

Promoting the Social License to Operate through integrating social and environmental aspects in criticality assessments

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ABSTRACT

Raw material criticality assessments represent a tool for policy makers and companies in order to evaluate supply risks and the associated vulnerability for raw material-based industrial manufacturing. So far, criticality assessments focus on economic and political supply aspects. Only recently have they begun to consider social and environmental aspects. Over the past decade, mining sector developments have illustrated the growing importance of these aspects. The overall environmental impact of mining is increasing because of growing global raw material demand as well as decreasing average ore grades. At the same time, the occurrence of mining-related social grievances and community concerns illustrates the growing relevance of the Social License to Operate (SLO).

The current research project aims at evaluating available methods for social and environmental criticality assessments with a focus on providing recommendations regarding their practical applicability. As basis for this research, we classify and analyze different risk types in the present study, like supply, investment and reputational risks, which arise from social and environmental aspects applicable at different stages of the upstream supply chain. Appropriate indicators will be developed in order to allow quantitative or semi-quantitative risk evaluation. A preliminary screening for past disruptions of mining projects caused by social or environmental issues indicates that a broad range of raw materials are affected by these risks. Further, supply interruptions related to social or environmental factors encompass not only the mining operation itself but also the associated mine service providers and transport logistics. This suggests the need

for a holistic evaluation of mining-related social and environmental risks and corresponding quantifiable indicators as a contribution to the development criticality assessment methods. We anticipate that integrating these aspects in criticality assessments may promote further implementation of the SLO in the mining sector and thereby improve public acceptance of mining operations.