

Rice Husk Power Generation Project (3.4MW) in the Maule
Region.

La Gloria Mini Biomass Power Plant



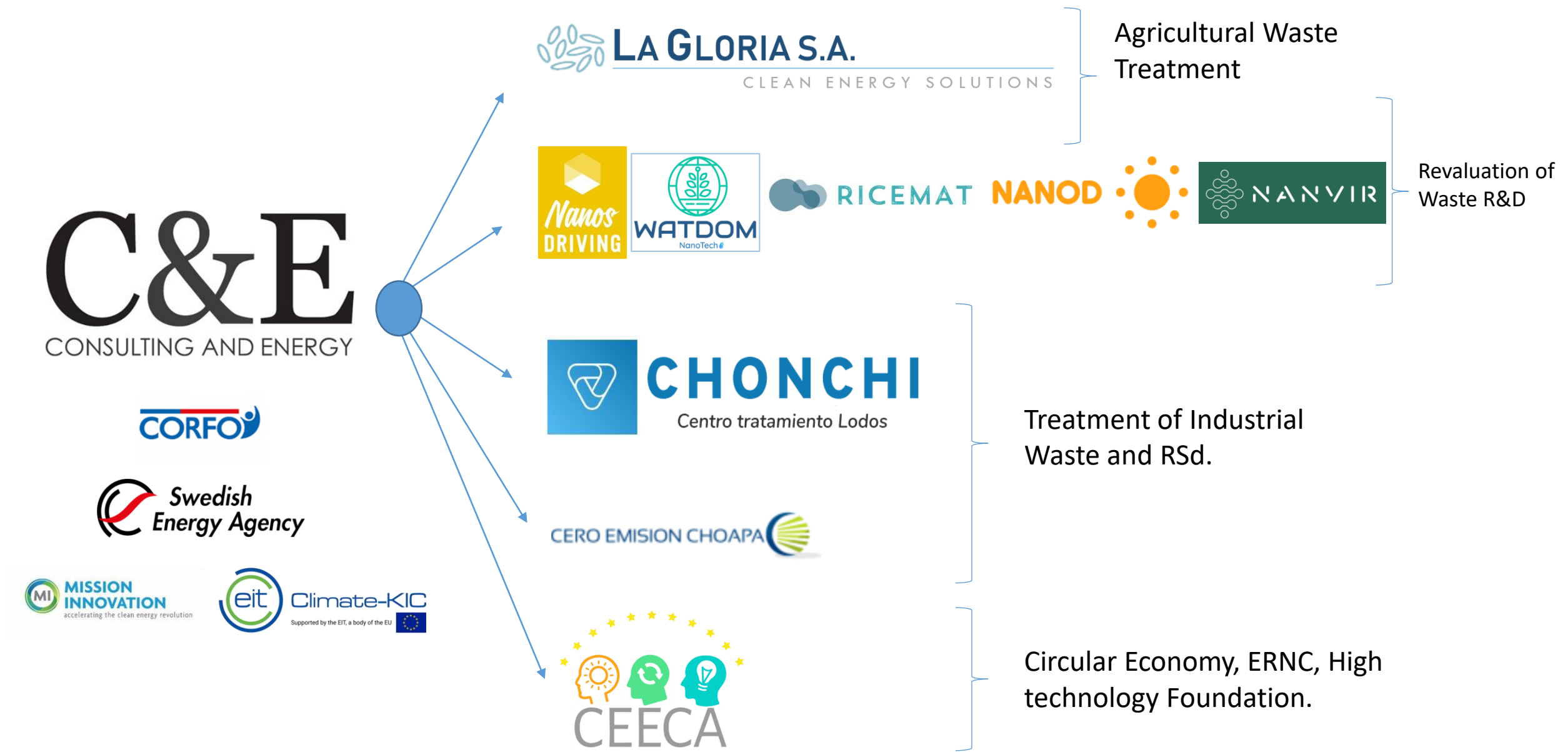
Developed by:



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Developer Company



Project Description

La Gloria Biomass Mini Power Plant, uses the AGRICULTURAL WASTE generated intensively in the rice husk and wheat straw area, treating them sustainably to produce **Renewable Electric Energy or Bioenergy**.

In addition to producing energy, it supports the treatment of waste for a Sustainable Agricultural Industry with environmental awareness, avoiding the emission of polluting gases into the atmosphere as a result of the accumulation of waste in dumps or illegal burning



Conoce los tipos de tecnologías:



Hidráulica



Solar



Eólica



Térmica



Bioenergía



Geotérmica



Almacenamiento



Hidrógeno

Generation

The plant will have a capacity of 3.4 MW.

