Collahuasi’s socio-economic impact in the Tarapacá region of Chile

JULY 2016
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About this report

Introduction

Compañía Minera Doña Inés de Collahuasi (Collahuasi) is the third largest copper producer in the world, based in the Tarapacá region of Chile. This report describes the key findings from a socio-economic impact assessment of Collahuasi’s operations in Tarapacá.

For second consecutive year, Collahuasi commissioned Corporate Citizenship, a global corporate responsibility consultancy, to undertake this study to form a deeper understanding of its impact on the economy, communities and individual livelihoods in Tarapacá, Chile.

Since 2015, Collahuasi tracks the key socio-economic indicators from its operations, due to its interest to incorporate socio-economic data within the key performance indicators of the company and its operation in the Tarapaca Region. The assessment is also a learning process and has highlighted opportunities for Collahuasi to enhance its positive social and economic in the future.

This revised report has been updated to reflect the latest-available data, as of June 2016.

Methodological note

The scope of the assessment covered Collahuasi’s economic and social impact. As part of the project, Corporate Citizenship reviewed financial and management information provided by Collahuasi. Corporate Citizenship also conducted its own desk-based research and analysis.

The data presented within this report is based on financial and management information provided by Collahuasi. Data appearing in the company’s Financial Statements and Sustainability Report has been verified by external organisations. Corporate Citizenship has not conducted any further data auditing.

A detailed methodological note on our approach to estimating total economic impact and employment is available in page 14.
Executive Summary
Collahuasi in Tarapacá

Collahuasi is the third largest copper producer in the world. In 2015, Collahuasi accounted for 7.9% of Chile’s total copper production.

Operating since 1999, Collahuasi is jointly owned by Anglo American plc (44%), Glencore (44%) and Japan Collahuasi Resources B.V. (12%).

Collahuasi is responsible for about 80% of Tarapacá’s copper production and makes a significant contribution to the economic and social development of the region by providing employment, supporting local suppliers and investing in local communities.

Collahuasi’s mining operations are located 4,000 metres above sea level, in Tarapacá, one of Chile’s most northern regions. The nearest towns, Huatacondo, Pica and Matilla, are over 40, 130, and 135 km from the mine, respectively, although Collahuasi also engages with a number of local communities close to its logistics corridor and port, approximately 200 km away.

Key figures:

- 7.9% of Chile’s copper production is from Collahuasi.
- 8.6% of Chilean GDP and 49% of exports from copper mining in 2015.
- Collahuasi’s production accounted for about 80% of the copper mined in Tarapacá.
- 8.6% of Tarapacá’s employment and 45% of regional GDP from copper mining.
Copper mining is one of Chile’s most important industries, directly accounting for 8.6% of national GDP in 2015\(^1\). It is also by far the largest contributor to Chilean exports, representing 49% of all exports in 2015. In total, Chile accounted for 30% of world copper production in 2015\(^2\). Its copper is used around the world, integral to housing, transportation, electrical infrastructure and a wide range of consumer products.

**About Tarapacá**

Tarapacá is one of Chile’s 15 regions and is made up of the provinces of Tamarugal and Iquique. It has a rich cultural history and is home to two indigenous cultures, the Aymaras and Quechuas. Due to its location in the far north of Chile, Tarapacá has a desert climate.

Within Tarapacá, mining accounts for 8.6% of employment, and contributes 45% of regional GDP\(^3\). This puts the region only behind Antofagasta and Atacama in terms of the importance of mining to the regional economy.

In recent years, the region has developed significantly. The population has more than doubled since 1990, and the poverty rate\(^4\) has dropped from 24% in 2006 to 8.2% in 2013. In the same period, average monthly household incomes have increased by over 50%.

