

Market development



We participate in various international copper and molybdenum associations to boost these markets. Our subsidiary Codelco Tech, meanwhile, seeks to support initiatives and businesses that combine innovation and technology, to open new niche markets for our products.

International participation

International Copper Association, ICA

At Codelco we continue our role as a key member of the ICA, actively participating in the definition of strategic guidelines for the control, development and execution of programs that involve significant impacts on copper consumption; guidelines which are also included in the strategic plan of our organization.

With the ICA Executive Committee's approval of the US\$ 51 million budget for 2016, the primary organization for the promotion of copper consumption managed to attain a strong leading position for copper among its primary substitutes.

2016 was marked by milestones pertaining to regulation and sustainability issues, given the extraordinary level of global credibility that the ICA has earned in many areas.

An audit conducted by the United Nations on 17 sustainable development objectives reveals that ICA-developed programs have had a positive impact on all 17 of these objectives. Such findings provide strong evidence that of the importance of copper in the sustainable development agenda, and the commitment of the industry towards this issue.

As a result of commitments for development of these objectives, the ICA and the United Nations Environmental Program are set to spearhead the global alliance 'United for Energy' (U4E), which provides aid to countries (primarily developing countries), with the aim of encouraging the use of energy efficient products within their economies.

By the end of 2016, U4E had raised approximately US\$ 56 million in financing. This influx of capital allowed the ICA to expand its geographic presence and develop programs in locations where they do not usually operate, with a focus on high copper consumption markets.

Furthermore, the ICA continued working in the defence of access to markets in which notable initiatives are underway in the classification of copper metal and concentrate, particularly those pertaining to offshore regulations. Such efforts aim to provide sustainability in the logistics and management of these products.

Meanwhile, efforts continued through programs for market protection in China, India and Southeast Asia, where copper consumption in the energy, electrical transmission and construction is considerable with respect to other geographic areas.

Over the forthcoming years, through the implementation of defense and promotion programs for copper use, ICA is expected to meet its committed goal to increase global demand for refined copper by one million tons in comparison with 2014.

The International Molybdenum Association (IMOA)

In 1989 Codelco promoted the founding of the IMOA which encourages the use of molybdenum and analyzes the impact of this metal on the environmental and human health. Moreover, the IMOA conducts investigations and studies on regulatory aspects in areas pertaining to sustainable development and public health.

In 2016 the IMOA faced issues that are vital to regulatory challenges of importance to the industry. Such challenges involved market access and the threat of classifications associated with potential molybdenum toxicity. In this regard, the IMOA developed studies with world renowned entities, which in turn provided for the development of programs in defence of the molybdenum market in different geographic zones around the globe. These programs were developed by means of a collaborative work agenda with different regulatory bodies and procured sustainability in the production and commercialization of molybdenum products in those areas.

The IMOA has a budget of US\$ 3 million for the implementation of market development, sustainability, market intelligence and communications programs.

Market access projects

Molyb – Molybdenum Process Plant

Codelco is the world's second leading molybdenum producer and, given molybdenum's strategic importance in the market, in 2016 we executed the start-up of our molybdenum process plant, Molyb, a 100% Codelco subsidiary currently in operation.

Molyb enables Codelco to ensure long-term access to molybdenum production to markets of interest. Furthermore, Molyb production provides Codelco with the ability to generate other commercial molybdenum products of greater added value, in addition to the recovery and commercialization of rhenium.

The total investment for Molyb was US\$ 555 million. More than one-fifth of this amount was allocated to efforts to meet strict requirements pertaining to sustainability and environmental regulation. Moreover, Molyb's commitment to the community was evident through the training of 60 people and subsequent hire of 42 inhabitants from the Municipality of Mejillones.

Molyb plant operations will process 16,500 tonnes of fine molybdenum from molybdenum concentrate provided by each of our Divisions. Moreover, Molyb is also expected to produce molybdenum oxide, ferromolybdenum, highly soluble molybdenum, rhenium and sulfuric acid, among other by-products.

Metal Recovery Plant

This project commenced in 2014 with the strategic joint venture of Codelco and Korean firm LS-Nikko. 2016 saw the completion of the following significant milestones: start-up of the plant; and production of the first gold ingot and first silver ingot produced in Chile in many years.

Metal Recovery Plant has been designed with the highest environmental standards, thanks to its cutting-edge technology and expert operation.



Planta Molyb

The plant's start-up phase commenced in July 2016 to produce 124,974 kilos of silver and 1,371 kilos of gold in ingot form.

The project implemented an exchange program for young people around Mejillones and scholarships in Korea, worker training and local labor hiring.

Moreover, the project helped Codelco expand its portfolio of products of greater added value and enhanced market access. In addition to gold and silver ingots, the plant also recovered palladium, platinum, selenium and tellurium.

Codelco Lab: An accelerator of innovative projects

In 2016, Codelco Lab commenced a stage of consolidation of the work model that was designed two years prior; seeking to become the principal catalyst for mineral-based innovation by 2018, thus impacting the development of the country and the needs of the world.

Codelco Lab set its strategic guidelines upon three pillars: links with universities and national and international technology centers; expansion of work focus and; communicational deployment. Throughout the year, these pillars were transformed into a series of milestones and activities, emphasising among these the following:

Links with international institutions: In order to accelerate the implementation process of the Codelco Lab strategy, agreements were drafted with universities and organizations linked to innovation and entrepreneurship in the United Kingdom.

Highlights of these efforts include agreements with Imperial College Innovation and Oxford University Innovation; the Kaist, Kisti and ETRI Institutes in South Korea; YEDA in Israel; the transfer office of the Weizmann Institute and; in Spain, with the technological centres Tecnalia, Graphenea and Aimplas.

Results of the roadmap for copper use: Results were obtained from the roadmap for copper use on topics associated with energy (especially solar energy), electrical mobility, energy efficiency, integrated transmission, water, the environment and new materials.

Invitation to tender 'Mineralizate': The first Mineralizate open call was launched in 2016 to attract national start-up projects to the Codelco Lab portfolio. Mineralizate received 100 applications, 40 of which were submitted at a "Demo Day" held at the Centro de Innovación UC, before a jury of global experts from the public and private sector. Ten winners were selected with projects covering areas such as medicine, mining, clothing and animal care, among other projects that will be nurtured within the Codelco Lab portfolio.

Liaisons with national institutions: Codelco Lab established agreements and action plans with several Chilean universities such as the University of Chile, Adolfo Ibáñez, Antofagasta, Concepción, Universidad Católica del Norte and Andrés Bello.

2016

This year 2016 the Copper Armour, Cow Guard, Solunova, The Copper Company and Cidetec ventures were launched.

Details of Codelco Lab's portfolio of projects are available at www.codelcolab.com

During 2016, the creation of Codelco Tech, Codelco's new innovation subsidiary, was announced. Codelco Lab has already started its integration process, contributing its experience in the development of projects on the forefront of open innovation and co-creation.