



TCI-GE COMP.COM

BUILDING UP THE FUTURE OF RENEWABLE ENERGIES



TCI Gecomp

SOLAR POWER PLANT RUBÍ, 180 MW



SOLAR PLANT LA JACINTA, 50 MW



WIND POWER PLANT KIYÚ, 50 MW



MORE THAN 25 YEAR IN
SPAIN

^
2012
PERÚ

^
2014
URUGUAY



2018

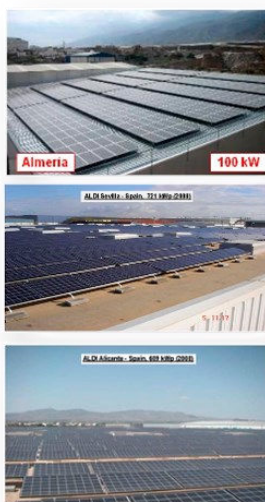


2020



2021

> 1 GW OF INSTALLED POWER



2013
CHILE



SOLAR POWER PLANT BOLERO, 160 MW

2016
ARGENTINA



SOLAR POWER PLANT CAUCHARI, 315 MW



SOLAR POWER PLANT CAMPOS DEL SOL, 380 MW
CHILE



Green Hydrogen

Europe

- | 12 projects
- | 1 R&D project

European Clean
Hydrogen Alliance



Chile

giz

Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

4e

Programa de Energías
Renovables y Eficiencia
Energética en Chile

LOS ESPINOS 3MW
GNA 1,7MW
AGUASCAP 3MW



HOASIS

3GW H2



HOASIS

1GW H2



HVALLESUR

9MW H2

ari@hile

20MW H2

Argentina



RD Congo

H2 KOLWEZI 200 MW



TCI GECOMP Vision



“The societies that last the longest are those that achieve the best balance between nature and humanity”

Jeremy Rifkin



Circular Economy

¿What is it?

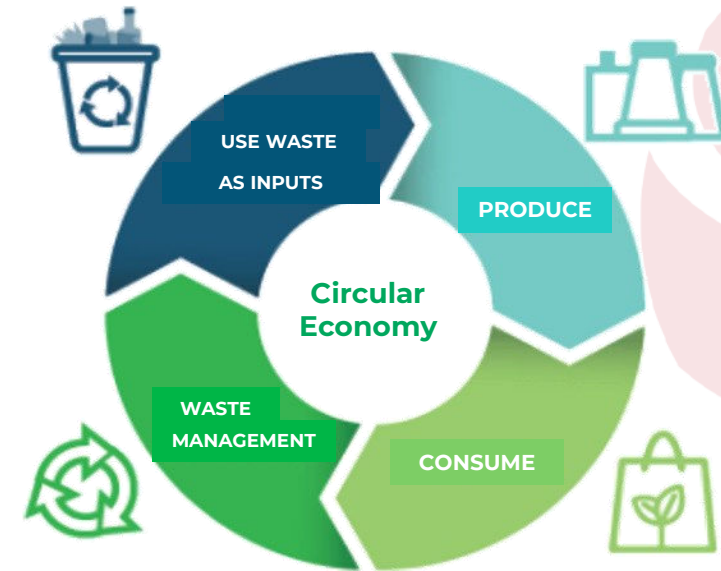
A **new** design, production and consumption **model**.

¿What is the aim?

Continuing to generate **value** through waste over time.

¿How to achieve it?

Minimizing **waste** from production processes.



Sostenibilidad

Energía
positiva

Economía
circular

Medio ambiente



HOASIS

Ecosistema

Hidrógeno verde

Reforestación

Desarrollo





— HOASIS Objective

HOASIS is our proposal for a circular economy based on green hydrogen .

To create **added wealth** by **optimizing the area's resources** in a sustainable way.

Taking advantage of current synergies to **empower Chile** as an export leader.



#HOASIS



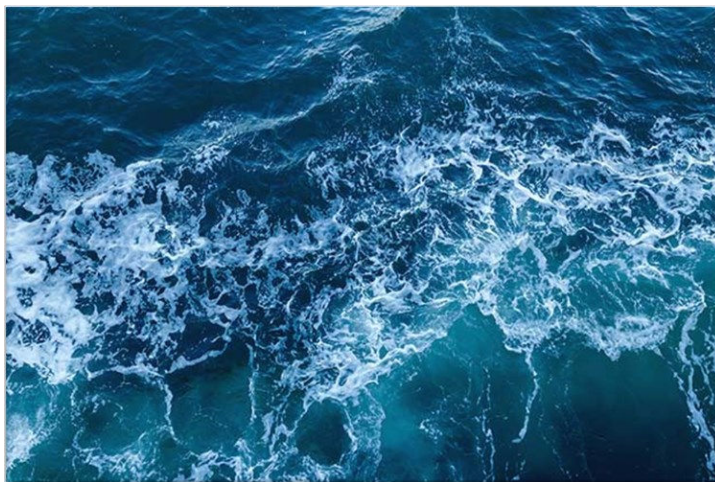
Chilean Context

**CARBON
NEUTRALITY 2050**

**POTENCIAL IN
RENEWABLE
ENERGY**

**SOLVE WATER
DEFICIT**

**GREEN H2
NATIONAL
STRATEGY**

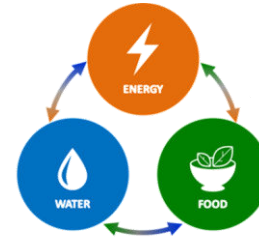




HOASIS

CIRCULAR ECONOMY APPLIED TO THE **HYDROGEN ECONOMY**

RENEWABLE ENERGY



MINING INDUSTRY



PORT INFRASTRUCTURE



AGRICULTURE





HOASIS – Main facilities



PHOTOVOLTAIC SOLAR
FACILITY

Installation of **photovoltaic panels** for 3 GW power capacity



GREEN HYDROGEN
PRODUCTION

Installation of a 2,100 MW **electrolysis** plant with a production of 40.3 tons of H₂ per hour



