNECE Convention on Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters (Aarhus, 1998); the Framework Convention on the Protection and Sustainable Development of the Carpathians (Kiev, 2003), and more.