<table>
<thead>
<tr>
<th>Key statistics: Tarapacá</th>
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<tbody>
<tr>
<td>Capital</td>
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<tr>
<td>Population</td>
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<td>GDP</td>
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<td>Main occupations</td>
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<tr>
<td>Unemployment rate</td>
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<tr>
<td>Poverty rate(^7)</td>
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<tr>
<td>Average monthly income per household</td>
</tr>
</tbody>
</table>

\(^1\) Calculated by Corporate Citizenship using data from the Chilean Central Bank  
\(^2\) United States Geological Survey (USGS)  
\(^3\) Data for 2014 from the Chilean Central Bank  
\(^4\) I.e. the percentage of people living below the government-defined income poverty line, which is calculated from a basket of basic goods and services.
Generating economic growth

Collahuasi plays a key economic role in both the local region and Chile as a whole. Collahuasi has made a consistent contribution to Chile’s copper production for over 15 years. And despite declining global copper prices since 2011, the business remains a key driver of economic activity in Tarapacá.

Collahuasi makes a significant contribution to the economic growth and prosperity of both the Tarapacá Region and Chile as a whole, with the value generated by the business distributed to a variety of stakeholders.

Key figures:
- US$1,675 million total (direct and indirect) estimated impact on the Chilean economy.
- US$1,003 million direct contribution to the economy of Chile; over 58% distributed to employees, government, local communities and providers of capital.

Collahuasi’s economic impact

Taking direct and indirect impacts into account, Collahuasi’s total impact on the Chilean economy in 2015 is estimated at US$1,675 million, or 0.7% of Chile’s GDP.

Collahuasi’s direct impact

Collahuasi’s direct economic contribution to the economy of Chile in 2015, stated in terms of gross value added, was US$1,003 million. 58% of this value
was distributed to stakeholders including employees, government, local communities and providers of capital (see chart).

Gross value added is a standard measure of a company’s direct contribution to GDP, and is defined as the difference between gross sales revenues and operating costs. The contribution to the Chilean economy is then estimated by subtracting dividend payments made to shareholders overseas.

Collahuasi’s direct economic contribution is equivalent to approximately 17% of the GDP of Tarapacá. However, not all of this impact will be felt within the region, since Collahuasi makes wage, tax and dividend payments to stakeholders elsewhere in Chile.

**Collahuasi’s indirect impact**

Collahuasi’s purchases of goods and services stimulate demand in other sectors of the economy, from manufacturing and construction to financial services and transportation. Meanwhile, employees spend their wages throughout the economy, and tax payments fund government spending.

Data from the Central Bank of Chile indicates that for every US$1 of direct economic contribution from the mining sector, there is a further US$0.67

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impact in the wider economy\textsuperscript{6}. This amounts to US$672,000 m of indirect contribution by Collahuasi in 2015.

**Contributing to public finances**

Collahuasi contributes directly to public finances in Chile through the payment of corporate income tax, mining licenses and property taxes. In 2015, Collahuasi’s total payments to government (not including deferred taxes) stood at US$127 million. This was significantly lower than the US$451 million paid in 2014 – an exceptional year – but still an increase from 2013.

According to the Chilean Copper Commission (Cochilco), mining companies contributed US$4,728 million in tax in 2014 – 8.9% of the government’s total tax revenues.

\textsuperscript{6} Consejo Minero (2014), Reporte Anual
Creating jobs and developing skills

The mining industry has transformed the employment opportunities in Tarapacá over the past 20 years. Providing jobs for local people is one of the most significant ways in which Collahuasi can contribute positively to the economic development of Tarapacá.

Mining and its related industries provide 8.6% of the region’s employment (nearly 15,000 people). As the largest mining company in the region, Collahuasi has been the greatest contributor to mining jobs – offering employment opportunities that range from low skilled operators and maintenance staff through to highly skilled jobs such as engineers and geologists.

Collahuasi’s workforce, comprising direct employees and contractors, stood at 6,496 people in 2015. Similar to other mining companies, contractors form an integral part of Collahuasi’s workforce. Collahuasi is committed to ensuring good working conditions for everyone who works for the company, whether employee or contractor.