REFORESTATION AND
PRECISION CROPS

2000 ha greenhouses with 70 Ton/ha production of **local crops**

100 ha of **pistachio tree cultivation** with 2 Ton/ha production



MINING

H2 PIPELINE CONECTION WITH
TALTAL GAS PIPELINE

MINERA ESCODIDA
WATER PIPELINE

HOASIS

TALTAL GAS PIPELINE

ANTOFAGASTA

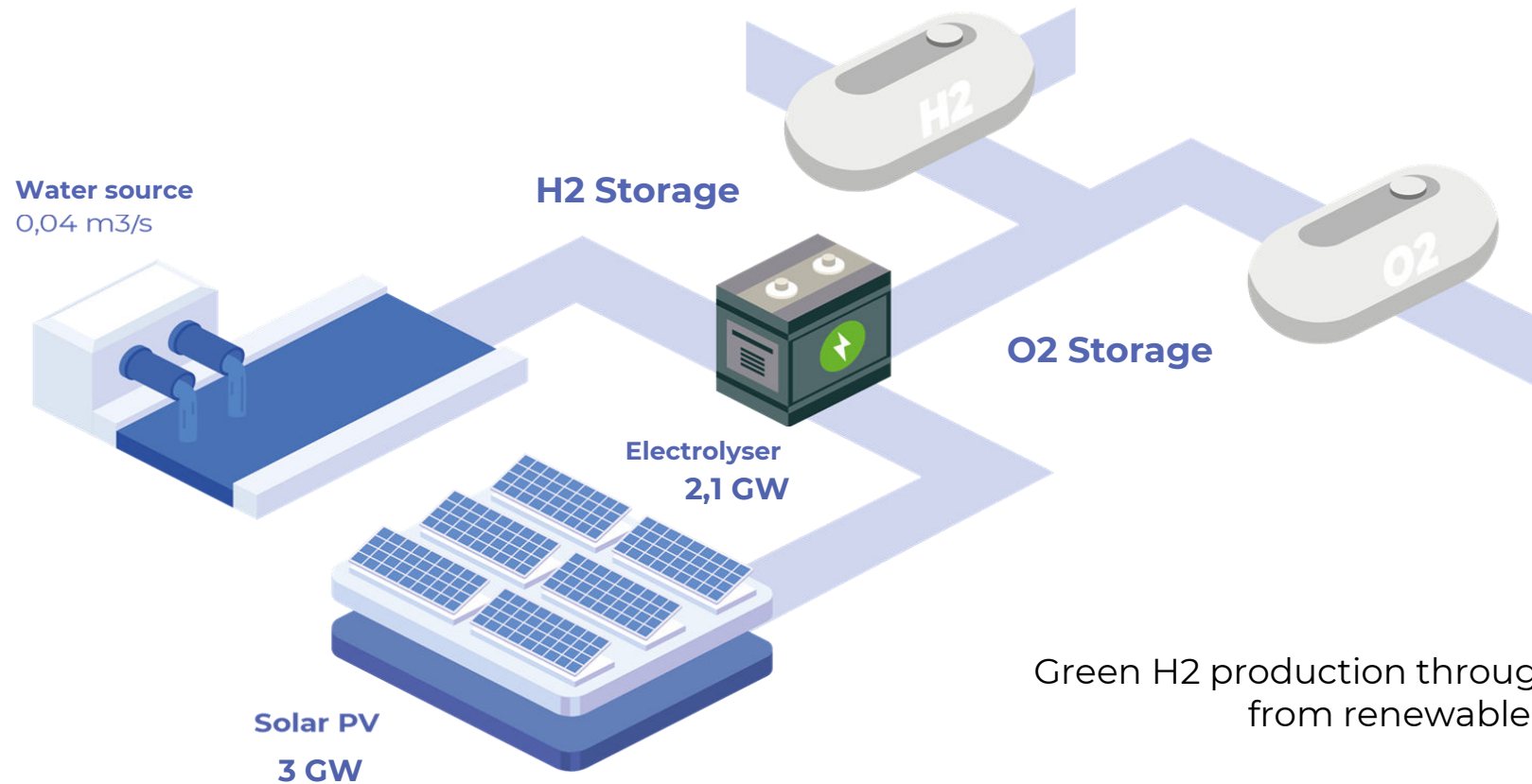
PORT

DESALINATION
PLANT