NCRE project

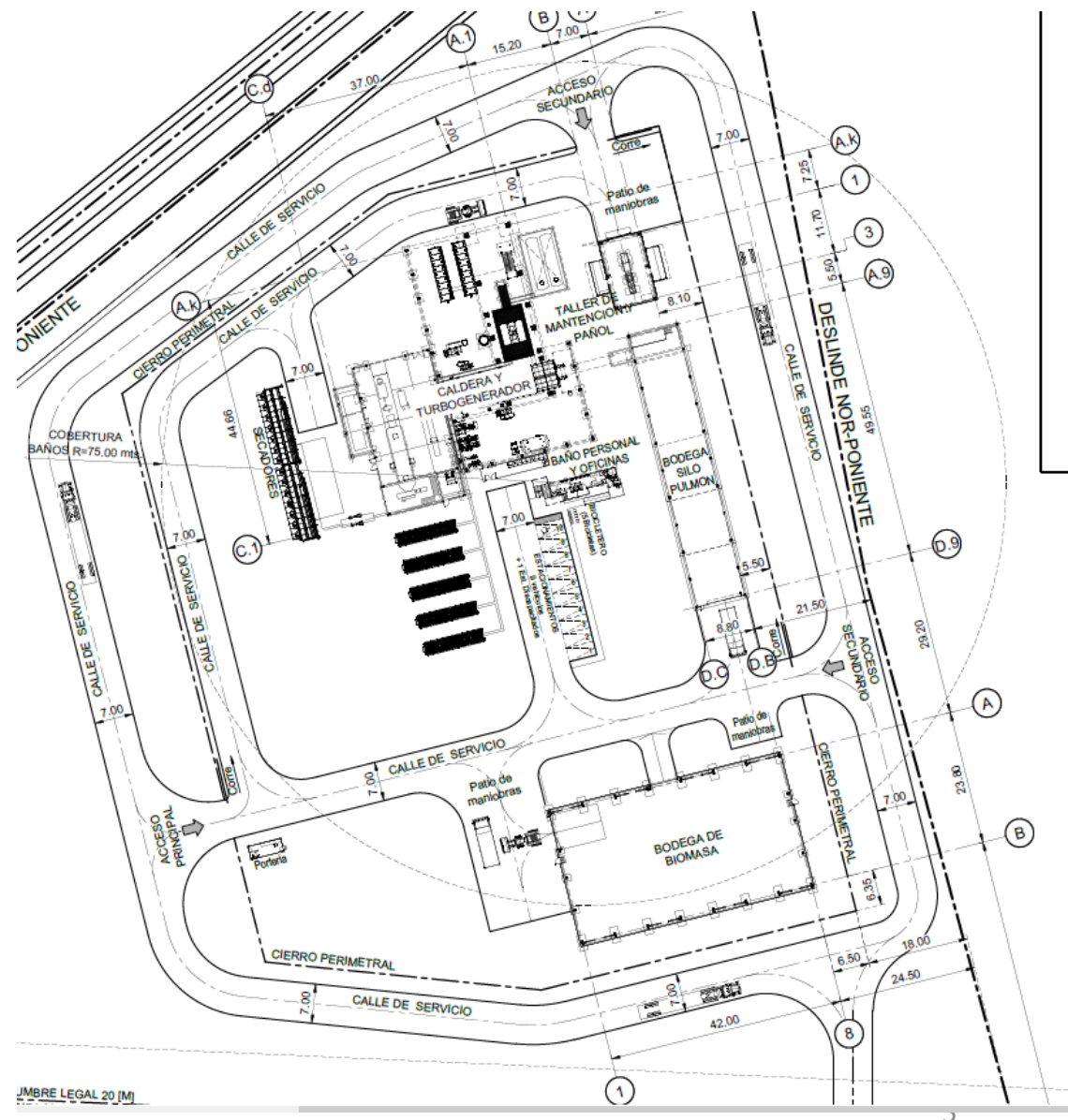
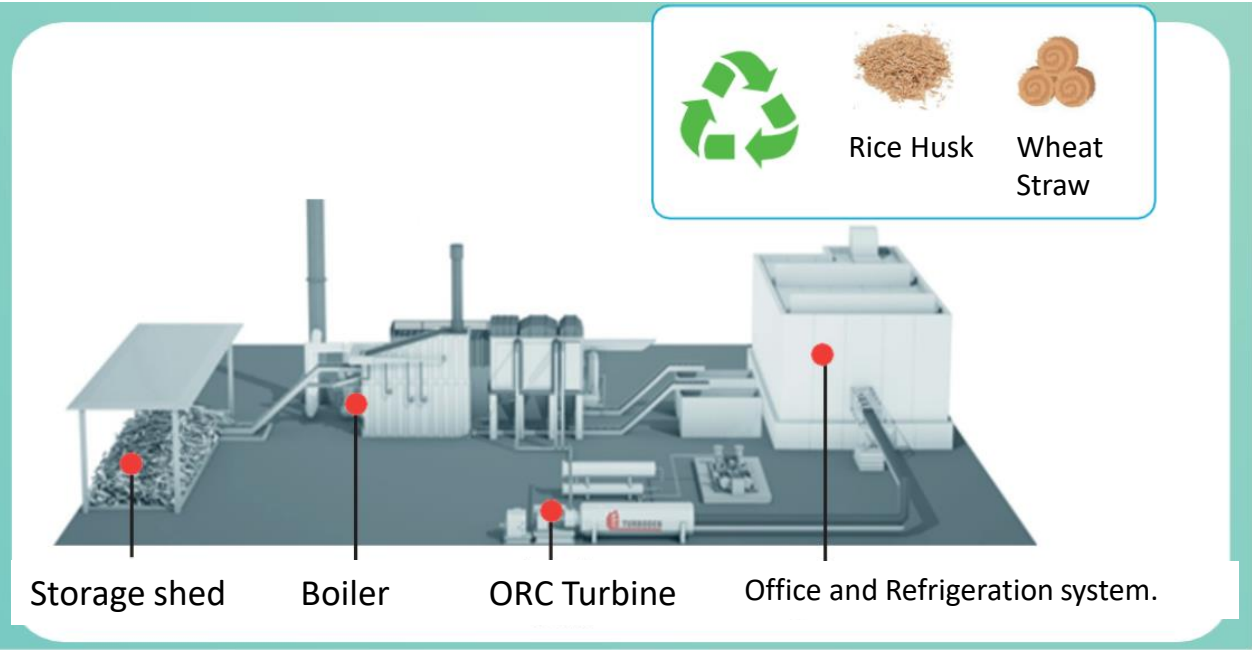
- “Non-Conventional Renewable Energy Plant” (ERNC) as determined by Law 20,257;
- It has 2 top-of-the-line equipment manufactured in Europe, a very robust gas abatement and emission control system. Low emissions are not great for 41 wood-burning stoves.

