

COMMUNITY ENERGY CENTRE IN THE MUNICIPALITY OF INDEPENDENCIA'S ECOPARK - CHILE

PROJECT'S AIM: TO CREATE A MEETING PLACE FOR COMMUNITY MEMBERS, ORGANISATIONS AND EDUCATIONAL ESTABLISHMENTS TO SHARE EXPERIENCES ON ENVIRONMENTAL ISSUES

Location:

Gamero 2727, Independencia,
Metropolitan Region, Chile

Technology:

Solar PV
Thermosolar Water Heater
Biodigester

Costs:

Total: € 50.000
WISONS financial support: € 50.000

Partners Involved:

Secretary of Environment, Municipality
of Independencia
Adapt Chile
(<https://adapt-chile.org/>)
Red Genera
(<https://red-genera.cl/>)
Traesure Chile SpA
(<https://traesure.com/>)

Duration:

February 2018 – January 2023



Community Energy Centre by the Municipality of Independencia

This project supported the establishment of a Community Energy Centre (CEC) in the community of Independencia in Chile. The site had been a rubble dump that was unsafely connected to the electrical grid: it was a dangerous place where violence and crime were prevalent.

The project fostered the refurbishment of the existing buildings at the site, which were seriously dilapidated and had not been used for many years. As part of the project, photovoltaic panels, solar thermal panels and biodigesters were installed. Training was provided to municipal officials, NGOs, schools and the community in general to ensure the correct functioning of the CEC.

TECHNOLOGY, OPERATIONS & MAINTENANCE

First, two **biodigesters** were installed. These decompose organic food waste – supplied by the community – through anaerobic processes, transforming it into biogas and

digestate. The biogas serves as an energy source to replace natural gas for cooking, lighting, space heating and/or electricity generation, while the digestate is a nutrient-rich organic fertiliser for gardening activities, such as vermiculture and composting.

Second, a **solar photovoltaic system** was installed. This comprises 10 solar panels with a capacity of 335 Wp each. There is also a 3 kWp Solis Mini 4Gb inverter connected to the CEC's main electrical board to provide energy.

Finally, a 300 litre **solar thermal system** was installed, which is connected to the CEC's drinking water network.

DELIVERY MODEL & FINANCIAL MANAGEMENT

As the CEC is operated and managed by the municipality, the municipality is responsible for all the associated financial arrangements

and management. Nevertheless, most of the daily activities that take place in the CEC and the park in general are driven by community initiatives.

The CEC used three methods of knowledge exchange for environmental education: guided tours and practical training workshops for schools; seminars for municipalities and other professionals; and practical-theoretical training workshops for the community on the use of renewable energy.

ENVIRONMENTAL ISSUES

The implementation of solar and biodigester technologies has had a positive impact on the CEC, as the site previously had no access to energy. As a result, the people working at the site now benefit from the comforts provided by energy access, and the energy used comes from renewable sources.

Over time, the project expanded its

sustainable initiatives beyond the supply of renewable energy, by creating urban/community/medicinal gardens, and recycling and organic composting centres. It has also promoted training sessions on various topics, such as energy, recycling, greenhouses and agriculture. The result: the population of Independencia has not only become more environmentally aware but is also able to put its new knowledge into practice.



SOCIAL ISSUES

The CEC welcomes and engages with schools in Independencia, neighbourhood councils, senior citizens' clubs, residents and government officials, offering different types of workshops. These take place on site or, for those who are unable to go to the CEC, in different locations in Independencia. Furthermore, the Red Genera worker cooperative carries out its training and certification of solar and thermo panels at the CEC.

There are also recreational spaces where community members can gather to interact and learn from each other. Additionally, there is an area with greenhouses and individual plots where schools and interested people can have their own gardens. The local community has been trained in the facilities provided by the CEC, e.g., the gardens, and informed about how the renewable technologies work. Members of the community visit the CEC frequently. A major result of this project has been the high level of citizen engagement and the strong sense of community that has evolved. Through this learning and experimentation space, members of the community have shown great interest in taking an active role and contributing to improving the living conditions within the district.

RESULTS & IMPACT

The CEC operates on energy provided by photovoltaic panels. The solar thermal panels heat the water used by the workers for personal hygiene, and the biogas generated is used for on-site training and for food preparation. The digestate is used mainly for compost.

In terms of facilities, the CEC has toilets, an office area and a training room. These are complemented by other spaces, such as urban gardens, eco-technologies, biological corridors, greenhouses, vermiculture, green points and a mobile energy centre, among others. The CEC is a space that is open to the community and where environmental education is embedded in all its activities.

Soon, other projects are expected to complete the "Park for Sustainability", of which the Community Energy Centre is a part. These include an urban forest following the Miyawaki method and the Juan Antonio Ríos Clean Point, which is currently being expanded with the installation of a waste collection centre.

REPLICABILITY

The project illustrates how to create communal spaces that cater not only for the recreational needs of citizens but also provide spaces for members of the community to learn about and experiment with green technologies and environmental practices. The project has excellent potential for replication, as many municipalities in Chile (and other parts of the world) are confronted with the challenge of improving the environmental health of their neighbourhoods. The project is a great example of how such transformations can be pursued by a strong collaboration between the municipal administration, an active community and the desire to implement local initiatives.

Several dissemination activities have taken place to scale up this project, including the distribution of flyers and the participation in seminars and conferences organised by Adapt Chile. The Network of Chilean Municipalities was also responsible for

reporting on the progress of the project through a ministerial meeting between the Chilean Network of Municipalities for Climate Change (RedMuniCC) and the Argentinean Network of Municipalities against Climate Change (RAMCC).



LESSONS LEARNED

Among the main challenges of the project are those related to administration. First, it is key to allow the necessary time for bureaucratic processes when collating official documents to avoid delays to the start of such projects.

In addition, agreements should be reached between the different stakeholders to avoid conflicts between the project initiators and other actors. For instance, in this case it would have been ideal if the Department of Environment had collaborated with other municipal departments to carry out the territorial work.

Finally, the early inclusion of diverse actors, including the local community, social organisations, businesses and/or other municipal areas, fosters the continuity of any project as these actors see themselves as an integral part of the project, promoting sustainable work over time. It is also key to develop a network of knowledge through the inclusion of strategic allies with the necessary technical know-how.

Source: Final Report submitted to WISONS by the Secretary for Environment of the Municipality of Independencia.

Pictures: Municipality of Independencia