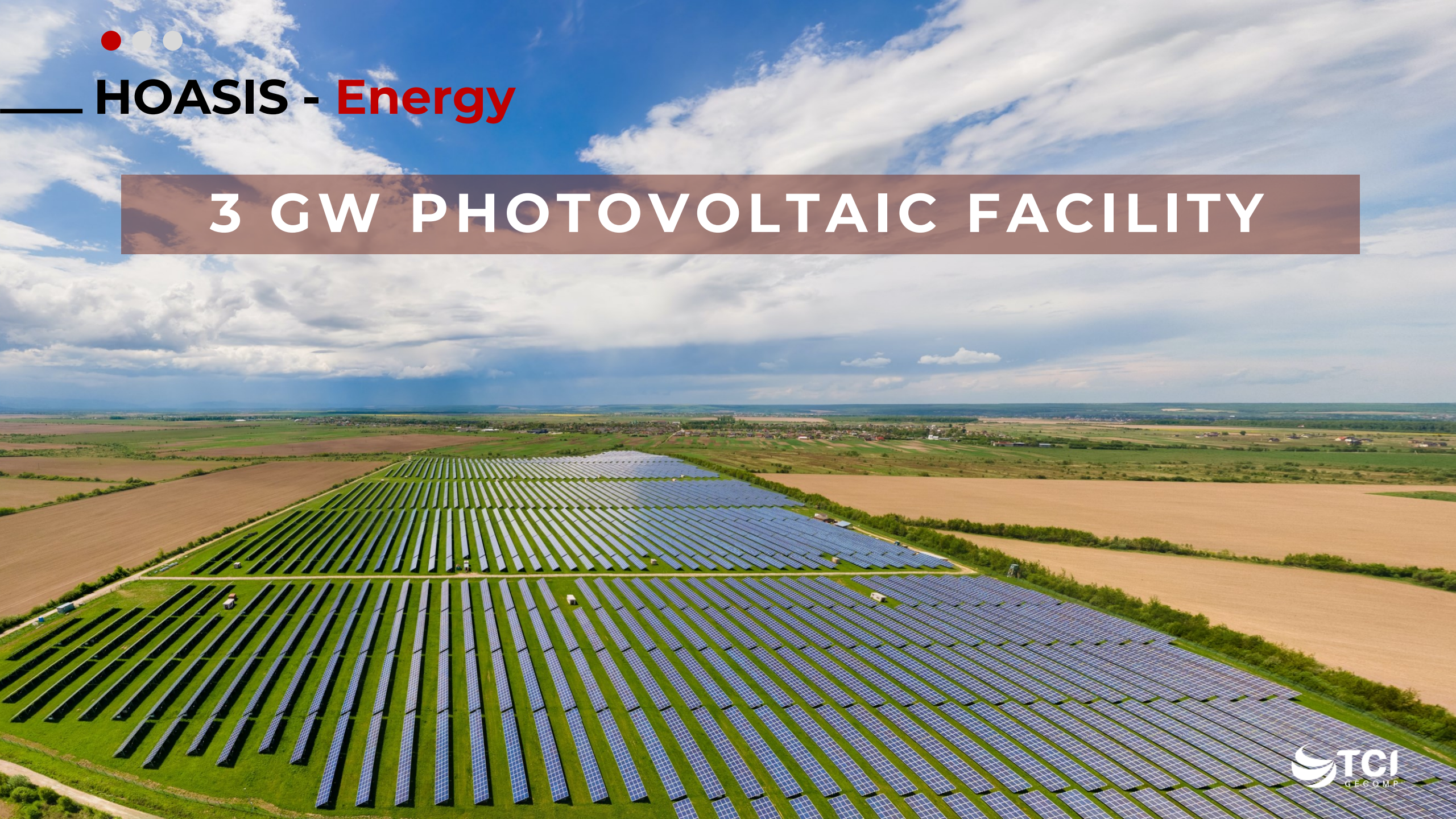




HOASIS - Green H2 production



Green H2 production through water electrolysis
from renewable energy

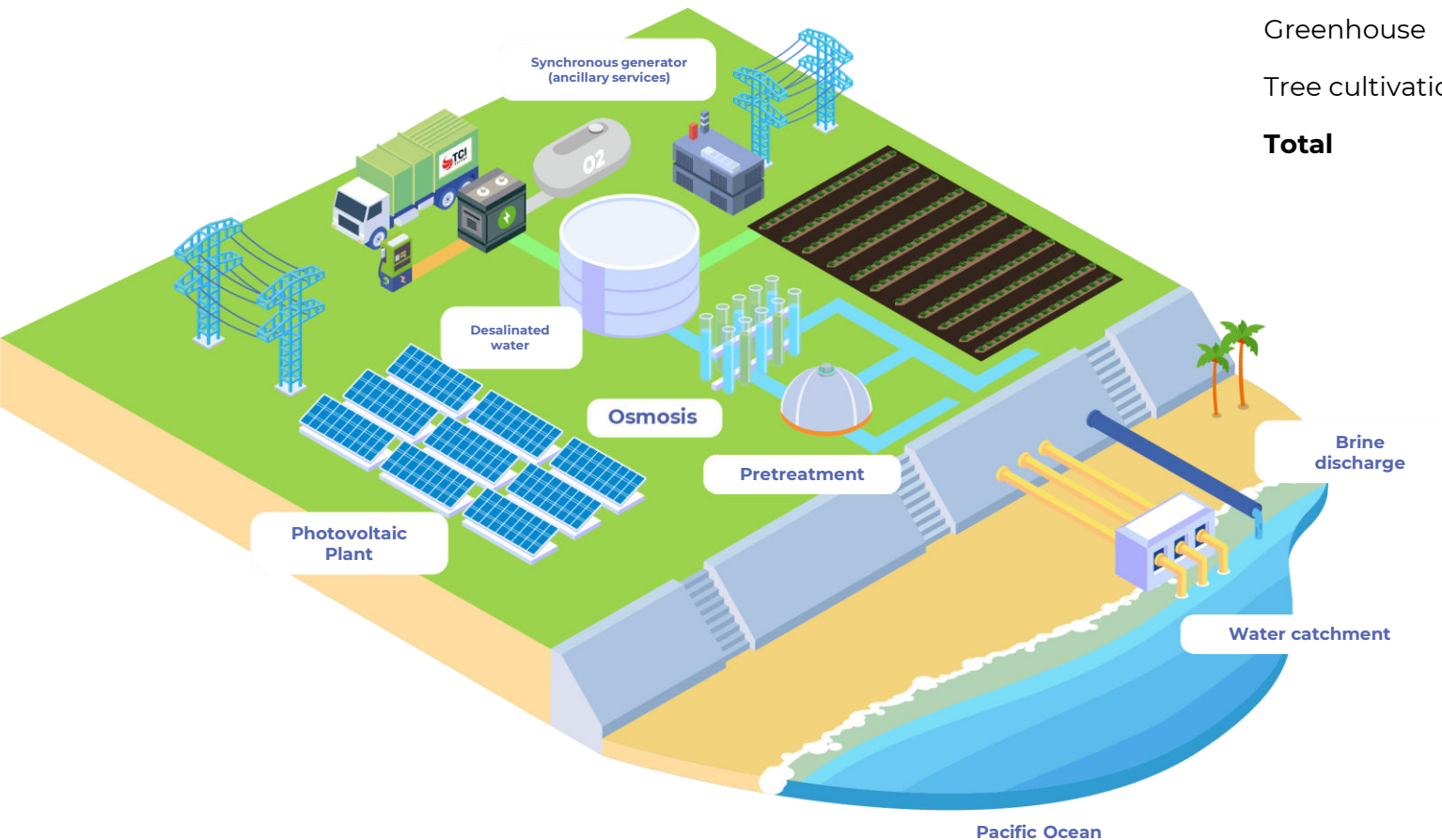


HOASIS - Energy

3 GW PHOTOVOLTAIC FACILITY

HOASIS - Water

- HOASIS forecasts **0,45 m³/s** of total water consumption
- Escondida Mining industry SIAD consumption: **3,2 m³/s**



