



BUSSO  
group

Calidad  
Innovación  
Medio ambiente



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## Business Structure





# TRA

## TECNOLOGÍAS DE REMEDIACIÓN AMBIENTAL

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# ¿Who are we?



## Mission

To Promote the development of clean technologies that contribute to environmental conservation and sustainable economic growth.

## Vision

To be recognized as a leading company in the integration of technologies in green hydrogen, water treatment and waste treatment and valorization projects. We want that, for our customers, working with TRA would be synonymous with high quality standards, professionalism and commitment to the environment.

# Areas of work

Green Hydrogen



Waste to power/waste treatment



Water treatment



# Green Hydrogen

Technology providers - Integrators - EPC



- Complete **H<sub>2</sub>** solutions
  - Generation
  - Storage/Compression
  - Applications
- Specific design for each solution
  - Small or large scale

# Green Hydrogen

## Our Partners - Electrolyzers

**PLUG POWER** 



**PEM**

(Proton Exchange Membrane)

**ALKALINE**



 GREEN  
HYDROGEN  
SYSTEMS

  
**Enapter**



**AEM**

(Anion Exchange Membrane)

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# Green Hydrogen

## Our Partners - Electrolyzers



- Main provider of **Green Hydrogen** in the United Statesn, 50 Tons per day of **H<sub>2</sub>**.
- World leader manufacturer of **Hydrogen** fuel cells for applications:
  - Material Handling Equipment
  - Stationary electrical backup
  - Other electric vehicles (Airports, cars, buses, trucks, etc.).
- PEM Electrolyzers up to five (5) [MW].



# Hidrógeno Verde

## Aplicación



### Celdas de combustible en centros de distribución

- ✓ 100% clean operation, no polluting emissions.
- ✓ Class I, II and III forklift support.
- ✓ Suitable for operation in low temperatures.
- ✓ Charging time of 2 to 3 min.
- ✓ 1 hydrogen cell = 2 or 3 lead or lithium batteries.
- ✓ Recovery of battery room space.
- ✓ Reliable technology with many use cases (BMW, CocaCola, Carrefour, Walmart, Colruyt Group, Procter and Gamble), more than 50,000 in operation.



Vídeo: recarga de celda de combustible

# Hidrógeno Verde

## Aplicaciones de Celda de Combustible

**Hydrogen** can now replace diesel efficiency in transporting goods from the warehouse to the end user's door.



# Hidrógeno Verde

## Nuestros Partners -Electrolizadores



- Manufacturer of alkaline electrolyzers:
  - Standardized and modular.
  - High efficiency.
  - Fast dynamic response.
- HyProvide A-Series: Capacities from 150 kW up to 20 MW.
- HyProvide X-Series: Capacities greater than 20 MW.



# Hidrógeno Verde

## Nuestros Partners -Electrolizadores



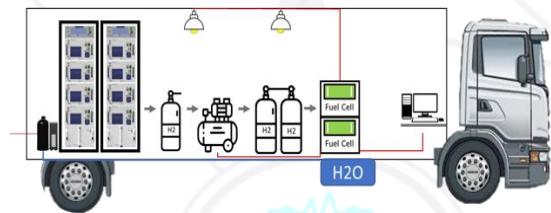
### Enapter

- Manufacturer of electrolyzers with AEM (Anion Exchange Membrane) technology.
- Electrolyzer EL 2.1: up to 1 Kg of H<sub>2</sub> per day, consumption 2.5 kW.
- Stackable up to five (5) units per 19" cabinet.
- Ideal for scalable solutions (Pilots, laboratories, small and medium scale).
- Integrated remote control system via mobile application and internet connection.



