

# Public Opinion on Mine Water in Three Former German Hard Coal Mining Regions

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## Extended Abstract

For the first time, the climate of opinion on the topics of mine water and mine flooding was evaluated in three German hard coal post-mining regions, namely Ibbenbüren, the Ruhr area and the Saarland. Each region has its own geographical as political characteristics and mining history. All underground mines in Ibbenbüren and the Ruhr area were closed in 2018, and already in 2012 in the Saarland. The prevailing opinions and emotions of the population regarding mine water, mine water treatment, mine flooding as well as the acceptance of the rehabilitation measures and the mining company were investigated. This study is based on a representative telephone (CATI) and online survey (CAWI) with 1,527 participants in the respective regions (Table 1).

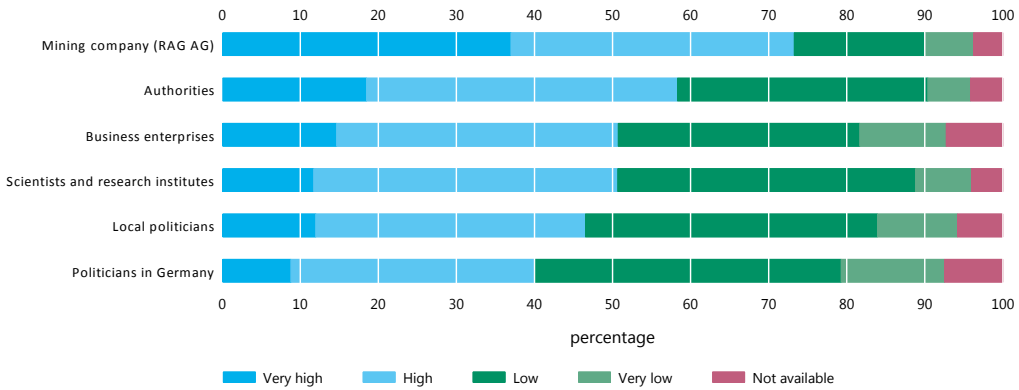
As can be seen, the opinion of the population towards mine flooding and mining issues does not differ substantially in Ibbenbüren, but overall it is more positive than in the Ruhr area and Saarland. In general, there is little interest in mining-related topics as well as in environmental protection or renewable energy issues, but those who are interested in one of the topics are usually also interested in the others. Many participants indicated that they would like more information about mine flooding. Of the stakeholders concerned with mine water, the mining company is seen as most likely to be able to solve potential

problems, while politicians are least expected to solve them (Figure 1).

The term mine flooding (“Grubenflutung”) is seen slightly more positively by respondents than mine water rebound (“Grubenwasseranstieg”), with the Student’s t-test showing no statistically significant differences. Compared to other surveys around the world, the results are similar, suggesting that experiences with the mining company influence emotions towards rehabilitation measures and the risks people attribute to them. However, people want transparent and understandable information,

**Table 1** Participation in the survey according to the survey form. “Screenout” refers to individuals who were excluded because a given quota was already reached.

	n	CAWI %	n	CATI %	n	Total %
Gross sample	1,375	101%	7,741	202%	9,116	161%
Neutral failures/rejects	20	1%	3,918	102%	3,158	61%
Adjusted sample (set to 100%)	1,358	100%	3,823	100%	5,181	100%
Rejection, no interest	–	–	3,325	87%	3,325	64%
Termination after interview begun	241	18%	82	2%	323	6%
Screenout	82	6%	–	–	82	2%
Interviews complete	1,111	76%	416	11%	1,527	29%
Field time	27.3. – 14.4.2020		11.5. – 19.6.2020		27.3. – 19.6.2020	
Survey regions	Ibbenbüren, Ruhr area, Saarland		Ibbenbüren, Saarland		Ibbenbüren, Ruhr area, Saarland	



*Figure 1* In your opinion, how high is the influence of the following actors to solve problems with mine water and to increase the benefits? Results sorted by the sum of Very high and High replies.

have a positive attitude towards mine water treatment and are generally opposed to mine flooding.

Following a survey in the Australian community of Brukunga, which is affected by mine water from the Nairne pyrite mine, Armstrong and Fanning (1994) concluded that “failure to be honest with the public over environmental issues will only lead to confrontation and possibly costly litigation”. Pérez-Sindín and Blanchette (2020) found that even if the mining company openly provides all information about rehabilitation after mining, people may question the information they receive based on their experience with the company. This survey in Germany similarly showed that people who were positively associated with the mining company were more likely to view the proposed flooding scenario positively than others. In addition, a discrepancy between the level of information provided by the mining company and people’s perception of information was found. This can specifically be seen in Ibbenbüren, the Ruhr area and the Saarland, and lead to the conclusion that the more informed someone feels, the more positive is the attitude towards the mining company’s measures and mine flooding.

Clearly, more easily understandable information is needed in local and social media as well as on company and authority websites (e.g. Walter 2021). The problem is that bad news sells better than good news or information content. The positive aspects of

mine water and the benefits of mine water treatment need to be mentioned more often, as the group of people with an indifferent opinion is still quite large.

This and other surveys have shown that many people do not feel sufficiently informed about the activities of mining companies. Based on the survey results, informing the population via local media and circulars in letterboxes is one way to close this information gap. Other possibilities would be regular blogs or e-mail newsletters. It can be concluded that honest and transparent communication on all fronts and an improvement in communication with the municipalities, as opposed to the mantra-like repetition of the term “mine water rebound”, can markedly improve the attitude of the population towards the planned mine flooding in the three mining regions of Ibbenbüren, the Ruhr and the Saarland. Through this communication, the population’s trust in the mining companies’ handling of the opportunities and risks of mine flooding can be strengthened.

The research results contribute to the development of information and communication measures adapted to the respective mining regions. These serve as a template for future mine flooding plans worldwide and will lead to substantial cost savings for mining companies. In addition, emotions and the acceptance of, or increase in, mine water and mine flooding are explicitly essential for the implementation



of future R&D projects in all post-mining regions of the world.

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