Important features

- Project does not use water for power generation - Optimized design during 2021;
- It uses biomass from Agricultural Residues from the Area (Wheat Straw, Rice Husk) It cannot use coal, oil or fossil fuels;
- A reception of 8 trucks per day is estimated.

Project Lay-out

Turboden's first biomass ORC project in South America
Uniconfort has extensive experiences for combustion
of rice husks.





uniconfort
BIOMASS PLANTS & CHP SYSTEMS



REDUCE YOUR
CARBON
FOOT
PRINT



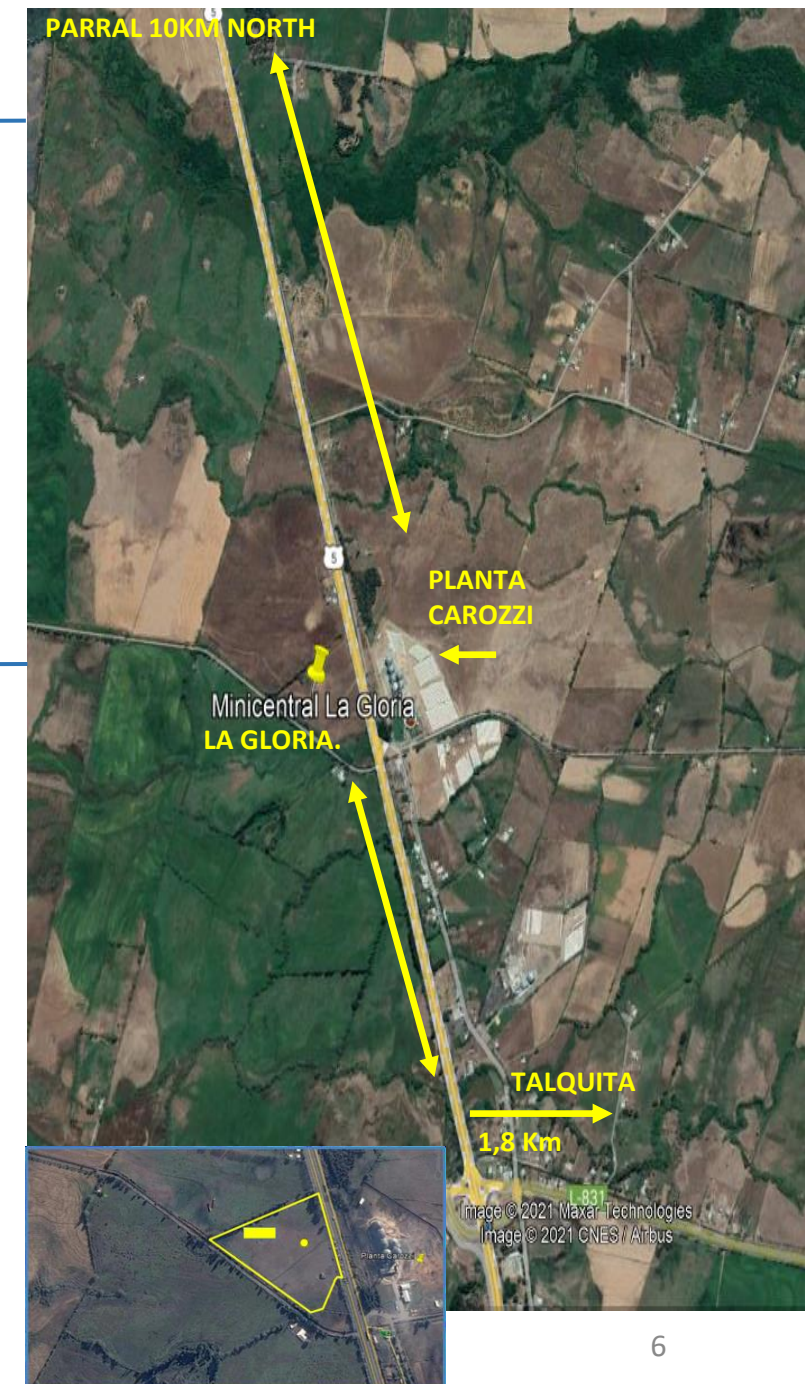
clean energy ahead
TURBODEN
a group company of  MITSUBISHI HEAVY INDUSTRIES, LTD.