# Hidrógeno Verde

## Our Projects



 **Gasvalpo®**



CENTRO NACIONAL  
DE PILOTAJE  
DE TECNOLOGÍAS  
PARA LA MINERÍA



**MSP**  
MINERA SAN PEDRO



**Química  
Mavar**



**CIC ITEM**  
CENTRO CIENTÍFICO TECNOLÓGICO  
REGIÓN DE ANTOFAGASTA

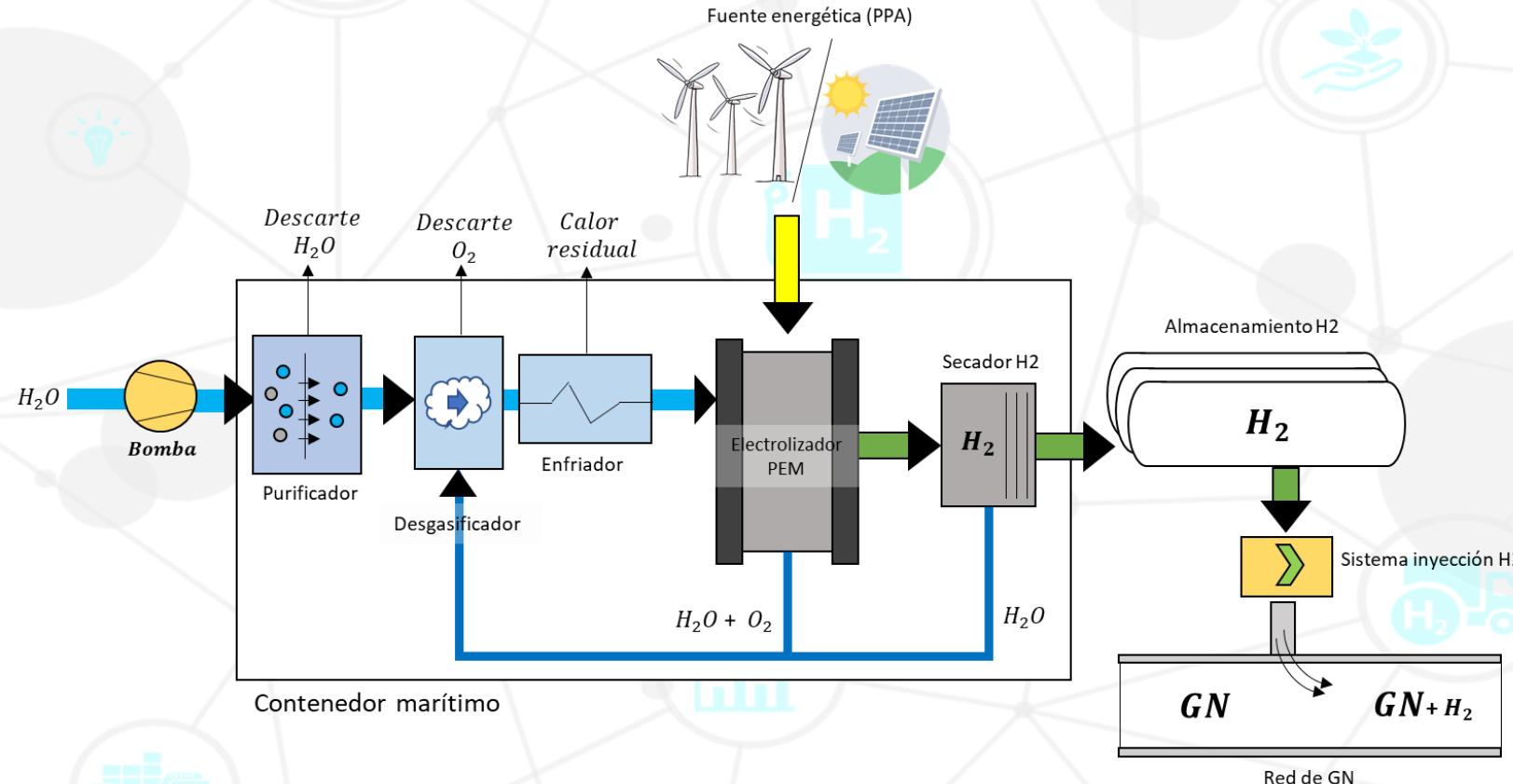


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# Hidrógeno Verde

H2GN Project: 



