

FOG CATCHERS FOR THE COLLECTION OF WATER FROM THE CLOUDS IN CHILE

In Chile a growing number of institutions, organizations and companies continue to work to make effective use of the *Atrapanieblas* systems, in order to supply water to the communities living in the areas of the Atacama Desert, one of the driest in the world.

Fog catchers system consist of a structure composed of two posts anchored to the ground, joined by a net that collects the fog coming from the coast. Drops of water contained in the fog and trapped in the nets drain to the ground, and can be stored for different uses.

The first Catchers were installed in Chile in the late 50's on the hills of the Antofagasta Region, on the basis of the studies and designs made by the Physician Carlos Espinoza, professor of the Catholic University of the North.

One of the examples of the modern use of this technology which is currently noticeable worldwide is the [Cerveza Atrapaniebla](#), produced by brothers Marco and Miguel Carcuro with water directly collected from the clouds of the Pacific Ocean in the Region of Coquimbo, where water is a scarce resource. With an achievable investment for a small company, because the nets have a low cost, they installed two Catch systems of about 30 square meters at the top of the mountain near Peña Blanca. The Brewery, which also won a prestigious prize for innovation in 2013, produces more than 6,000 bottles a month and its business is expanding every day, because the water of the *Atrapaniebla* gives the beer a unique quality.

In the Region of Coquimbo another project is being carried out, which has leded the [Agricultural Community of Majada Blanca to harvest the first olives irrigated 100% with fog water](#). With five Fog catchers of 150 sqm the project harvests yearly a mean of 700 thousand liters of water, with the perspective to install new fog catchers and train local farmers in order to produce in the future the first olive oil 100% irrigated by the fog. The project is financed by the Innovation Fund for Competitiveness of Coquimbo (FIC-Coquimbo) and executed by the Institute of Public Policies (IPP) of the Catholic University of the North which seeks to foster participative technology transfer in the use of the *Atrapanieblas* system.



Another project carried out in the territory of Coquimbo by the Regional Government [Technology transfer in the use of Atrapanieblas systems through territorial empowerment](#) makes use of the Fog catchers to strengthen local productive activities, favoring access to water for agricultural, livestock and tourism purposes. The project aims to build capacity in local communities with respect to the installation and maintenance of these water collection systems. It is implemented with the technical team of the Antofagasta Regional Government, the place where at first the Fog catchers have been installed, and professionals of the Institute of Public Policies of the *Universidad Católica del Norte*.

In the Arica and Parinacota Region the [ENGIE Energía Chile company](#) ensured the design and installation of eight Atrapanieblas systems for collecting, storing and distributing the water of clouds, in collaboration with the regional Agriculture Department. With the fog catchers, farmers from the Indigenous Association of Alto Lluta San Roque can rely on more available irrigating water for their crops in the area of Pampa Colorada, by collecting up to 23,000 and 86,000 liters. The fog catchers allow 200 hectares of fruit trees such as mango, lemon, pear, *guayaba* and apples; and vegetables such as green beans, cabbage and pumpkins to be irrigated in a constant and efficient manner providing for good results in harvest time. With this new investment, 12 are the *Atrapanieblas* installed in the Region of Arica and Parinacota by ENGIE *Energía Chile*.

The [Universidad Católica del Norte](#) remains the reference point for the technological aspects of these innovative systems that need to be improved to be adopted on a larger scale, responding to the living and productive needs of the communities that continue to live in the most arid territories. Nowadays the Fog catchers are being used with other names in many countries of the world. In Chile, the active involvement of different universities, national institutions, local governments, private sector companies and local communities determines the necessary conditions for this innovative technology to be adopted in a sustainable manner on a larger scale.

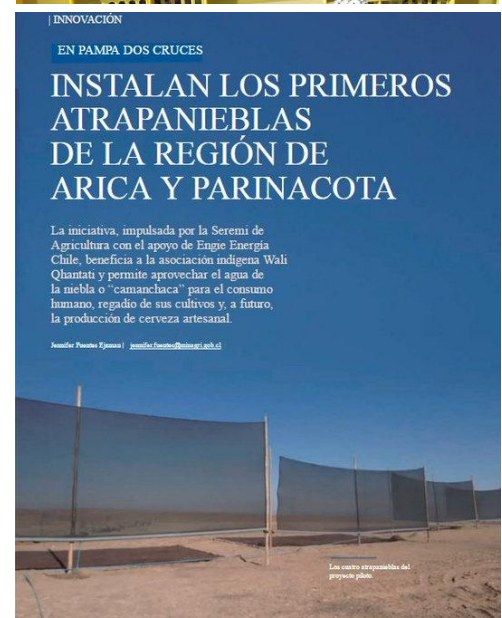
At the same time, the recent studies that [value these systems of water collection in the framework of Biomimetics](#) by reproducing the mechanisms that certain plants and trees use to obtain water from the fog, will surely draw more attention to this innovation of great potential impact. The discipline of Biomimetics, that seeks scientific solutions within nature is part of the great challenges of today's world for a more sustainable development.

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