	WATER CONSUMPTION (m ³ /s)	SIAD CONSUMPTION RATIO
Electrolyser	0,04	1,3%
Greenhouse	0,40	13%
Tree cultivation	0,01	0,32%
Total	0,45	14,3%

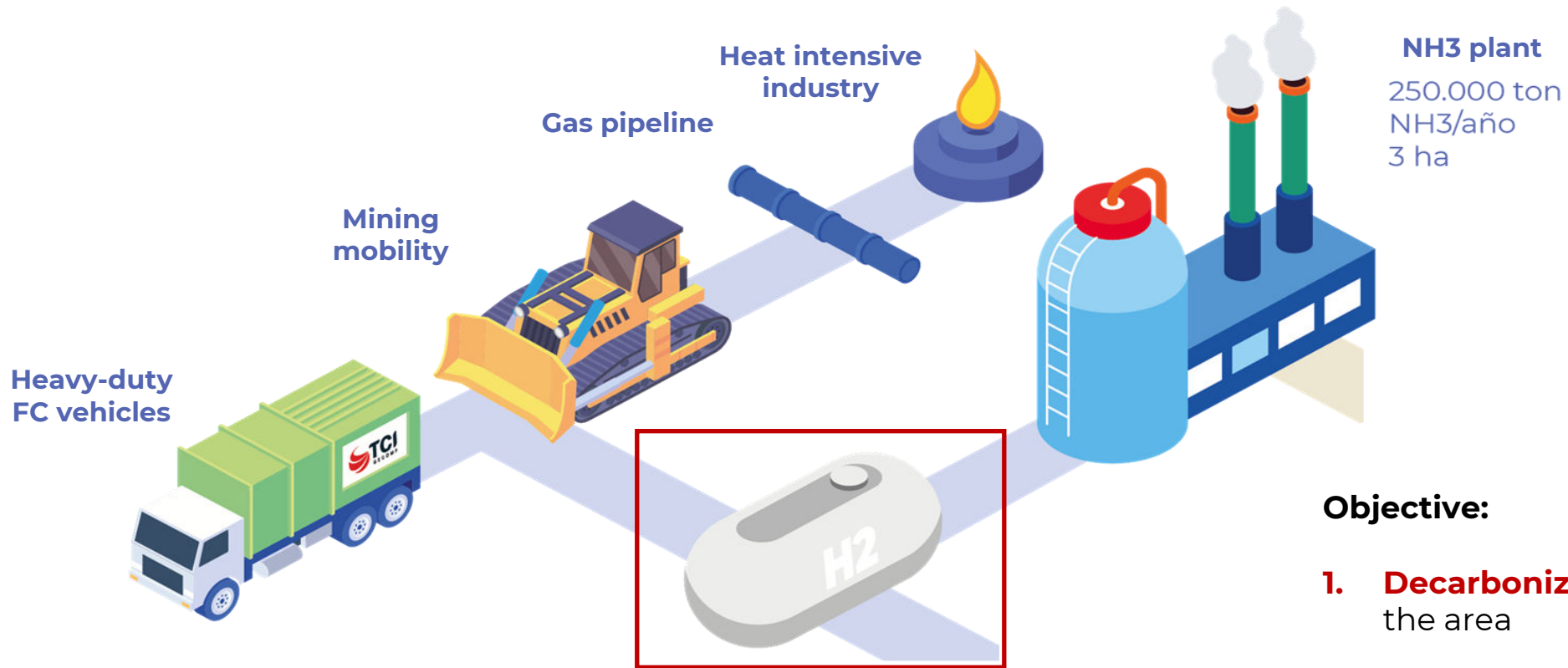
Use of **marine water resources**

Water-Energy nexus

Desalination, solar energy, hydrogen, agriculture
synergies



HOASIS – Green H2 uses



Objective:

1. **Decarbonization** of industrial activity in the area
2. Unleashing **new economic activity**

Green H2 Offtakers – Mining industry

Potential demand of **more than 25,000 tons** of hydrogen per year.

For the operation of **CAEX trucks** in mining, considering a change of **50% of the fleet to hydrogen**.



MINING INDUSTRIES	H2 HYDROGEN DEMAND (ton)
1 – Escondida	20.000
2 – Zaldívar	2.000
3 - El Peñón	TBD
4 – El Way	TBD
5 – Altonorte	TBD
6 – Mantos Blancos	TBD
7 – Lomas Bayas	2.000

- Potential demand for heavy-duty transport
- There are captive routes for the staff transportation from Antofagasta to mining sites.

Green H2 Offtakers – Thermoelectric plants



Ministry of Energy:

“Closure by 2040 of 100% of coal power plants”

THERMOELECTRIC PLANTS	H2 ANNUAL DEMAND (ton)
1 – Atacama	1.000
2 – Mejillones	5.900
3 - Hornitos	3.000
4 - Andina	2.500
5 – IEM	2.400
6 - Angamos	14.000
7 - Cochrane	11.300
8 – Central térmica Kelar	4.000

