

Policy drivers and barriers for sustainable mining innovations in the EU: a case study analysis

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ABSTRACT

The European Commission and the EU Member States' governments recognised the importance of the mining sector in satisfying the raw material demand for consumer products and a successful transition towards a circular and sustainable economy. However, it is unclear as to how suitable national public policy frameworks are in supporting industry innovations for more sustainable mining operations. Therefore, in our research, we investigate what the policy drivers and barriers for industry innovation case studies are.

In the first stage of our methodological approach, we identified both general innovation drivers and barriers for innovation in mining and key industry innovation in EU Member States through expert interviews and literature reviews. In the second stage, we conducted interviews with mining engineers, company R&D and innovation managers to identify barriers and drivers to innovation, and validate the results through focus group discussions at three stakeholder workshops.

Preliminary results of our analysis indicate that recently introduced regulatory instruments qualify both as drivers and barriers to innovation: While regulatory instruments, such as stricter environmental legislation, potentially lead to less innovation, as compliance costs increase in the short-term, they, at the same time, also drive companies towards process improvements and more environmentally sound operations in the long-term. Additionally, newly introduced policies lead to further complicated and time-consuming permitting procedures that, in turn, could hamper the introduction of innovations proposed in new mining projects. On a more general level, national mineral and raw material strategies, which take into account industry-related prerequisites, challenges, and opportunities specific to the national context, had a positive effect on industry innovation activity in EU Member States.

While the innovation cases and their respective policy drivers and barriers are highly context specific, our results inform policy makers on innovation facilitating and hampering effects to innovation for future policy design and implementation.