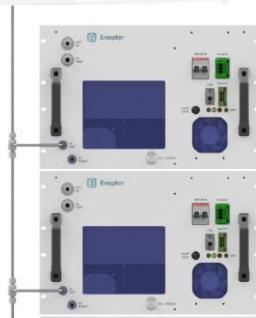
## Satellite Regasification Plant (Coquimbo, IV Region)

- **Green Hydrogen** blending in Natural Gas networks (5% and higher)
- PEM Electrolyzer
- Low pressure storage
- Natural Gas grid injection system



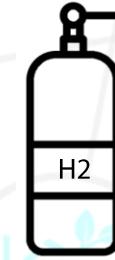
1. Paneles Solares
2. Inversor

$e$



1. Electrolizador
2. Secador de H<sub>2</sub>
3. Tanque de H<sub>2</sub>O
4. Purificador de H<sub>2</sub>O

H<sub>2</sub>



- Almacenamiento de baja presión

H<sub>2</sub>



- Celdas de combustible

- Consumo eléctrico



# Hidrógeno Verde

Proyecto:



CENTRO NACIONAL  
DE PILOTAJE  
DE TECNOLOGÍAS  
PARA LA MINERÍA



MSP

MINERA SAN PEDRO

Pilot Project of Green Hydrogen for the Mining Industry

San Pedro Mine (Til Til – RM)

H<sub>2</sub> production capacity for piloting and validation of hydrogen technologies for the mining industry.

- Electrolyzers (2 Kg-H<sub>2</sub> / day)
- Low pressure storage
- H<sub>2</sub> fuel cells



# Hidrógeno Verde

Project:



CENTRO NACIONAL  
DE PILOTAJE  
DE TECNOLOGÍAS  
PARA LA MINERÍA

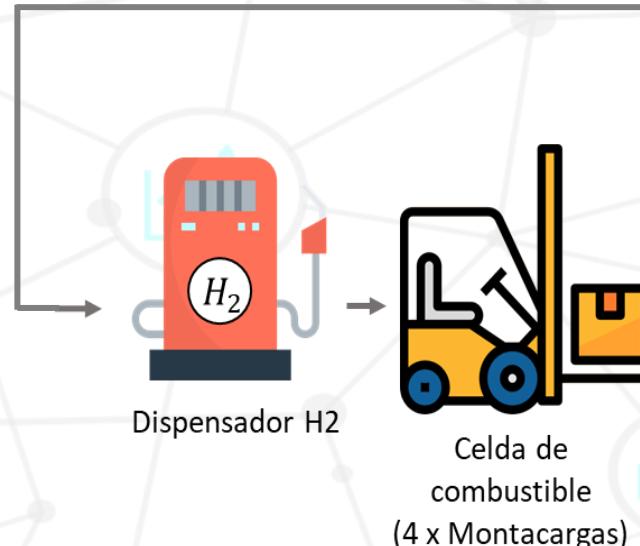
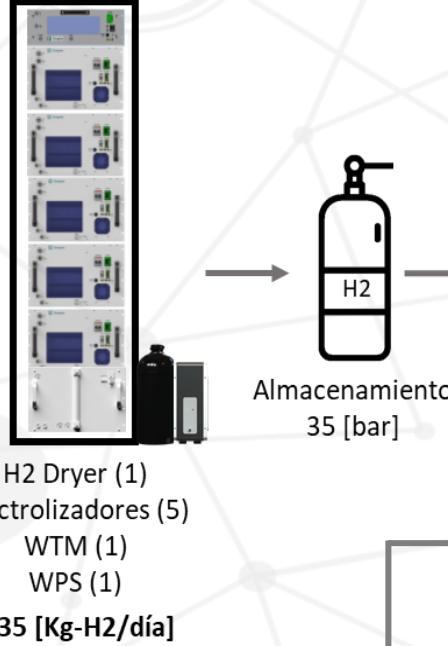


Pilot Project of Green Hydrogen for the  
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- $H_2$  fuel cells



# Hidrógeno Verde

Proyecto:



