



## D 3.5: Discussion Paper on Chile

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**Abstract:** The discussion paper on Chile provides inputs for a policy discussion on cluster cooperation and policy arrangements on clusters with Chile. The report contains information on existing EU-Chile cluster collaboration and good practices, which can be good practice examples for other clusters from Europe in their collaboration approach towards Chile.

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## 1. Objectives of the report

The purpose of this document is to provide an overview of the nature of existing European Union (EU) and Chile cluster cooperation, relating to good practices and success stories as well as highlighting opportunities for future cluster-based exchanges, including recommendations for the development of an EU-Chile cluster policy dialogue.

This paper is written for the European Commission (DG Growth and EASME) to provide policymakers with inputs for policy discussions on cluster cooperation and for policy arrangements on clusters with Chile. The content is based on desk research and selected telephone interviews with relevant local contact points.

A related document, the D2.3 Preparatory briefing on Chile, was developed by the European Cluster Collaboration Platform (ECCP) as a deliverable of the project to provide a basis for the analysis and recommendations included in this paper.

## 2. Existing EU-Chile cluster cooperation

Chile is recognised as an open-economy and often referred to as the “Jaguar” for its impressive economic growth and renowned economic stability. Chile is traditionally a resource based economy, turned towards exports. Nowadays, Chile also develops services (tourism and global services). Chile and the EU have long-standing trade relations and there is strong on-going cooperation in trade, science and technology. However, the complexity of the Chilean cluster landscape and the lack of a recent cluster policy makes cluster-to-cluster cooperation difficult.

### 2.1. Presentation of the Chilean Cluster landscape

There are only a few clusters (in the European sense) in Chile. In fact, the cluster policy implemented by the **Ministry of Economy, Development and Tourism** between 2005 and 2010 to create clusters in Chile’s strategic sectors (mining, aquaculture, special Interest tourism, food and global services) is considered to have failed, and at present only the mining cluster still exists (cf. Preparatory Briefing on Chile). It is partly explained by the non-renewal of the policy and associated funding support during this period.

The cluster policy approach currently implemented for the 2010 – 2020 period has shifted to a smart specialization policy focus, now called the **“Transforma” programme**. It is designed and implemented by CORFO (Corporación des Fomento de la Producción), the national economic development agency,

depending on the Ministry of Economy, Development and Tourism. It addresses 11 economic sectors, also referred to as “strategic programmes”<sup>1</sup>, which include:

- Mining
- Tourism
- Foods
- Creative Economy
- Building
- Fishing and Aquaculture
- Solar Industry
- Logistics for exports
- Intelligent Industries
- Advanced Manufacturing
- Health

Each sector has one or more sub-programmes, which gathers stakeholders of the same sector, in the same geographical area to reinforce the human capital, develop business, create new technologies and innovation. If these programmes cannot be defined as proper-cluster policies, they carry out cluster-like activities and constitute a preliminary base for the development of cluster structures.

Therefore, cluster cooperation in Chile is not necessarily carried out in the style of “EU clusters” as such, but with economic sector/cluster-like structures, that include research and development institutions, incubators as well as well-established business associations that carry out R&D and internationalisation activities.

## 2.2. Policy dialogue regarding EU-Chile Cluster cooperation

Chile and the EU have a well-established policy dialogue, formalised by a **Free Trade Agreement** (currently under re-negotiation) since 2002.<sup>2</sup> Both parties also cooperate on science and technology and have an **Agreement on scientific and technological cooperation**.<sup>3</sup>

There are two possible facilitators for supporting an initial policy dialogue exchange on cluster cooperation between the European Union and Chile. The first is the **European Union Delegation to**

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<sup>1</sup> CORFO, Chile Transforma, <https://www.corfo.cl/sites/cpp/areas-de-trabajo/programas-estrat%C3%A9gicos-integrados>, consulted on 17/07/2019

<sup>2</sup> Agreement establishing an association between the European Community and its Member States, of the one part, and the Republic of Chile, of the other part, 30/12/2002, [http://eur-lex.europa.eu/resource.html?uri=cellar:f83a503c-fa20-4b3a-9535-f1074175eaf0.0004.02/DOC\\_2&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:f83a503c-fa20-4b3a-9535-f1074175eaf0.0004.02/DOC_2&format=PDF), consulted on 17/07/2019

<sup>3</sup> Agreement for scientific and technological cooperation between the European Community and the Republic of Chile, [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:22003A0807\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:22003A0807(01)&from=EN), consulted on 26/07/2019