### Numbers of employees, 2013-15

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct employees</td>
<td>2,740</td>
<td>2,640</td>
<td>2,241</td>
</tr>
<tr>
<td>Contractors</td>
<td>4,553</td>
<td>4,722</td>
<td>4,255</td>
</tr>
<tr>
<td>Local employees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Tarapacá residents)</td>
<td>1,286 (47%)</td>
<td>1,217 (46%)</td>
<td>1,007 (45%)</td>
</tr>
<tr>
<td>Apprentices</td>
<td>69</td>
<td>29</td>
<td>18</td>
</tr>
<tr>
<td>Training per person (hours)</td>
<td>55</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

 upward arrow

Key figures:

- 6,496 employees/contractors in 2015.
- 45% local employees (Tarapacá residents).
- 23,061 estimated direct and indirect employment impact in Chile, including approximately 6,133 jobs in the local region.
- 284% higher wages for operators on the mine than the average monthly wage in Chile.

\(^7\) INE (2015) Ocupados por rama de actividad económica - Tarapacá
Supporting indirect employment through the value chain

Collahuasi not only directly creates formal mining jobs, but also generates employment indirectly by stimulating demand for goods and services in the wider economy. Collahuasi spends millions of dollars on goods and services including equipment, transportation and food, including 19.4% with local contractors and suppliers in Tarapacá.

Because mining is a highly capital-intensive sector, its indirect employment impacts are significantly larger than the direct employment it provides. It therefore has larger spillover, or multiplier, effects than many other sectors. Data for the industry indicates that for every worker in the mining industry, 2.55 indirect jobs are generated in the wider economy.\(^8\)

In addition to the 6,496 employees and contractors employed in Collahuasi’s direct operations, Collahuasi is estimated to support approximately 16,565 jobs through its value chain. Approximately 3,214 of these are estimated to be supported locally,\(^9\) based upon the proportion of spending with local suppliers.

In total, direct and indirect employment supported by Collahuasi is estimated at 23,061 people across Chile. Of these, approximately 6,133 (28%) are estimated to be supported in the local region.\(^10\)

Supporting livelihoods

Collahuasi’s impact extends to its workers’ dependents (i.e. immediate and extended family). Based upon average household sizes for Chile (3.2) and Tarapacá (3.6)\(^11\), Collahuasi is estimated to help support the livelihoods of 73,800 people across Chile, including up to 22,100 in the local region.

Providing wages and benefits

Due to their high-skilled nature, mining jobs are significantly better paid than the regional as well as national average. This is the case for all job levels,

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\(^8\) Estimate by Consejo Minero (2014), using data from the National Statistics Institute (INE) and the Chilean Copper Commission (Cochilco).

\(^9\) Within Tarapacá and Arica y Parinacota

\(^10\) Assuming that the proportion of contract employees who are resident in the region is approximately the same as Collahuasi’s.

\(^11\) INE (2013), Compendio Estadístico
from trainees up to senior management. For operators, who comprise 74% of Collahuasi’s total workforce, the average salary is 284% higher than the average for Chile, and 255% higher than the average monthly income in Tarapacá12.

Workers and contractors at Collahuasi receive a range of benefits, including medical and dental insurance. Some benefits are also made available to the families of permanent employees, including scholarships for the children of Collahuasi employees. Also, Collahuasi fosters life quality through initiatives aligned with the Program for Healthy Life for employees, such as the swimming pools for the elderly and sport programs for children, young, and adults. These benefits are targeted at improving livelihoods, protecting health and building staff loyalty.

Training and skills development

Collahuasi invested US$1.6 m in training and development in 2015 –over 30% more than in 2014. 318 different training courses were offered, ranging from technical skills to conduct and safety, totalling 70,601 hours of training – over 52% more than 2014. Collahuasi trained 49 young people through its apprenticeship programme.

Investment in training enables Collahuasi’s existing workforce to develop their skills. The key issue for the future will be to build the skills of Tarapacá residents so they are better equipped to take on jobs within the mining industry.

Developing a local workforce

One of the ways in which communities in Tarapacá can more fully experience the economic benefits from mining is through local people working within the industry, particularly taking on higher-skilled jobs that have better pay, benefits and career opportunities.

While Collahuasi continues its efforts to increase its employment of local people from Tarapacá, challenges remain. The skills gap is a significant challenge for the Chilean mining industry, with the gap between demand and supply of workers expected to grow from 4,700 to 8,400 by 202013.

