

The Jadar Project

Air quality

Ensuring minimal impact to air quality

We understand that some people have concerns about air quality around the proposed underground mine and processing plant.

Some people believe that mining and processing jadarite could produce harmful dust and gases, such as sulphur dioxide. Local communities want to know they won't be exposed to harmful levels of dust and gases, which – if not managed carefully – can affect the health of people, animals and the environment. These are all concerns we are aware of.

Through studies we have completed to date, we have identified and plan to use modern technology to prevent potential harmful emissions. Additional studies would inform environmental impact assessments, helping us to further minimise impacts as much as possible.

Mitigation measures we will have in place.

To manage potential impacts like gases created during the jadarite processing, carbon emissions coming from mining and processing operations, dust created from moving and processing ore, disturbing ground (eg from traffic) and waste and processing residue handling and storage, we would have a set of measures in each of the process stages:

- Processing techniques that minimise the release of gases
- Modern filtering system to collect over 99% of processing gases and dust that occurs
- Progressive capping of waste storage areas
- Use of dust suppression measures
- Dust monitoring stations tracking dust levels in real-time, 24 hours a day, seven days a week
- Use of electric vehicles in the proposed underground mine

Processing gases

We'd install modern filtering systems in the processing plant that would effectively collect over 99% of regulated emissions.

To produce lithium, we would digest jadarite in sulfuric acid at 90°C while maintaining approximately pH 3. This would be done in a closed steel reservoir. Digestion is well below the boiling point of sulphuric acid (250°C) and also below the boiling point of water (100°C). Therefore the gas produced during this process would contain carbon dioxide and water. As an additional protection measure, the exiting gas would go through purification with sodium carbonate solvent, to remove all potential acid gases.

Any emissions produced through the process would be significantly below the environmental limit set by Serbian and EU laws – even before entering the filtering system.

Water vapor

Various cooling towers would continuously emit water vapor, which normally would not be visible. However, on cold days, the temperature difference between warm water and the cold atmosphere would generate conditions whereby the water vapour would rapidly condense into a visible, fog-like mist.

Carbon emissions

We're currently evaluating the proposed operation's greenhouse gas footprint and ways to reduce carbon emissions, including a pathway to net zero emissions. As a starting point, we'd install high-efficiency electric motors, solar lighting, and battery-powered electric vehicles

The largest visual emission would come from the mine ventilation exhaust during the winter, when the warm air from underground reaches the cold air of surface and condenses to form fog.

Dust

Since most of the operations are underground, the main sources of potential dust emissions will be raw material handling and storage, and traffic in and around the site. To minimise dust, we would have dust suppression measures in place. We'd conduct progressive capping of the waste storage areas using native grasses to further help reduce dust.

We've conducted laboratory wind-tunnel tests to simulate local wind and surface conditions at Jadar's processing residue storage facility. Preliminary estimates show that dust emissions from each waste storage surface would be below the limits of air pollution set by EU regulations. These wind tunnel tests have also helped validate the effectiveness of dust suppression techniques.

across the operation. We're also analysing a broad range of energy switching (from natural gas to alternatives) and energy reduction opportunities. These initiatives may be complemented by offsets for hard-to-abate emissions.





Monitoring and reporting

We'd install monitoring stations around the project area, which could pick up fine dust that could be inhaled. Once the project is operational, we'd monitor dust levels in real time, 24 hours a day, seven days a week.

Monitoring would be conducted using a certified methodology and organisation, which would be the subject of independent external review. We would publish the results on our website and report them monthly, quarterly and annually to the Agency for Environmental Protection, according to the Law on Air Protection (36/2009, 10/2013 and 26/2021), Rulebook on Monitoring of Emissions from Stationary Sources (5/2016) and other relevant regulations.

During construction and operations, our environment team would also work closely with the local weather monitoring station to anticipate and prepare for changes in weather conditions.

We understand there are concerns about the transparency of monitoring results of potential impacts. Our aim would be to establish a joint monitoring group, which would include members of the local community and independent experts, to monitor air quality during our operations. We would do this in collaboration with the local community, following practices established in other operations internationally.



Jadar Project

The Jadar Project in Serbia is one of the largest greenfield lithium projects in the world. Jadar has the potential to produce battery-grade lithium carbonate, a critical mineral used in batteries for electric vehicles and storing renewable energy. In addition, Jadar would produce borates, which are needed for the development of renewable energy equipment such as solar panels and wind turbines.

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