**Chile** in charge of political and trade relation to Chile.<sup>4</sup> The second one is the **EuroChile foundation**, a non-for-profit association created in 1993 between the European Union and the State of Chile, to implement trade bilateral cooperation by facilitating trade relations at the company's level. The foundation has the mission of: "Eurochile's mission is to promote and consolidate economic, commercial and technological links between SMEs and public and private institutions from Chile and the European Union, being a facilitator of the internationalisation processes of SMEs and the strengthening of the supporting institutions".<sup>5</sup>

Despite the varied nature of cluster-like structures and the lack of a centralised Chilean cluster-mapping, European clusters show great interest in collaborating with Chilean businesses and economic partners. On the ECCP, 51 clusters and 11 ESCP-4i have targeted Chile for their internationalisation activities. Among these, 22 clusters are from Spain which has very strong bilateral relations with Chile.

Nevertheless, the current lack of a national cluster policy in Chile means that the framework conditions to start an EU-Chile dialogue on cluster collaboration are not currently in place. The representative of DG GROW at the European Union Delegation in Chile has previously worked to create an agreement on cluster collaboration between the EU, Chile and two other Latin American countries, but this approach has not succeeded.<sup>6</sup>

The lack of a cluster policy framework and "similar cluster structures" does not, however, mean that there is no on-going collaboration between European Clusters and Chilean stakeholders. Since there is a wide variety of cluster-like structures, cooperation with Chilean cluster stakeholders adopted different forms. The section below illustrates some current practices on how cooperation with Chilean cluster stakeholders has been implemented.

### 3. Good practices & examples related to cluster cooperation

As mentioned previously in this document, there are currently only a few clusters in Chile. However, Chile and EU have had some cluster collaborations, below are three good practices and examples of cooperation between Chilean and EU projects and clusters. These three examples of international cooperation established between Chile and EU member states are presented to illustrate the importance of continued cooperation between the two regions and to provide information that can help other clusters to develop similar agreements.

The three examples include information on the sector and stakeholders concerned; the process that has led to cooperation, the policy support, common activities and the outcome of the cooperation. The information was collected through desk research and interviews.

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<sup>4</sup> European Union Delegation to Chile, Trade relations, [https://eeas.europa.eu/delegations/chile/18359/chile-and-eu\\_en](https://eeas.europa.eu/delegations/chile/18359/chile-and-eu_en), consulted on 17/07/2019

<sup>5</sup> Eurochile Foundation, Who We Are, <https://www.eurochile.cl/en/who-we-are/mission/>, consulted on 17/07/2019

<sup>6</sup> Interview with the European Union Delegation to Chile

The good practises and success stories are the following:

- The Cluster Energia (Basque Country) and ACERA business association
- EARSC and EuroChile Foundation
- The Umwelt Cluster Bayern and Fundación para la Innovación Agraria (FIA)

### 3.1 Collaboration between The Cluster Energia (Basque Country) and ACERA business association



The Cluster Energia<sup>7</sup> is a Basque Cluster created in 1996 which gathers together the actors of the renewable energy value chain in the Basque Country (energy operators; equipment and component manufacturers, engineering and service companies).

Cluster Energia has targeted Chile as a market for its members. In 2013, the cluster organised its first exploratory mission to Chile and met with National Renewable Energy Association of Chile (ACERA).

ACERA is a business association whose mission is to promote a regulatory framework which allows non-conventional Renewable Energies to compete with traditional sources of energy. In 2017, Cluster Energia and ACERA signed a MoU. The MoU was aimed at establishing formal cooperation and “to strengthen business cooperation between Chile and the Basque Country, exchange knowledge, promote research and technological cooperation, and foster the internationalisation of Basque and Chilean companies.”<sup>8</sup>

Cluster Energia is the leader of the REINA PLUS ESCP-4i, which also targets Chile as part of its internationalisation strategy.

Cluster Energia has organised several missions to Chile and has also built relationships with the Empresas Electricas, the national electricity company.

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<sup>7</sup> Cluster Energia, <http://www.clusterenergia.com>, consulted on 17/07/19

<sup>8</sup> Cluster Energia, Basque Energy Cluster and Chilean Association for Renewable Energies sign collaboration agreement <http://www.clusterenergia.com/cluster-activities/cluster-energia-y-asociacion-chilena-energias-renovables-firman-un-acuerdo-colaboracion-8>, consulted on 17/07/2019

## 3.2 Collaboration between EARSC and EuroChile Foundation



**EARSC**

European Association  
of Remote Sensing  
Companies

The European Association of Remote Sensing Companies (EARSC) is a membership-based association, which gathers companies from all-over Europe, with the purpose of fostering the development of the European Earth Observation geo-information service industry.