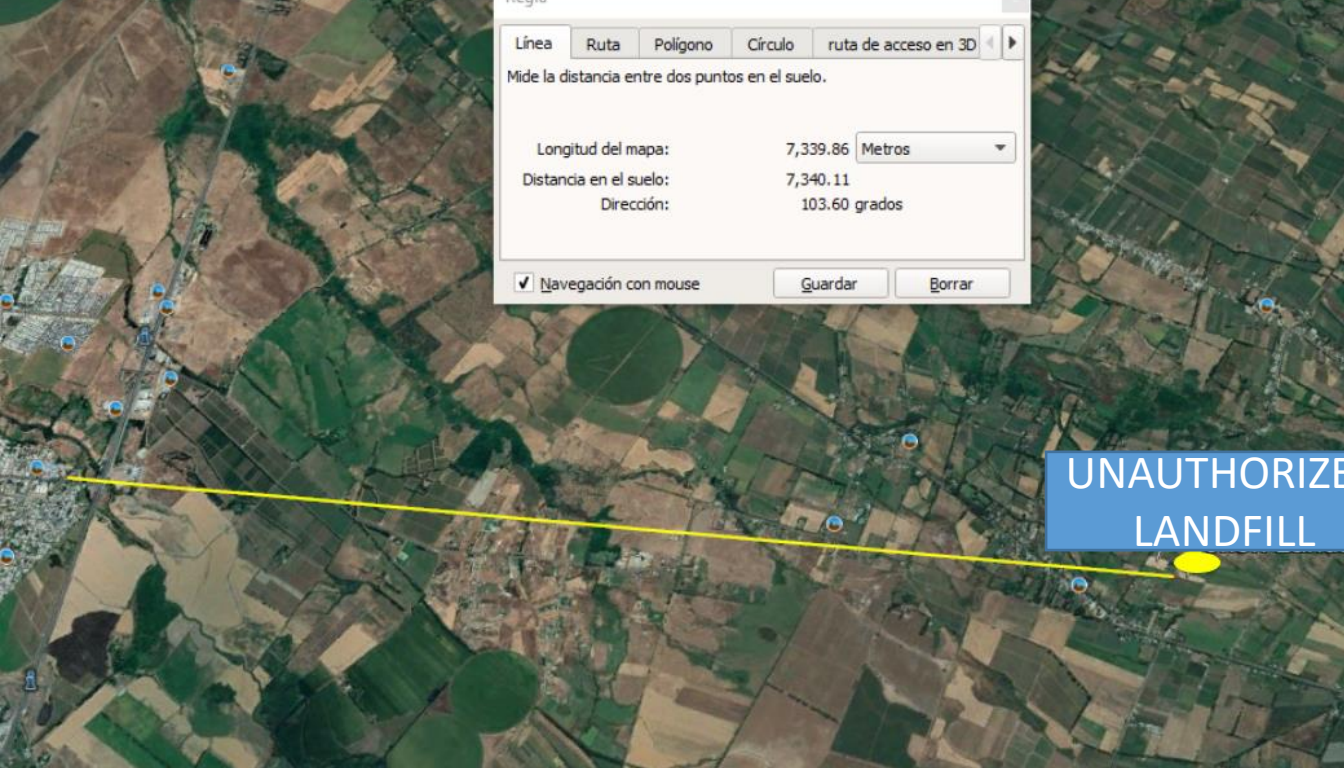
Location

- The waste that will be used by the project is generated in the same radius as it is essentially an **AGRICULTURAL ZONE**.
- It is located 10 kilometers from Parral and close to Talquita, an area where the community closest to the project lives and is approximately 1.5 km away.
- The connection is made to the electrical distribution system in the same sector.
- The project uses approximately 0.5 hectares on a plot of approximately 5.4 hectares in area.

Project Justification

- Surface cultivated with rice and wheat is 27.885 and 24.037 hectares, respectively (2017/2018 season according to data from the National Institute of Statistics). Waste is generated, between rice husks and wheat straw, for more than 140,000 tons per year.
- Closest landfills 80 kilometers south and 120 kilometers north of Parral. Proliferation of illegal landfills and unauthorized open burning that contribute to the increase of the greenhouse effect.
- The La Gloria Mini Biomass Plant will use 37,000 tons of this waste each year to generate renewable energy and contribute to a **SUSTAINABLE AGRICULTURAL INDUSTRY**, there is currently a waste problem.





1. Rice husks are used for different uses, but due to the large quantity, they end up accumulating without having the environmental permits, causing a Public Health problem (focus of infections, fires, among others).

Environmental Process

- Entry to the Environmental Assessment Service in Oct 2014;
- Citizen Participation between Nov 2014 and January 2015;
- Environmental qualification resolution 2016;
- Superintendence of the Environment accredited the non-expiration on May 13, 2021;
- Optimization of the project through Environmental Relevance entered in November 2021.
- Sector permits 138/140/160/142
- Preliminary Works Permit
- Building Permit (in process)

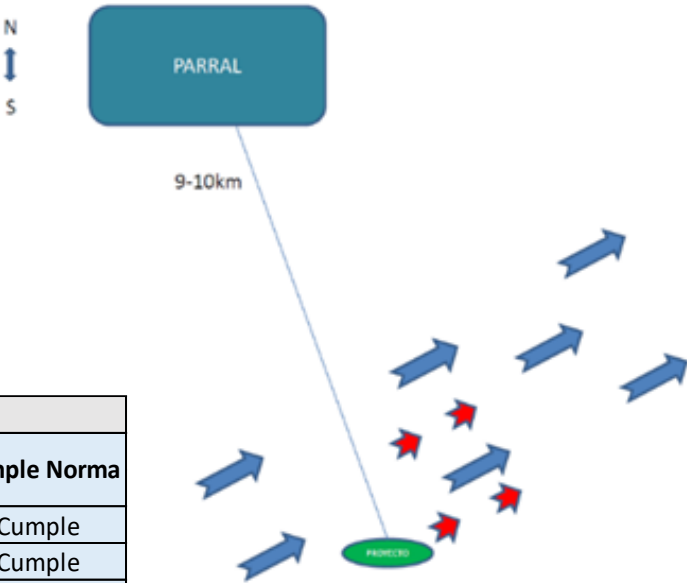


Air quality

For a better representativeness of the baseline, a monitoring station was installed in the sector, 790 m from the project.



