Where does mining waste fit within the circular economy?

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The EU needs to ensure greater safety when handling mining waste, writes György Hölvényi.

The report on the implementation of the mining waste directive did not come out of the blue. The safety of mining technologies and their possible impact on human health and the environment have long been on the European Parliament's agenda.

There have been resolutions, debates and MEP interventions always asking the same questions: are European citizens safe from any possible harmful effects of mining technologies, especially from their waste impacts?

The mining waste directive was adopted in the aftermath of two major accidents involving the spill of hazardous extractive waste in 1998 and 2000. It provides measures, procedures and guidance to
prevent and reduce, as far as possible, any adverse effects on the environment and human health resulting from the management of extractive waste.

The directive lays down more stringent requirements towards the so-called 'category A' facilities whose improper management could give rise to 'major accidents', i.e. those leading to a serious danger for human health and/or environment.

In light of this, it seemed quite appropriate eight years after the transposition deadline elapsed, to look at the state of play of implementation within the scrutiny activity of the environment committee in order to detect possible shortages and give timely recommendations for improvements.

When examining the available data on national implementation of the directive, we realised that the current three-year reporting system is not fit for purpose, as it does not allow for the full picture to be outlined at EU level.

Another remarkable finding of my report was that the practical application, as well as the interpretation of definitions and provisions, vary significantly from one country to another, therefore making the figures less plausible. As a result, there is an urgent need to change and enhance the reporting system of the directive, as well as to issue guidance on the implementation.

The European Commission still has to develop guidelines for inspections pursuant to the directive, the omission of which is rightly highlighted in the report. Such long awaited guidelines would definitely improve the safety of installations and provide level playing field across the member states.

The incompleteness of due classification and permitting of category A facilities, which involve higher risks, is especially alarming: external emergency plans are missing for around 25 per cent of such facilities located on EU territory. These procedures have to be finalised as a matter of priority.

Apart from these hugely important, though very technical points on safety, my report intends to focus on the bigger picture, namely on the role of mining waste within today's fashionable concept of circular economy.

While extractive waste accounts for one third of the waste generated in the EU, the directive did not set any targets as regards extractive waste volumes. Similarly, the directive was not scheduled for revision in the Commission's 2015 circular economy package.

I think this is a missed opportunity, because such a policy switch would affect the way mineral resources are extracted and treated, and hence the way extractive waste is managed. Today's trends in mining turn to lower-grade and deeper resources in Europe, which results in the extraction of more material in order to produce the target metal.

However, the process efficiency of chemical processing raises many concerns. A lower ore/host-rock ratio means that more tailings, more mining waste will be produced per tonne of target metal.
The issue of cyanide gold mining is a typical example of this: while one tonne of low grade ore must be extracted in order to produce two grams of gold, one tonne of electronic waste can provide 300 grams of gold, i.e. it is 150 times more efficient.

I am therefore of the view that the concept of best available technologies must be re-considered to avoid 'best' meaning only 'usual practice', even when this can be demonstrably inadequate.

I wanted to point to this direction when recalling the Parliament's resolution of 5 May 2010 on a complete ban on cyanide mining in the EU, especially in light of the weak implementation status concerning the authorisation of category A facilities.

When defining 'best practices', especially those involving high environmental and health risks, I advocate the use of the results of past and ongoing research activities, cutting edge innovations in waste electrical and electronic equipment (WEEE) recycling and the lessons learned from tailings dam failures worldwide.

We have to give priority to higher environmental standards and resource efficiency, even if these are more costly. 'Lowest cost-most prone to failure' technologies must be eliminated.

Local communities are usually deeply affected by the treatment of waste from extractive industries, and therefore by the application of the directive. Their experience over the years has also been a valuable contribution to our work on the implementation report.

About the author

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