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Article

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A coal mine in the Metropolitan Region of Porto Alegre, southern Brazil: the social fight that prevented unprecedented risks for human health, environment, and climate

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ABSTRACT | Coal, a widely used energy source, is also a significant contributor to pollution, impacting the environment, human health, and the climate. Despite international restrictions on its use, a proposal to build Brazil's largest coal mine in the Porto Alegre Metropolitan Region has been presented. The proposed mining area would affect all of the Metropolitan Region of Porto Alegre, would be just 9 km from Eldorado do Sul, 16 km from downtown Porto Alegre, 20 km from Canoas, and 11 km from Guaíba city. Furthermore, the mine would be only 900 meters from Jacuí Delta State Park, an important environmental preservation area and would produce 166 million tons of coal over 23 years. This project showed high potential to affect the environmental, ecological, and hydrological heritage and water supply for a region of 4.5 million people. A robust social movement, led by the community, comprising university research centers, workers' unions and associations, and social movements, was organized to study the project's negative impacts and take action against it. This community-led effort resulted in it's cancellation by Justice, an evidence of the power of collective action. Mining would have brought approximately 2.5 million tons of sulfur to the surface, resulting in acidic mine drainage containing heavy metals that could flow into the Jacuí River, affecting the water supply of several cities, including the populous Porto Alegre. Predictions indicated that the project would generate 412 kg of particulate matter over 23 years, contributing an additional 30,000 tons to the contamination of the MRPA atmospheric basin. The project's Environmental Impact Report (EIR) was found to have multiple gaps and technical omissions, highlighting the inadequacy of the studies conducted and the proposal's environmental unfeasibility. The Medicina em Alerta Group, with the support of nine scientific medical organizations, was a crucial contributor to the effort. This medical advocacy group played an essential role in providing information regarding air quality and the health risks of the coal mine project. After 2 years of continuous effort, the conjoint social, interdisciplinary approach, and scientific expertise were instrumental in canceling the project by the Federal Court and the environmental agency of the state of Rio Grande do Sul. It became evident that fossil fuels must be abandoned, that opening a coal mine in a metropolitan area is dangerous, and that national laws requiring studies on the environmental impact on human health before granting licenses for coal mines or other potentially hazardous enterprises are not just necessary, but crucial for the protection of our environment and human health.

Keywords | Coal environmental pollution; air pollution; environmental monitoring; climate change; public health.

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