



CHILE

DBFZ Research and Project Country Profile Activities & Partners



DBFZ Activities

DBFZ has been involved in R&D projects in Chile since 2010. Since then, a broad network with different partners and stakeholders has been established. In particular, the cooperation with the University of Talca is pioneering for the mutual research for the benefit of both institutes.

DBFZ R&D and Project Focus

The main focus of the previous DBFZ engagement in Chile has been on combustion technology for solid biomass and biorefinery technology:

- Development of a wood chip combustion unit for residential heating
- Development and evaluation of a biorefinery concept for Chile based on oil producing plants

DBFZ Future Activities

DBFZ aims to successively extent cooperation with universities, research institutions, as well as the private and public sector in Chile. DBFZ will strengthen its activities mainly in the field of combustion technology and bioeconomy aspects. In particular, DBFZ will focus on the following fields:

- Development of technologies for emission reduction in small-scale wood combustion
- Development of strategies to advance the Chilean bioeconomy
- Scientific exchange on HTC (hydrothermal carbonization)
- Modelling biogas processes
- Support the continuous exchange of scientists and PhD students

DBFZ Partners

The DBFZ has signed 2 cooperation agreements with research and academic partners in Chile so far. Further contacts have been established to universities and the German DLR for future project activities.

Cooperation Agreements	Universidad de Talca (UTALCA); Fraunhofer Chile Research Centre for Systems Biotechnology (FCR-CSB).
Project Partners	Deutsches Zentrum für Luft- und Raumfahrt (DLR); Universidad de Chile; Pontificia Universidad Católica de Valparaíso.



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DBFZ Reference Projects (selected)

09/2012-09/2014	<p>Biorefinery Concept for Chile Based on Oil Producing Plants (BMBF/ CONICYT)</p> <p>Research cooperation with the Fraunhofer Chile Research Foundation on the development and evaluation of a biorefinery concept for Chile based on oil producing plants as well as the interchange of promising biorefinery technologies. The project had the objectives of: Identification of promising oil producing plants and their adequate use in Chile; Evaluation of sustainable production potentials; Integration of previous activities and approaches regarding oil plant based biofuels. (e.g. Jatropha, Castor Oil Plant). Evaluation of biodiesel and aviation fuel production possibilities, based on vegetable oils. Evaluation regarding the use of residues e.g. from aquacultures.</p>
01/2014-06/2015	<p>Desarrollo y experimentación de combustor de astillas de madera (FONDEF) “Development of a small wood chip stove”</p> <p>A wood chip combustor for residential heating was developed in order to achieve a good combustion result with low emissions and high efficiency. At the University of Talca a test bench with dilution tunnel was constructed and emission measurements in accordance with current Chilean standards were performed.</p>
09/2017-02/2019	<p>Emission control system for emission-free biomass furnaces (BMBF/DLR)</p> <p>The aim of this project was a retrofittable device that allows exhaust gas purification and heat recovery for biomass furnaces and boilers. It aimed to make the use of biomass furnaces more effective and to ensure compliance with mandatory emission limits.</p>
10/2017-12/2019	<p>AgroAMBIENTE (BMWi)</p> <p>The International Cooperation Network focused on the promotion of R&D results into market-relevant innovations. Therefore, market-oriented research, development and technological innovations of mid-sized companies were joint in order to reduce the technical and economic risks related to R&D projects.</p>

DBFZ Reference Publications

Bezama, Alberto; Valeria, Hugo; Correa, Marco; Szarka, Nora (2012): Evaluation of the environmental impacts of a Cleaner Production Agreement by frozen fish facilities in the Biobío Region, Chile. In: *Journal of Cleaner Production* 26, S. 95–100. DOI: 10.1016/j.jclepro.2011.12.029.

Pätz, Christian; Seiffert, Michael (2010): Optimised biomass logistics for conversion plants that produce heat, electricity and biofuels. Exemplary for Chile. In: Michael Hiete, Jens Ludwig, Christian Bidart und Frank Schultmann (Hg.): Challenges for sustainable biomass utilisation. Proceedings of the Chilean-German Biociclo Workshop (Karlsruhe, 26.03.2009). Karlsruhe: KIT, S. 45–56.

Seiffert, Michael; Kaltschmitt, Martin; Müller-Langer, Franziska (2010): The Biomethane Potential in Chile. In: Michael Hiete, Jens Ludwig, Christian Bidart und Frank Schultmann (Hg.): Challenges for sustainable biomass utilisation. Proceedings of the Chilean-German Biociclo Workshop (Karlsruhe, 26.03.2009). Karlsruhe: KIT, S. 21–32.

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About DBFZ

DBFZ is the leading German research institute in the field of energetic and related material use of biomass. The DBFZ monitors and evaluates the most promising applications for bioenergy in theory and practice, realizing research and collaborative research projects at both national and international level, with partners and stakeholders from industry, administration, politics and academia. Currently about 180 scientists in the departments Bioenergy Systems, Biochemical Conversion, Thermo-chemical Conversion and Biorefineries carry out application-oriented R&D that also provides scientifically-based results to support informed political decision making.

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