The association has strong links with European Institutions, notably the European Commission. It is involved with the Internationalisation & Diversification of European Earth Observation (IDEEO) ESCP-4i<sup>9</sup>, and also involved in the

Copernicus programme, a public earth observation service offered by the European Commission.<sup>10</sup> Moreover, EuroChile represents the European Terrestrial Observation Program - Copernicus - in Chile as a member of the Copernicus Network of Liaison and Information Centres, and hence enables Chilean companies to benefit from the possible applications of the Copernicus programme.

EARSC has conducted two missions to Chile. The first was organised in September 2017 by the European Commission (EC) as part of the agreement on Copernicus and Chile access to Sentinel data. It was a two-day meeting with presentations on Copernicus. Three European companies and the EC attended the presentation. The second meeting took place in the Fidae in Santiago, in 2018, an air show on the aeronautic industry.<sup>11</sup>

In 2018, EARSC formalised a partnership with EuroChile foundation. The MoU was signed in May 2018. EARSC and EuroChile seek to support the links between European and Chilean companies in order to encourage new business opportunities, technology transfer and innovation, and possible joint ventures or other collaboration mechanisms. It will help strengthen business opportunities and cooperation projects between European and Chilean companies.<sup>12</sup>

<sup>9</sup> Cluster Collaboration, IDEEO, <https://www.clustercollaboration.eu/escp-profiles/ideeo>, consulted on 17/07/2019

<sup>10</sup> Accessing Copernicus data made easier, [https://www.esa.int/Our\\_Activities/Observing\\_the\\_Earth/Copernicus/Accessing\\_Copernicus\\_data\\_made\\_easier](https://www.esa.int/Our_Activities/Observing_the_Earth/Copernicus/Accessing_Copernicus_data_made_easier), consulted on 17/07/2019

<sup>11</sup> Fidae, <https://www.fidae.cl/>, consulted on 17/07/2019

<sup>12</sup> EARSC and Eurochile join forces to promote Earth observation products and services within the framework of the Copernicus programme, <http://earsc.org/news/earsc-and-eurochile-join-forces-to-promote-earth-observation-products-and-services-within-the-framework-of-the-copernicus-programme>, consulted 17/07/2019

### 3.3 Collaboration between the Umwelt Cluster Bayern and Fundación para la Innovación Agraria (FIA)



The Umwelt Cluster Bayern is specialised in environmental technologies. It brings together 200 members to develop solutions to environmental challenges. Its areas of expertise are waste management & recycling, water & wastewater treatment, site remediation, air pollution control, energy from waste & biomass and resource efficiency.<sup>13</sup> The Umwelt Bayern Cluster has initiated collaboration with Chile. The cluster has gone on four delegation trips in 2016, 2017 and 2018. They also received several delegations from Chile. In 2016, Umwelt Cluster Bayern signed a MoU with the Fundación para la Innovación Agraria (FIA). The FIA is an agency from the Chilean Ministry of Agriculture.<sup>14</sup>

Based on this MoU, the cluster has conducted two missions to enhance the collaboration with FIA. In 2017, it assessed some of their innovative projects. In February 2018, it conducted a workshop on river basin management and water quality which took place in Chile. The workshop was co-organised together with the Bavarian and Chilean Ministries of the environment.<sup>15</sup> However, since Chilean clusters do not receive funding for cooperation projects, the partners have not planned any further activities.

## 4. Opportunities and potential for further EU-Chile cluster cooperation – Thematic Focus

From the perspective of cluster collaboration, five sectors have been identified as offering interesting business development opportunities for EU businesses.