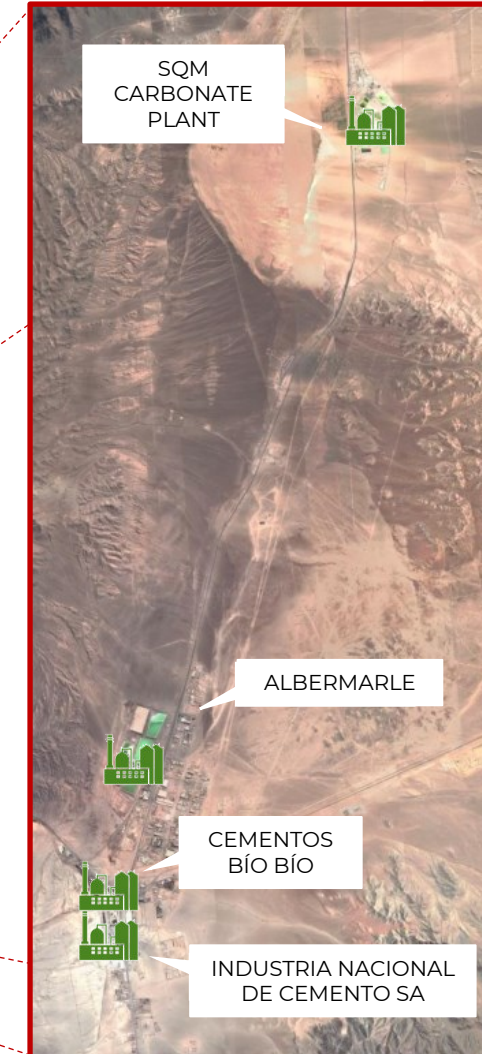
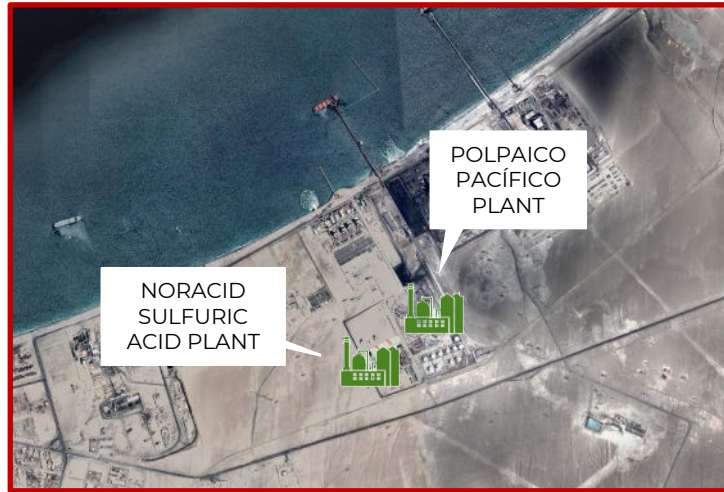
Potential demand for more than **44,000 tons of hydrogen per year**, considering a replacement (in energy) of 5% of the consumption of fossil fuels in the thermoelectric plants listed.



Green H2 Offtakers – Thermoelectric plants

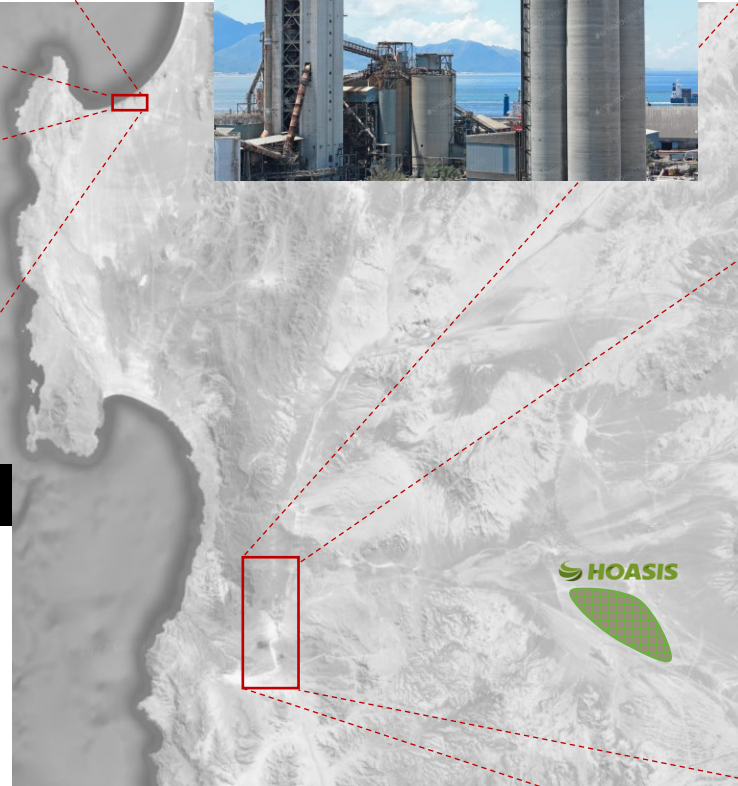


Green H2 Offtakers – Chemical and cement plants



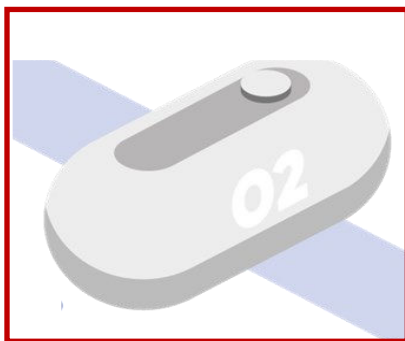
CHEMICAL AND CEMENT PLANTS

- 1 – Industria Nacional de Cemento SA
- 2 – Cementos Bío Bío
- 3 - Albermarle
- 4 - SQM Carbonate Plant
- 5 – Noracid Sulfuric Acid Plant
- 6 - Polpaico Pacífico

