

Ore & building materials extraction

Keywords

- > Gold
- > Barrick Gold
- > Glaciers
- > Irrigated agriculture

Introduction

The Pascua-Lama project is located between 4,200 and 5,200 metres (13,779 and 17,060 ft) above sea level, on the border of Chile and Argentina. It is situated in the area of Huasco province in the Atacama Region of Chile, and in the San Juan province in Argentina, where other large multinational companies already have running mining projects. These two provinces also have an extensive agricultural and wine production.

The open pit gold mining extraction project has generated conflicts on both sides of the border, involving concerns related to how glaciers will be impacted.

Background

The project is owned by the Mining Company Barrick Chile Ltd. and Minera Nevada S.A., subsidiaries of Canadian company Barrick Gold.

In 2001, Chilean authorities approved the Environmental Impact Assessment (EIA) submitted by the company, but actual work was postponed until 2004. The company presented a new EIA that was approved in mid-February 2006, as declared in Resolution 039. The EIA was approved in Argentina on 5 December 2006.

In May 2009, Barrick announced it would begin the project, already approved by both governments.

Project

In describing the main characteristics of the project, Barrick (2012) states that it aims to obtain 17.4 million ounces of gold from the open pit mine at Pascua-Lama; a task that will necessitate a huge amount of materials and energy (see Table 1).

This means that every gram of gold extracted from Pascua-Lama will require the removal of 4 tons of rocks, and consume 380 litres of water, 43.6 KWh of electricity (equivalent to weekly consumption in a middle class Argentinean household), 2 litres of diesel, 1.1 kilograms of explosives and 850 grams of sodium cyanide.



Area of the Pascua-Lama Project
Source: Acción Verde, 22 March 2012.

The company established that the Project has a lifespan of 25 years. According to the official demands for project approval, the company is required to maintain Chilean drinking water standards by preserving the established baseline water quality—determined prior to the beginning of the project—at a test point located about 45 kilometres upstream of the closest community.

The mineral produced by the Pascua field on the Chilean side is to be transported or exported to the Argentinean side, where the gold processing plants are located.

Impacts

One impact that the affected communities as well as many international organizations, such as Greenpeace expect is the displacement of the glaciers that cover most of the fields. For farmers of Huasco Valley, destruction of the glaciers that feed the valley during the dry season and guarantee agricultural production is a major concern. There is also apprehension that other conventional glaciers, rocks and permafrost may be affected by the project as well (Emol, 2012).

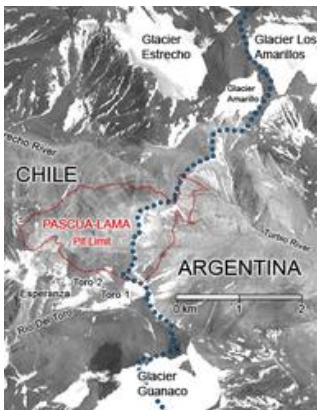
In contrast, the EIA studies in Chile and Argentina state that Barrick would not remove the ice or the glaciers. The mining company admits that this would be in violation of the permits granted by the authorities, and guarantees that the mineral would be accessed in ways that will not involve the removal, relocation, destruction or physical intervention of any of the Toro 1, Toro 2 and Esperanza glaciers. The requirement to protect the





Landscape of Huasco province

Source: visitingchile.com/regiones/region-norte/region-atacama



Location of the cross-border Pascua-Lama Project

Source: es.wikipedia.org/wiki



Location of the Pascua-Lama Project

Source: [Acción Verde accionverde.com/](http://accionverde.accionverde.com/)

ice masses is one of the 400 conditions included for the approval of the Project in Chile.

Finally, the communities are concerned of both water contamination due to mineral exploitation and the excessive use of water sources by the company.

Conflicts and consequences

The main concerns of the communities involve the lack of transparency of the mining projects in San Juan province, the threat of contamination of potable water sources and the allegations of corruption against San Juan's authorities.

A strong resistance movement has mobilised to defend the glaciers and oppose the cross-border project. This movement includes local organisations, community residents and international organisations. The main organisations working on this issue include the Red Ambiental del Norte (Environmental Network of the North), the Agricultural Community of Huascoaltinos, Comité de Defensa del Valle del Huasco (Committee to Defend Huasco Valley) and the Observatorio Latinoamericano de Conflictos Ambientales OLCA (Latin-

American Observatory of Environmental Conflicts).

A second EIA submitted by the company was approved in 2006, on condition that mining work would not impact the glaciers. However, according to the communities, these would be affected if the Project was carried out.

Originally, irrigation farmers in Alto del Carmen, Huasco, were opposed to the mining company but promises of money made them change their mind. A few years later, in 2012, councillors, irrigation farmers and indigenous community representatives declared that Barrick had caused damage to river flow conditions and the glaciers that feed them. Osciel Cubillos, an Alto del Carmen irrigation farmer claims that

More on this case

- Urkidi, Leire (2008). 'Movimientos anti-mineros: el caso de Pascua-Lama en Chile'. Revista Iberoamericana de Economía Ecológica REVIBEC. Vol. 8: 63-77.

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Requirements	Amount
Rocks removed with explosives	1.806 million tons
Water	170 million cubic metres
Sodium cyanide	379.428 tons
Explosives	493.500 tons
Diesel	943 million litres
Gas	22 million litres
Lubricants	57 million litres
Electricity	110 MW

Materials and energy involved in the exploitation of Pascua-Lama



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regional farmers are affected by the Project and its consequences: "Barrick has reduced the river's flow, because it does not have any natural tanks and its work is maintained by the glaciers that are now being destroyed. We don't want to go through what the Copiapó Valley went through, they don't have water anymore" (Emol, 2012).

The communities claim that people who sold lands adjacent to the Project have been affected.

It is important to note that difficulties adjusting the mining treaty—especially on tax matters—had delayed the start of the project. In this regard, one legal claim made by local organisations is that the company demands the creation of an *in situ* customs area in order to export materials. Against the opposition, the company manager flew to meet first with the Argentinean President, followed by the Chilean President. Within a few days, all tax impediments that lasted for years had been resolved.

In August 2010 the company was already in the process of building the Project, despite the various legal demands put forth by the communities and having failed to resolve systemic irregularities discovered in relation to its activities.

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