12 Based on male operator salary for 2014. Average salary data from INE (2014).
Collahuasi is taking steps to build the capacity of a local workforce for the region. For example, it provides theoretical and practical training to young people in the region through its Workplace Training apprentices program. Career development and training programs are also in place for current employees, to encourage internal promotion.

The Collahuasi Educational Foundation invests in local secondary and primary schools and has enabled technical mining skills to be incorporated into the curriculum. However, the speed and level of investment in this area must remain a top priority, if the mining industry is to continue to grow a skilled local workforce.
Local development

Collahuasi makes important socio-economic contributions to the Tarapacá region, through employment, local procurement and initiatives to support economic and social development in the communities within its areas of influence.

Supporting local suppliers

Through its procurement of goods and services, Collahuasi has a significant opportunity to support employment in its local communities and encourage local businesses to flourish and grow. Collahuasi has a policy in place that explicitly promotes local procurement in order to promote socio-economic development.

In 2015, Collahuasi bought goods and services from 185 suppliers in Tarapacá, who received over 19% of total spending. Whilst the number of local suppliers fell in 2015 (see table), the proportion spent with them increased by over 4%. Collahuasi has implemented a number of programmes to invest in the development of local suppliers, in order to further improve this proportion.

Local procurement, 2013-15

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of local suppliers</td>
<td>237 (19%)</td>
<td>240 (18%)</td>
<td>185 (17.2%)</td>
</tr>
<tr>
<td>Spend with local suppliers (million US$)</td>
<td>US$304.5 (17%)</td>
<td>US$260.1 (15%)</td>
<td>US$228.3 (19.4%)</td>
</tr>
</tbody>
</table>

The nature of Collahuasi’s business, combined with its rigorous standards in areas such as safety, skills and equipment, makes it difficult for small and local suppliers to compete with larger national and multinational rivals. Collahuasi has established a number of supplier development programmes, which seek to develop the capacity of local suppliers in terms of skills and
standards, in conjunction with the national and regional government and other mining companies in the region.

In total, 88 of Collahuasi’s suppliers participated in these programmes in 2015, bringing the total number since 2008 to 326 companies.

More widely, Collahuasi has a number of initiatives and investments aimed at supporting entrepreneurship and skills development in local communities. For example, Collahuasi has engaged with fishers’ unions in communities close to its port in order to improve facilities. The government-funded “Casino” project in Caleta Chanavayita works as a restaurant selling fish to Collahuasi contractors, and the profits are invested in the local community.

Community investment

Since the start of its operations, Collahuasi has committed to support the development of communities close to its mining operations, transportation route, and the coastal area around its port. Using public dialogue, Collahuasi aims to build ties with the communities and improve the quality of life of its inhabitants.

Continuous engagement with community representatives allows Collahuasi to tailor community investment efforts to the needs, priorities, and expectations of the communities. In recent years, existing community relations have been strengthened by various working groups: four in the coastal area and three around the mining site.

Collahuasi has chosen to focus its community activities on educational programmes, in an effort to improve employment opportunities and attract talent. In 2009, the Educational Foundation was established to manage the implementation of Collahuasi’s educational projects. The majority of Collahuasi’s community investments (45% in 2015) go to local development and employment programmes, followed by educational programmes (40%) and heritage and tourism (8%).

Social investment, 2013-15

<table>
<thead>
<tr>
<th>Community investment by Collahuasi and its Foundation (million US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
</tr>
<tr>
<td>US$13.1</td>
</tr>
</tbody>
</table>
Methodological Note

Collahuasi has significant socio-economic impacts in Chile, not only through its direct operations, but also through its value chain and the wider economy. Collahuasi’s total impact falls under the following main categories:

- **Direct** impacts, through Collahuasi’s direct employment of workers in its operations and the economic value generated by the business, which is distributed to a variety of stakeholders;

- **Indirect** impacts in the value chain in Chile, through purchases of goods and services from sectors from manufacturing and construction to financial services and transportation. As suppliers re-spend the money they receive from Collahuasi with their own suppliers, this will multiply Collahuasi’s indirect impact still further;

- **Induced** impacts, through spending of wages and tax revenues leading to increased consumption and employment throughout the economy;

The scale and extent of these impacts means that they can only be estimated. As far as possible, Corporate Citizenship has collected data directly from Collahuasi, including specific information on local employment and spending with local suppliers.