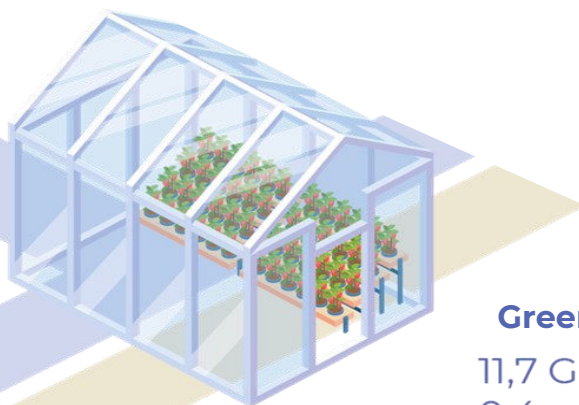
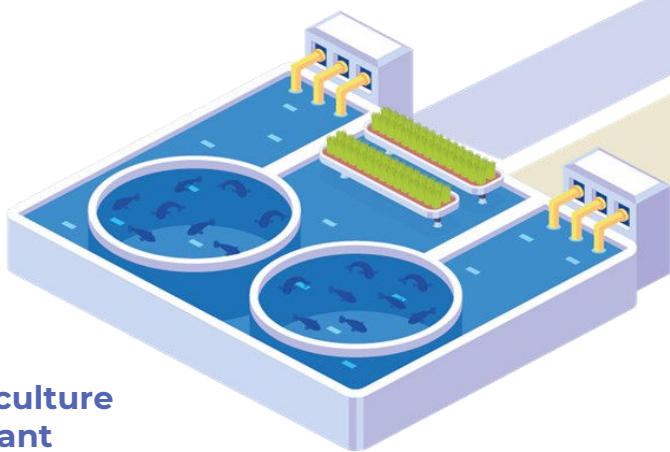




HOASIS - O₂ uses



Aquaculture
plant



Greenhouse

11,7 GWh/año
0,4 m³/s
2000 ha

Unleashing new economic activity:

1. Aquaculture industry
2. Precision cultivation in greenhouses



AQUACULTURE, TREE CULTIVATION AND GREENHOUSES 2100 Ha





HOASIS – Aquaponic crops

Promotion of **local production**.

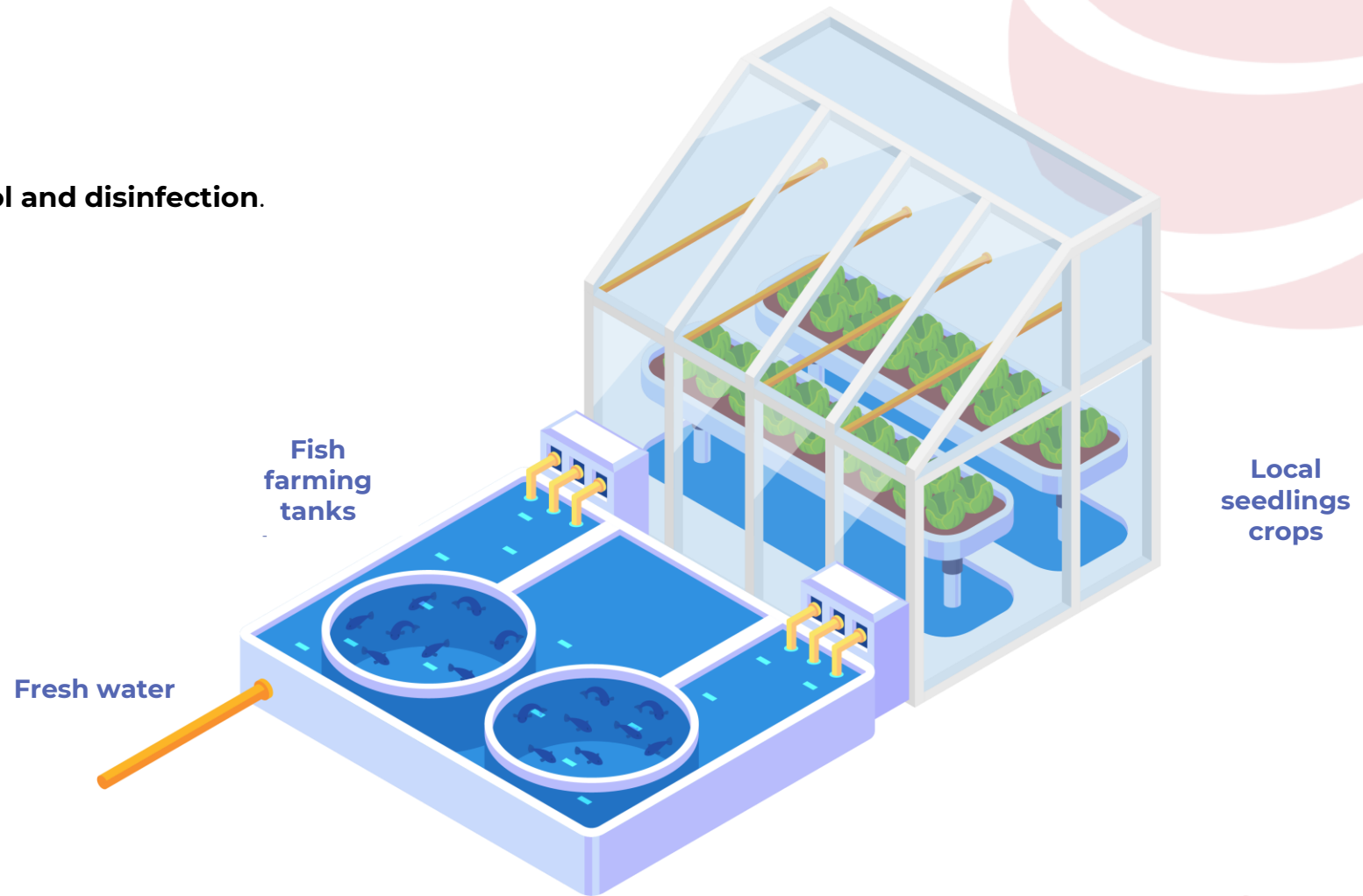
Hydroponic system with desalinated water.

Disinfection of tanks with **ozone** from **electrolysis**.

Use of **oxygen** produced in electrolysis for **pest control and disinfection**.

Use of **renewable energy** for control and power.