Northeast wind path

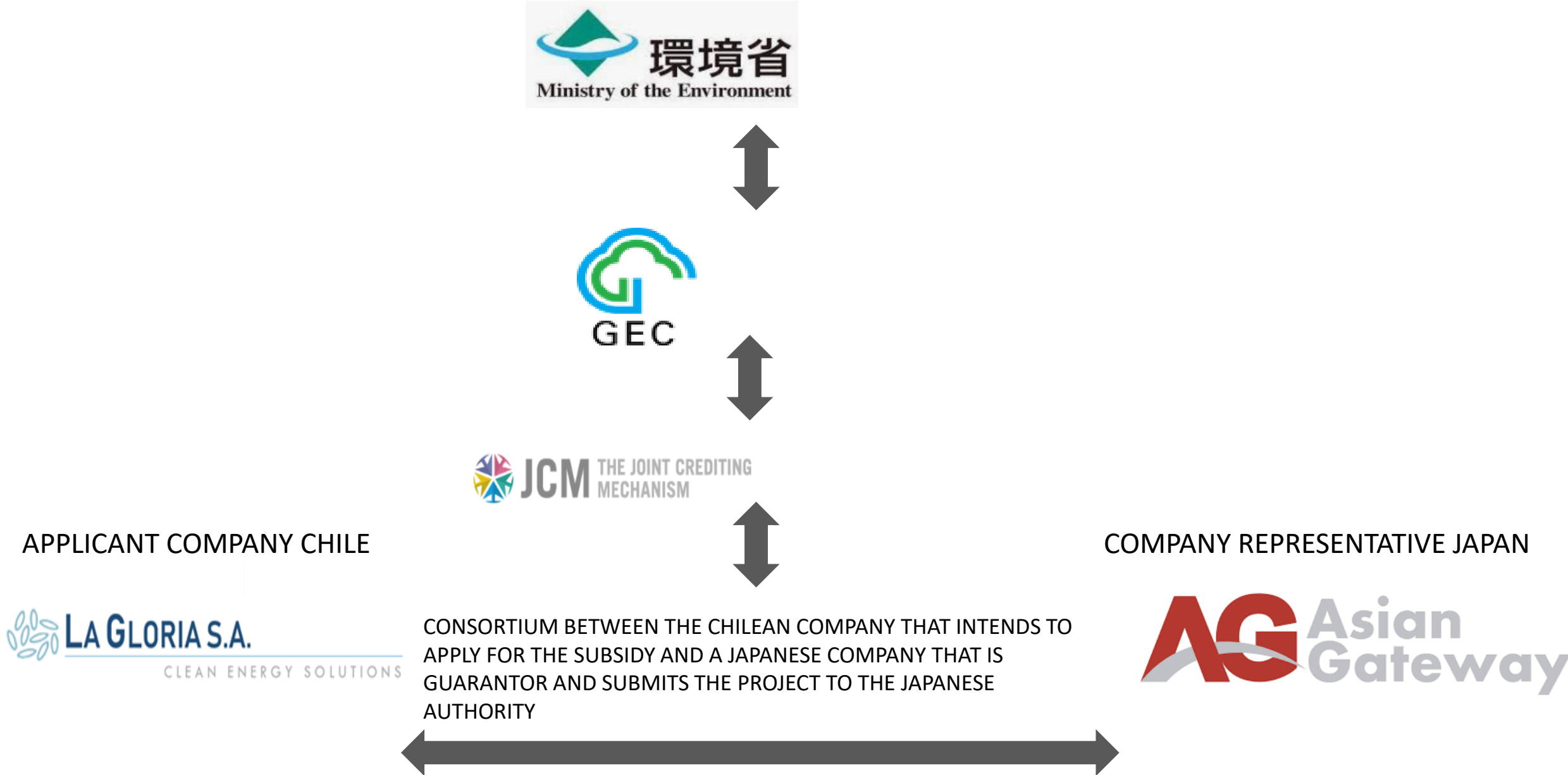


Regulatory Compliance

Estación Talquita										
Tipo	Contaminante	Estadígrafo	Límite	Línea Base		Aporte Proyecto		Línea base + Aporte Proyecto		Cumple Norma
			ug/m3	ug/m3	% Norma	ug/m3	% Norma	ug/m3	% Norma	
Norma Primaria de Calidad del Aire	MP10	Anual	50	24,9	49,90%	1,3	2,70%	26,3	52,60%	Cumple
	MP2.5	Anual	20	11,8	58,80%	0,4	1,90%	12,1	60,70%	Cumple
	NO2	Anual	100	4,7	4,70%	5,8	5,80%	10,5	10,50%	Cumple
	SO2	Anual	80	0,9	1,10%	0,2	0,20%	1	1,30%	Cumple
	CO (3)	8 horas, P99	10.000	3.722	37,20%	35	0,40%	3.757	37,60%	Cumple
Norma Secundaria (Zona Sur)	SO2	Anual	60	0,9	1,40%	0,2	0,30%	1	1,70%	Cumple

Parral										
Tipo	Contaminante	Estadígrafo	Límite	Línea Base		Aporte Proyecto		Línea Base + Aporte Proyecto		Cumple Norma
			ug/m3	ug/m3	% Norma	ug/m3	% Norma	ug/m3	% Norma	
Norma Primaria de Calidad del Aire	MP10	24 horas, P98	150	98	65%	0,6	0,40%	98,6	66%	Cumple
	NO2	Anual	100	14,3	14%	0,4	0,40%	14,7	15%	Cumple
	SO2	Anual	80	2	3%	0	0,00%	2	3%	Cumple
	CO(3)	8 horas, P99	10.000	500	5%	3,1	0,00%	503,1	5%	Cumple
Norma secundaria (Zona Sur)	SO2	Anual	60	2	3%	0	0,00%	2	3%	Cumple

JCM Model Project



JCM Model Project

La Gloria Mini Biomass Power Plant, being a NCRE and Clean Development Mechanism project, **was selected internationally among projects from 17 countries, accrediting Carbon Bonds for 8,576 tCO₂/year** with the Japanese government program Joint Crediting Mechanism (JCM) 128,500 t /CO₂, favoring the development of this type of sustainable initiatives for the mitigation of Climate Change.