### 4.1 Aquaculture

Aquaculture is one of the biggest economic sectors of Chile, with salmon being the country's third largest export and the sector employs approximately 21,000 people.<sup>16</sup> The high concentration of fish farms along the coast has led to health and environmental challenges. It has led to the companies of the sector to engage in research and development activities, to move towards the so-called "Salmon Industry 2.0". The industry seeks to use biotechnologies to overcome the challenges it is facing and

<sup>13</sup> Umwelt cluster Bayern, <https://www.umweltcluster.net/en/>, consulted on 17/07/2019

<sup>14</sup> Fundación para la Innovación Agraria, <http://www.fia.cl/en/about-us-2/>, consulted on 30/10/2018

<sup>15</sup> Interview with Laura Jantz-Klinkner, Manager Projects & International Affairs at Umwelt Cluster Bayern, 24/10/2018

<sup>16</sup> Salmon Chile, Employment numbers, <https://www.salmonchile.cl/en/employment-numbers/>, consulted on 20/08/2019



enables the creation of a rich ecosystem for research of innovation, composed of several types of actors which are suitable for cluster collaboration.

## 4.2 Agriculture

Chile has a very important agriculture sector, mostly concentrated around Santiago, and ranks in the ten most important agriculture exporters of the world.<sup>17</sup> Its export-oriented agriculture has required farmers to increase and improve their standards across the value chain and notably in terms of production, transformation and packaging, resulting with a positive impact on the innovative capacity of the sector.

To pursue innovation and maintain the competitiveness of the Chilean Agricultural sector, CORFO supports various programmes within the agriculture sector, and has notably identified the innovation actors of the sector. These actors, which include clusters, are suitable for cluster-led collaboration.

## 4.3 Advanced manufacturing

Chile's industry is shifting rapidly towards advanced manufacturing-based technologies. Cutting across other economic sectors such as agrofood and mining. In 2015, advanced manufacturing contributed to almost 11% of the GDP and the sector employed 37,900 workers, although CORFO aims to have advanced manufacturing representing 15% of the country's GDP and have 77,000 employees working in that sector.<sup>18</sup> This sector is currently mostly driven by the state through a dedicated agency called Transforma Manufactura Avanzada, the institute which was created to catalyse the development of technological solutions in advanced manufacturing. The mission of the institute is to increase productivity in the main Chilean productive sectors, facilitate the transformation of the traditional manufacturing supply into an intensive industry in the use of digital technologies. Transforma Manufactura Avanzada has set two aims to be achieved by 2030: to be a technological reference of the digital transformation of the national manufacturing industry, which has contributed significantly to modernizing the traditional SME and to promote innovative companies in advanced manufacturing.<sup>19</sup>

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<sup>17</sup> Export.gov, Chile Agricultural sector <https://www.export.gov/article?id=Chile-Agricultural-Sector>, consulted 17/07/2019

<sup>18</sup> CORFO

<https://webcache.googleusercontent.com/search?q=cache:C5vBKCUwZzUJ:https://www.corfo.cl/sites/Satellite%3Fblobcol%3Durldata%26blobkey%3Did%26blobtable%3DMungoBlobs%26blobwhere%3D1475166235455%26ssbinary%3Dtrue+%&cd=9&hl=en&ct=clnk&gl=fr>, consulted on 17/07/2019

<sup>19</sup> Transforma Manufactura Avanzada, Jorge Yutronic, <https://docplayer.es/76417855-Transforma-manufactura-avanzada-jorge-yutronic.html>, consulted on 17/07/2019

## 4.4 Mining

Mining is a major pillar of the Chilean economy. In 2016, the exports of mining technological services accounted for USD 42 million and the mining ecosystem employs 200,000 qualified people.<sup>20</sup> The strength of Chile relies on its capacity to maintain and modernise its mining industry and mine new strategic minerals. Mining is a global activity and several European corporations are present in non-European countries including Chile. In that regards, collaborating with Chile in terms of technology transfer and research and innovation, is potentially of great interest for European mining and resource-oriented clusters and can prove a means to access the mining value chain in Chile.

In addition, the mining sector is highly supported by the State under the current smart specialisation strategy and is supported by Antofagasta Mining Cluster.

## 4.5 Solar energy

Solar energy is of strategic importance for Chile because it needs to increase its production of renewable energy sources. As a way to increase the proportion of solar energy in the national energy mix, the Chilean State is currently pushing research and development as part of the smart specialisation strategy. Due to this national importance, the Ministry of Energy has elaborated a roadmap whose implementation falls under the responsibility of a dedicated agency: The Solar Committee.<sup>21</sup>

At present, there are no cluster organisations linked to the solar energy sector but there are several research organisations which are relevant for potential cluster collaboration.

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<sup>20</sup> Invest Chile, Key Industries, Global Services, <https://investchile.gob.cl/key-industries/mining/>, consulted on 17/07/2019

<sup>21</sup> Comité Solar, <http://www.comitesolar.cl/>, consulted on 17/07/2019