Proyecto piloto montacargas **H<sub>2</sub>** Bodegas Química

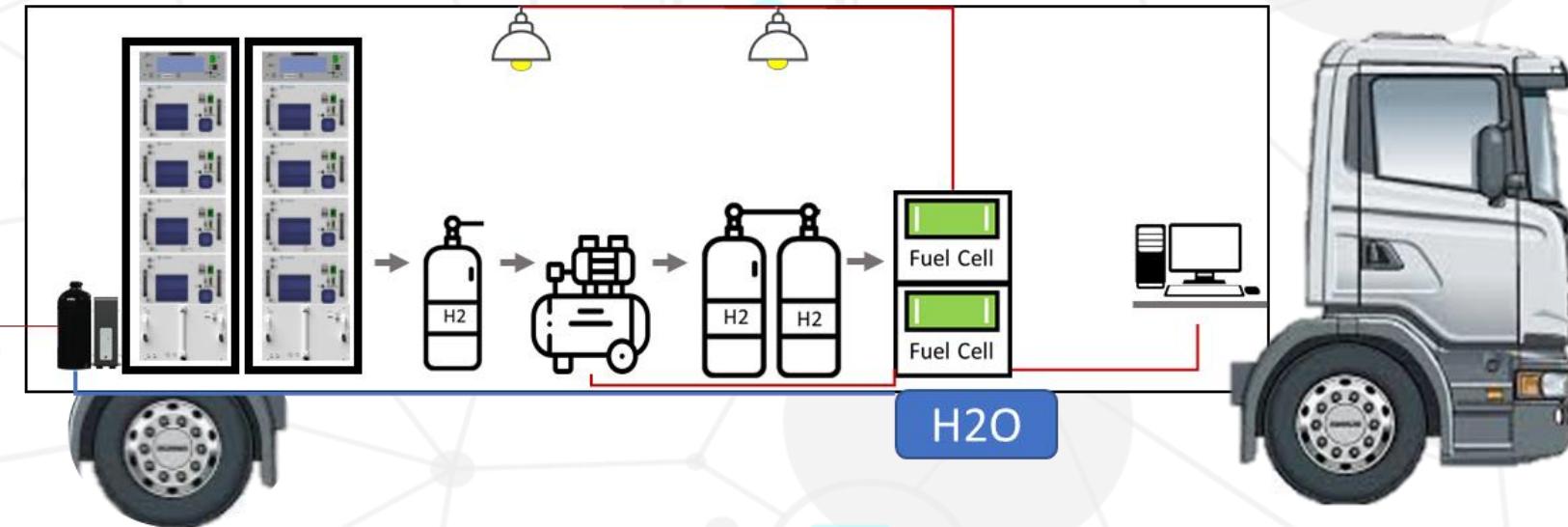
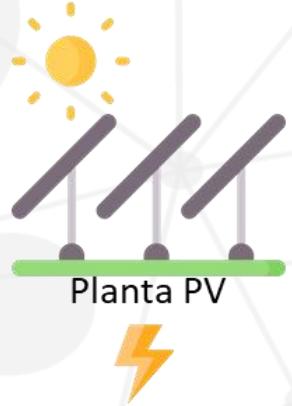
Mavar (Santiago, RM)

- **Hydrogen** fuel cell for forklifts
- **Green Hydrogen** generation
- Low pressure/high pressure Storage
- **H<sub>2</sub>** refueling station – 350 bar.

## Green Hydrogen mobile laboratory

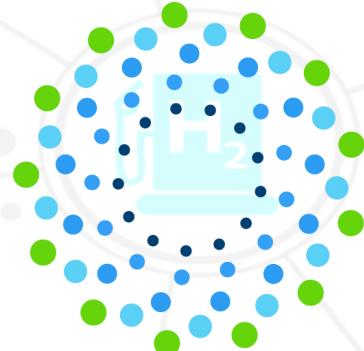
# Hidrógeno Verde

Project:



Atacama desert – Antofagasta Region

- Mobile laboratory
- Dismountable solar plant
- Collection of  $\text{H}_2$  production data with desert solar potential
- Energy self-supply with hydrogen fuel cells



**TRA**  
TECNOLOGÍAS DE  
REMEDIACIÓN AMBIENTAL

**Thank you!**