In order to estimate Collahuasi’s full indirect and induced impacts, Corporate Citizenship has used multipliers from credible sources, based on macro-economic data from the Chilean Central Bank. Sources for these multipliers are outlined below.

**Economic impacts**

The direct contribution of Collahuasi’s business to Chilean GDP has been estimated on the basis of the company’s gross value added. Gross value

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14 Note that in each case, “impact” refers to Collahuasi’s gross rather than net impact, and therefore does not take into account displacement (i.e. labour, land and capital are used by Collahuasi which would otherwise have been used by other companies) or leakage (i.e. some indirect and induced spending “leaking” overseas). While both of these effects are important, they are not readily quantified, and are not usually included in impact assessments of this nature.
added is a measure of a company’s direct contribution to GDP. It is defined as the difference between gross sales revenues and operating costs. In order to estimate the direct contribution to the national economy, dividend payments made to shareholders overseas have been subtracted from the total.

Collahuasi stimulates further economic activity through its payments to employees, government and suppliers. As these circulate through the wider economy, they create significant indirect and induced impacts, via what is known as the ‘multiplier effect’.

Corporate Citizenship used a multiplier calculated by Consejo Minero\textsuperscript{15} using the Central Bank of Chile’s input-out matrix for 2010 (the most recent available). This estimates the mining sector’s total multiplier effect at 1.67, meaning that for every US$1 of direct economic contribution from mining, a further US$0.67 is created indirectly in the wider economy.

In order to calculate Collahuasi’s total contribution to the Chilean economy, Corporate Citizenship used the 2015 GDP figure from the Central Bank of Chile\textsuperscript{16}, converted to USD using an average of monthly exchange rates\textsuperscript{17}.

**Employment impacts**

Collahuasi not only directly creates formal mining jobs, but also generates employment indirectly by stimulating demand for goods and services through its payments to suppliers. Further to this, induced employment is created as wages and tax revenues are spent in the wider economy.

Because mining is a highly capital-intensive sector, its indirect employment impacts are significantly larger than the direct employment it provides. It therefore has larger spillover, or multiplier, effects than many other sectors. Using data from the National Statistics Institute (INE) and the Chilean Copper Commission (Cochilco), Consejo Minero estimates that for every worker in the mining industry, 2.55 indirect and induced jobs are generated in the wider economy\textsuperscript{18}.

\textsuperscript{15} Consejo Minero (2014), Reporte Anual
\textsuperscript{16} Banco Central de Chile, Producto Interno Bruto, trimestral, precios corrientes
\textsuperscript{17} SII, Dolar observado 2015
\textsuperscript{18} Estimate by Consejo Minero (2014), using data from the National Statistics Institute (INE) and the Chilean Copper Commission (Cochilco).
Multiplying the number of employees and contractors employed on Collahuasi’s direct operations by this multiplier therefore results in an estimate of Collahuasi’s total employment impact.

In order to estimate Collahuasi’s local employment impact in terms of indirect and induced employment, two major assumptions were required. Firstly, because a figure for the proportion of contractor employees who are local to the region was not available, the assumption was made that this proportion was the same as for Collahuasi’s direct employees (45%).

Secondly, in order to estimate local indirect and induced employment, Corporate Citizenship multiplied the estimate for Chile as a whole by the proportion of Collahuasi’s supplier spending that is with suppliers in the local area (19.4%). It is therefore implicitly assumed that suppliers outside of the local area are not responsible for any indirect or induced employment in the region, and that the spending patterns of indirect and induced employees mirror those of Collahuasi, in terms of the proportion that is spent within the region.

Given these assumptions, the estimate of Collahuasi’s local employment impact should be treated as an estimate only.
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