Multitrophic fish farming





HOASIS – Tree cultivation

- Tree crop plantation in the perimeter: 100 Ha
- Crop type: pistachio
- Water consumption: 1500 m³/ha



BENEFITS

Cultivation with 26% profitability

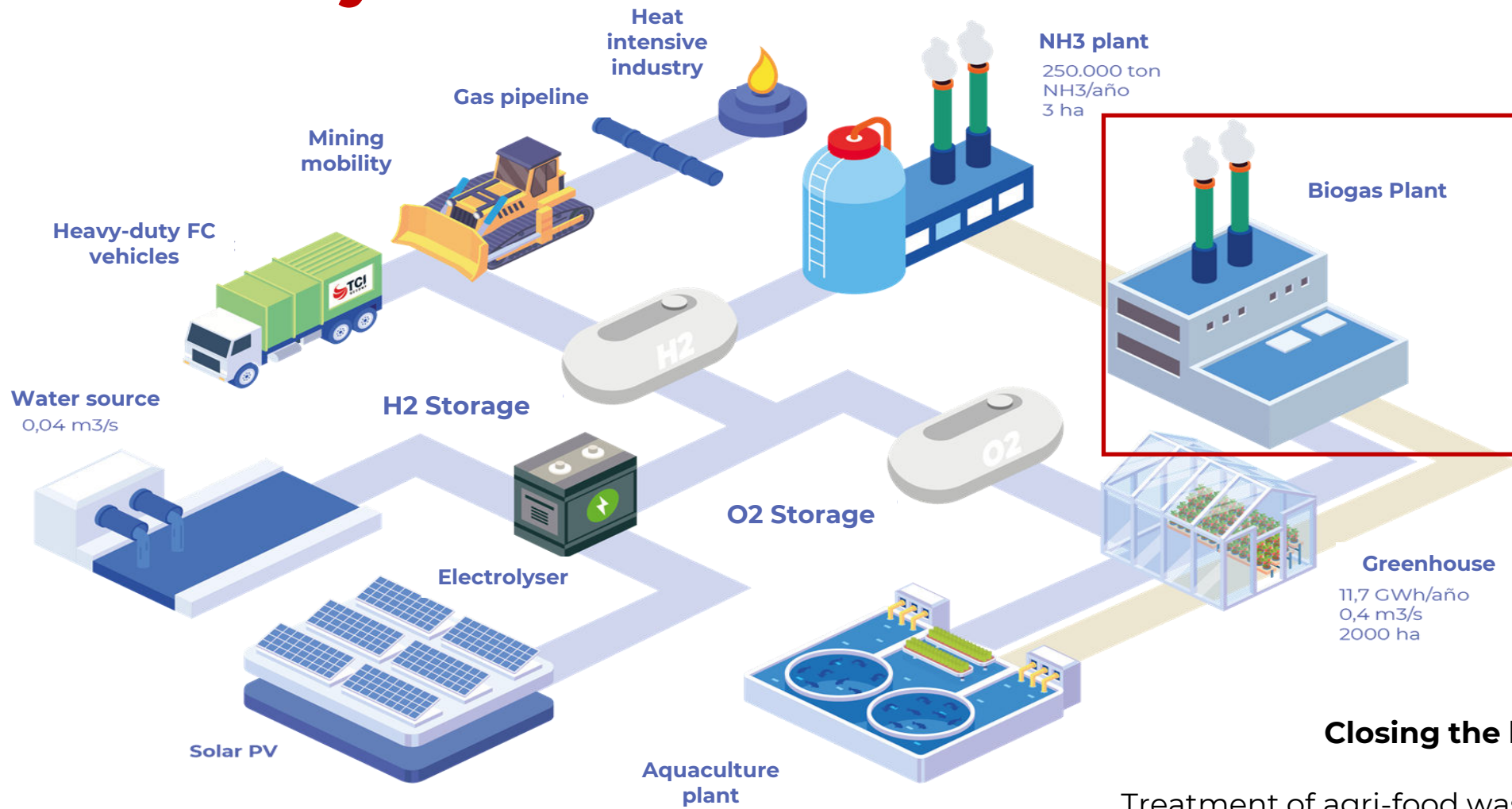
Soil retention

Payback 8 years

50 years crops lifetime



Industrial Symbiosis

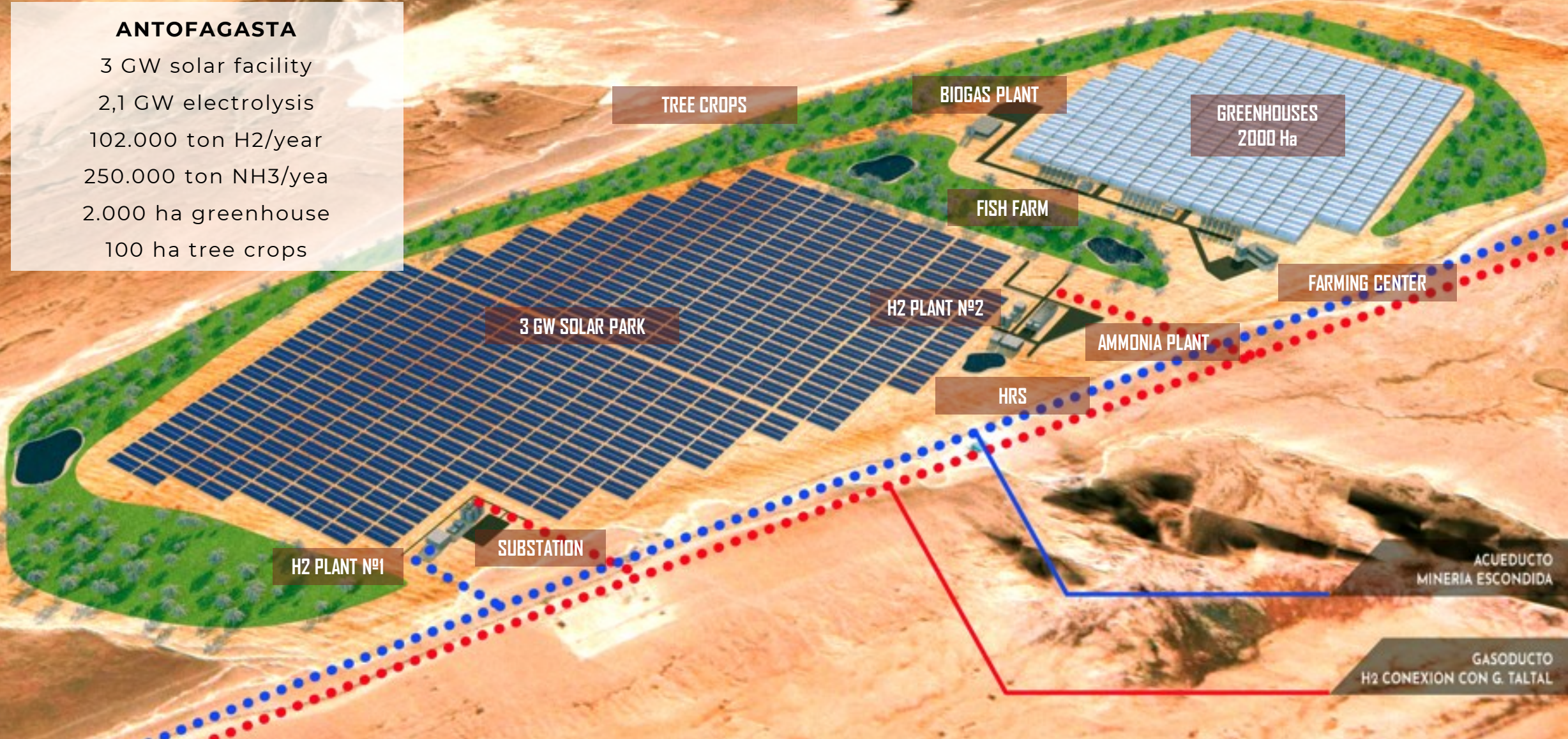


Closing the loop

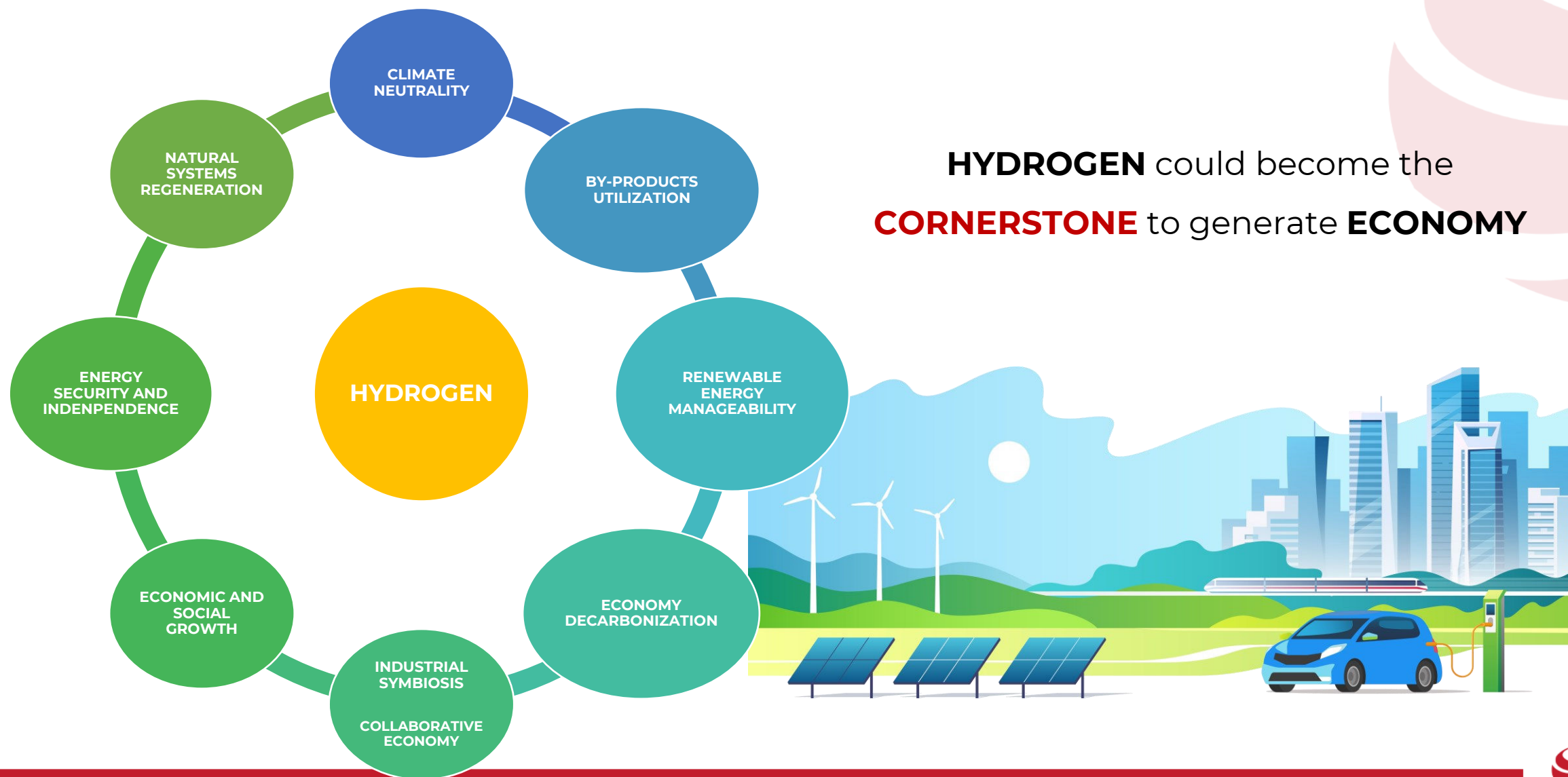
Treatment of agri-food waste for energy and heat generation

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3 GW solar facility
2,1 GW electrolysis
102.000 ton H₂/year
250.000 ton NH₃/yea
2.000 ha greenhouse
100 ha tree crops



Green H2 in **Circular Economy**



THE EXPORT OF GREEN
HYDROGEN WILL
BRING MUCH MORE
VALUE TO CHILE THAN
EVEN THE EXPORT OF
COPPER

AL GORE



THANK YOU



Mario Gómez Rodríguez
TCI GE COMP CEO