<Projects Selected in the Third Selection>



No.	Partner Country	Representative Participant	Project Title	Expected GHG Emission Reductions (tCO ₂ /year)
1	Maldives	Sharp Energy Solutions Corporation	1.1MW Rooftop Solar System in Maamigili and Maandhoo Island	862
2	Viet Nam	Hitachi-Johnson Controls Air Conditioning, Inc.	Introduction of High Efficiency Air-conditioning System and Air Cooled Chillers to Hotel and Office Buildings	2,661
3	Indonesia	Aura Green Energy Co., Ltd	2MW Mini Hydro Power Plant Project in East Nusa Tenggara Province	6,856
4	Indonesia	Japan Pulp and Paper Company Limited	Introduction of High Efficiency Boiler System to Carton Box Factory	1,029
5	Chile	Asian Gateway Corporation	3.4MW Rice Husk Power Generation Project in Maule	8,572

Positive externalities of La Gloria

1. Current management of agricultural waste generates greater environmental impacts:
 - Agricultural burning, legal or illegal, as indicated by CONAF;
 - Disposal in landfills or landfills, using land and emitting greenhouse gases when decomposing;
2. Reduction of polluting emissions and fire risks not controlled by previous burning.
3. Contribution to the supply of renewable electricity for the country. In other words, the need to produce polluting energy/fossil fuels (oil, coal) is reduced.
4. Water care when using a closed circuit of thermal fluid (in a closed circuit without the possibility of contaminating the environment) and NO WATER from natural sources.
5. Meets the United Nations Sustainable Development Goals.



Collaborative entities that support the project





Alternativas al uso del Fuego como Quemas Controladas

[INICIO](#)[QUIENES SOMOS](#)[ALTERNATIVAS](#)[QUEMAS CONTROLADAS](#)[CONSULTAS](#)[DOCUMENTOS DE INTERÉS](#)[ESTADÍSTICAS](#)

Nuestros Sitios

- CONAF
- Club Forestin
- Prevención Incendios Forestales
- Explorador de Bioenergía Forestal
- Situación Nacional de Incendios Forestales

Inicio » Novedades

Proyecto Mini Central de Biomasa "La Gloria", prontamente será implementado en la región del Maule.



Me gusta 0



Twitter

03 de junio de 2015

Por: CONAF

La Empresa chilena C&E, viene desarrollando el proyecto de Energía Renovable no Convencional (ERNC), denominado Mini Central de Biomasa "La Gloria", el que se ubicará en la comuna de Parral, provincia de Linares, VII región del Maule.

Este proyecto comprende la construcción y operación de una planta que tiene por objetivos principales la generación de energía eléctrica y el tratamiento de biomasa agrícola. La central tendrá una capacidad de 2,9 MW y aprovechará para su funcionamiento residuos de biomasa 100% renovables agrícolas (como la cascarilla de arroz, paja de trigo) y en caso alternativo biomasa forestal.



maqueta del proyecto

Example in countries with the same technology

PLANTA UBICADA EN PRINCE GEORGE CANADÁ



- Combustible: **Biomasa.**
- Capacidad: **3 MW.**
- País: **CANADA.**
- Ciudad: **Prince George, norte de Columbia Británica.**
- Distancia hasta el área más poblada: **1000 metros aproximadamente.**
- Cantidad de gente vive empresa ciudad: **72.000 habitantes área urbana y rural.**



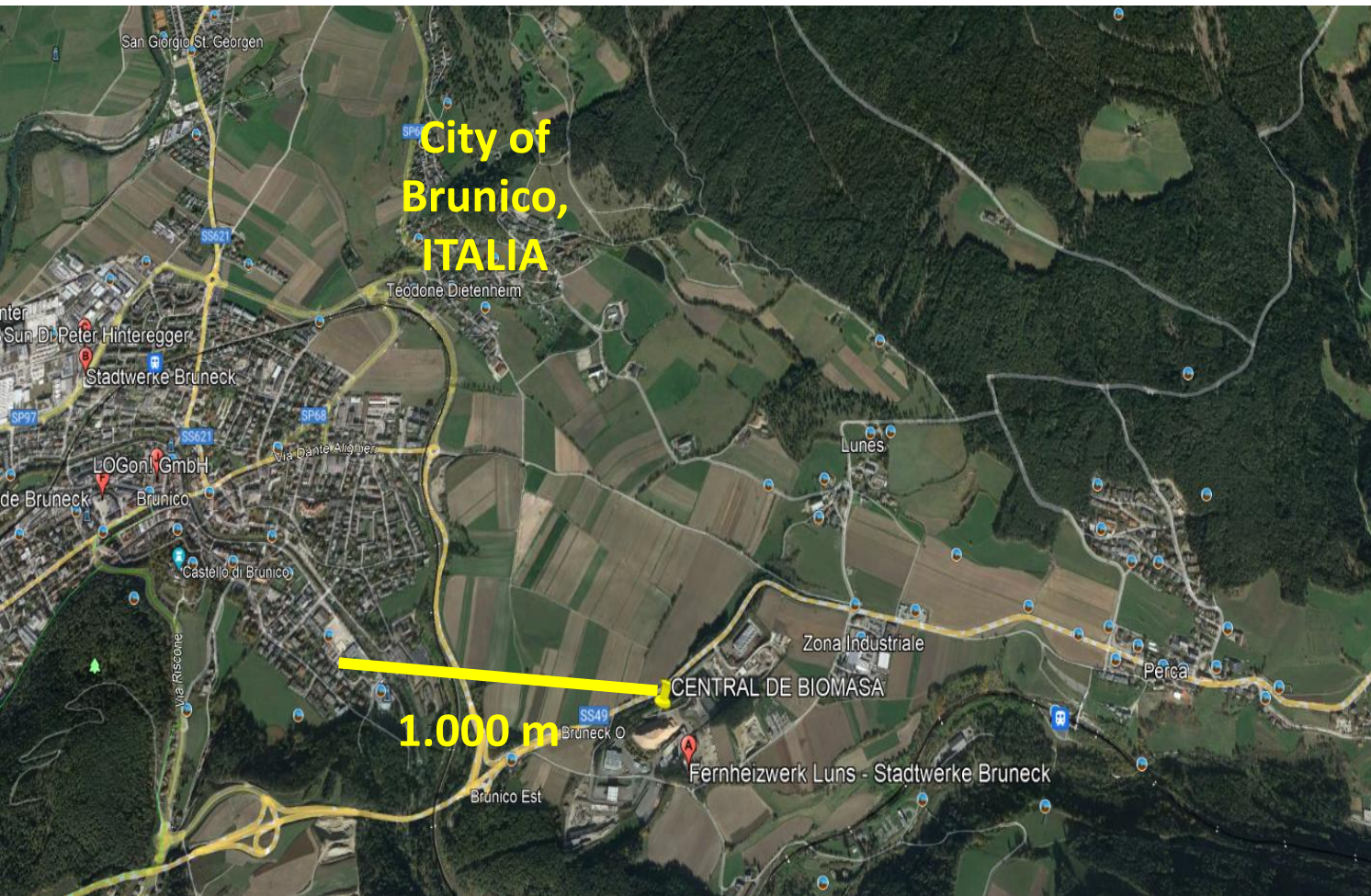
PLANTA UBICADA EN WILLIAMS, CALIFORNIA ESTADOS UNIDOS



- Combustible: **Biomasa.**
- Capacidad: **3 MW.**
- Empresa: **ACC Renewable Resources LLC.**
- Distancia hasta el área más poblada: **1.000 metros aprox.**
- Población que habita cercana a la planta: **3.700 personas.**
- Central en etapa de construcción.



Example in countries with the same technology

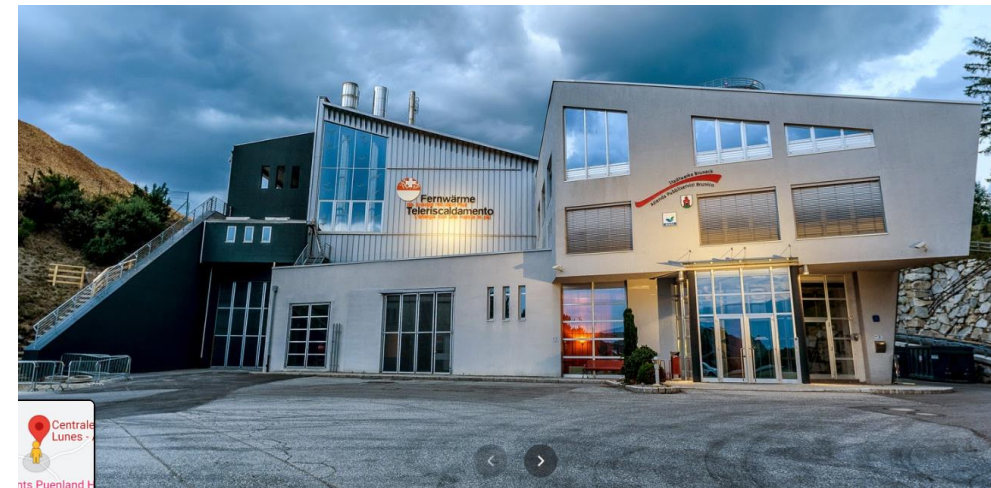


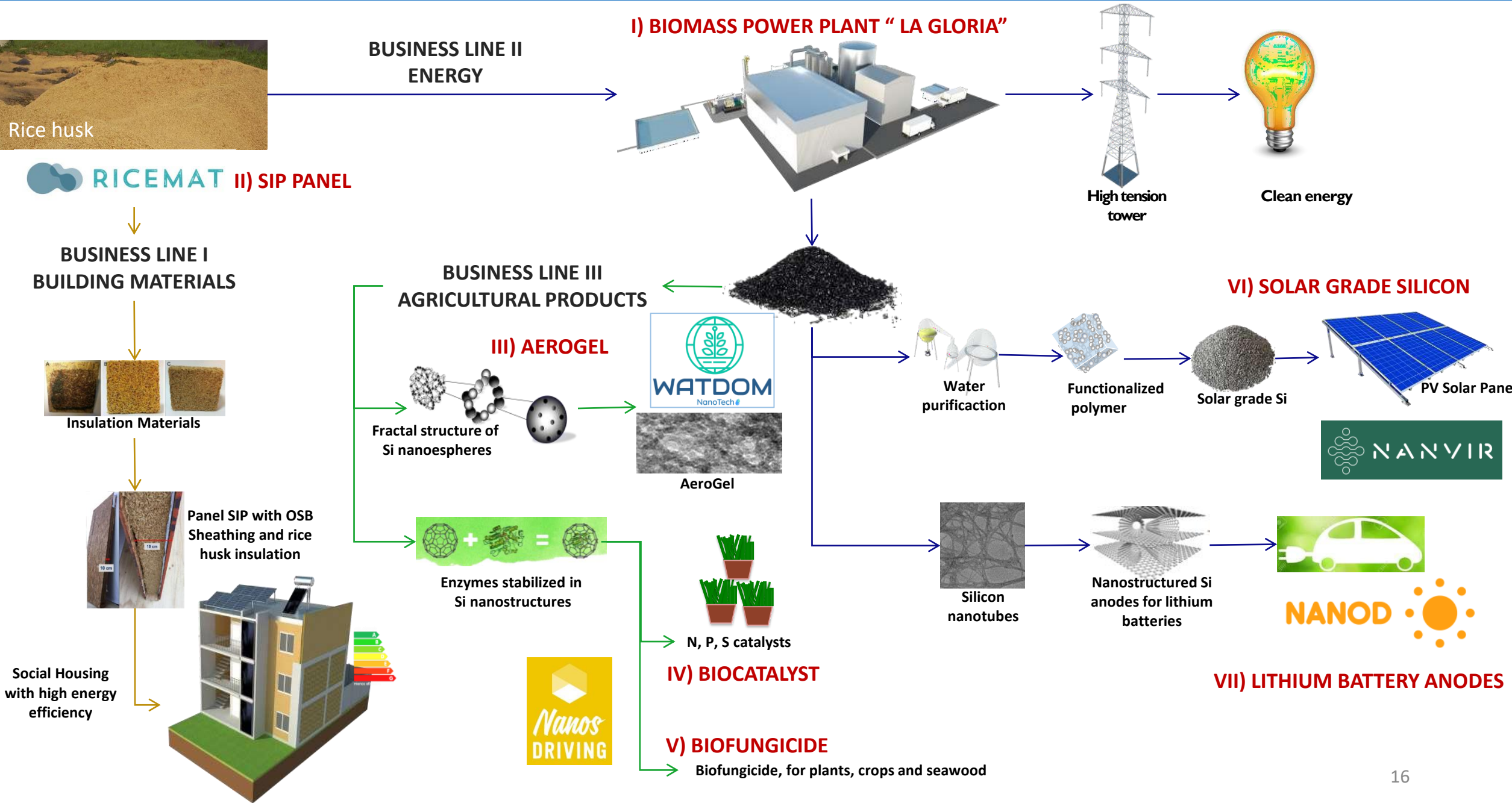
Company: Azienda Pubbliservizi Brunico;

Distance to the most populated area:
approximately 1000 meters;

Number of people living in the city: 17,050
inhabitants in urban and rural areas;

Year of start of operation: Operation





Recognition C&E Ltda.

In November 2021, our company C&E has been selected in the Mission Innovation of COP-26 among the 20 companies worldwide that can contribute by 2030 to lowering the earth's temperature by 1.5°C.

Thanks to the initiatives indicated in the previous sheet, through the different solutions for capturing or mitigating CO2 through the use of nanotechnology, they could reduce 10 Mt CO2e/year if this type of project were replicated worldwide.



Link.
<https://www.misolutionframework.net/AssessmentDetail/24>

MI

MISSION INNOVATION

NET-ZERO COMPATIBLE INNOVATIONS INITIATIVE

About

Innovations

Enablers

Latest

Sustainable rice-based nano materials

C&E

CONSULTING AND ENERGY

Provider:
Consulting and Energy

Country:
Chile

Development and production of sustainable products based on nanomaterials obtained from the recovery of rice husk waste that would otherwise end up on landfills. The husk is initially used as fuel for energy production in a biomass plant that has an ash yield of 20%, which is the basis for several businesses lines that have been developed by the company: production of solar grade silicon, lithium battery material, aerogels for water irrigation, an enzymatic catalyst and structural insulated panel with an insulation sheet of aggregated rice husk.

WITDOM

Waste to Wealth

Future compatibility assessment

2030 potential
GPPC reductions

≈10

Mt CO₂e/year

10 Low 16 Medium 24 High

29%

Future compatibility

14%

Quantum impact

Potential support for human needs

Potential supply for human needs

Delivering on core human needs

Quantum Impact

Value proposition:
New Perspectives

Quantum Impact

Product - New product, improvement of existing product/delivery mechanism

System - Value chain improvement

Society - Structural change on societal level

Incremental - Better version of existing way of delivering a need; efficiency and fuel changes are included here.

Disruptive - Changes that also require changes in the value chain and the underlying infrastructure

Transformative - A fundamentally different way of providing a need or radical new technology

Strengthening unsustainable structures - Good and/or resource intensive

Lower improvement - Increased renewable use and resource efficiency

Zero carbon/100% resource efficiency - Factor of ten resource efficiency gain/ Sustainable innovation

Insufficient data

Supply infrastructure:
Structure for Delivering Solutions

Insufficient data

Leadership feedback

SDGs assessment

Supporting: 12%

Neutral: 88%

Undermining: 0%

Quantum positions: 0%

17 Sustainable Development Goals

Without Innovation there is no Sustainability and without Sustainability there is no Future...

