



**We Care for a Better Future.**



**COGEN**  
WORLD COALITION

**Launch Event 2022**

**Biogas-2-Energy Project in Mexico**

**2G. Cogeneration.**

**Carlos Prieto – Sales Director LATAM**



## Agenda

1. Intro
2. Product & Portfolio
3. Digitalization / Services
4. Biogas-2-Energy Project in Mexico
5. Benefits and Achievements
6. Q&A



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## Key Data

- Established in 1995.
- Listed German stock market since 2007
- Solutions provider.
- Strong focus on R&D for higher EE and lower TCO.
- Plants for biogas, natural gas, hydrogen, syngas propane with electrical output of 20–3,500 kW.

Supported by:

- 700 employees.
- 7,000+ CHP plants.
- 50+ countries.



2Gs Headquarter in Heek, Germany.





## Agenda

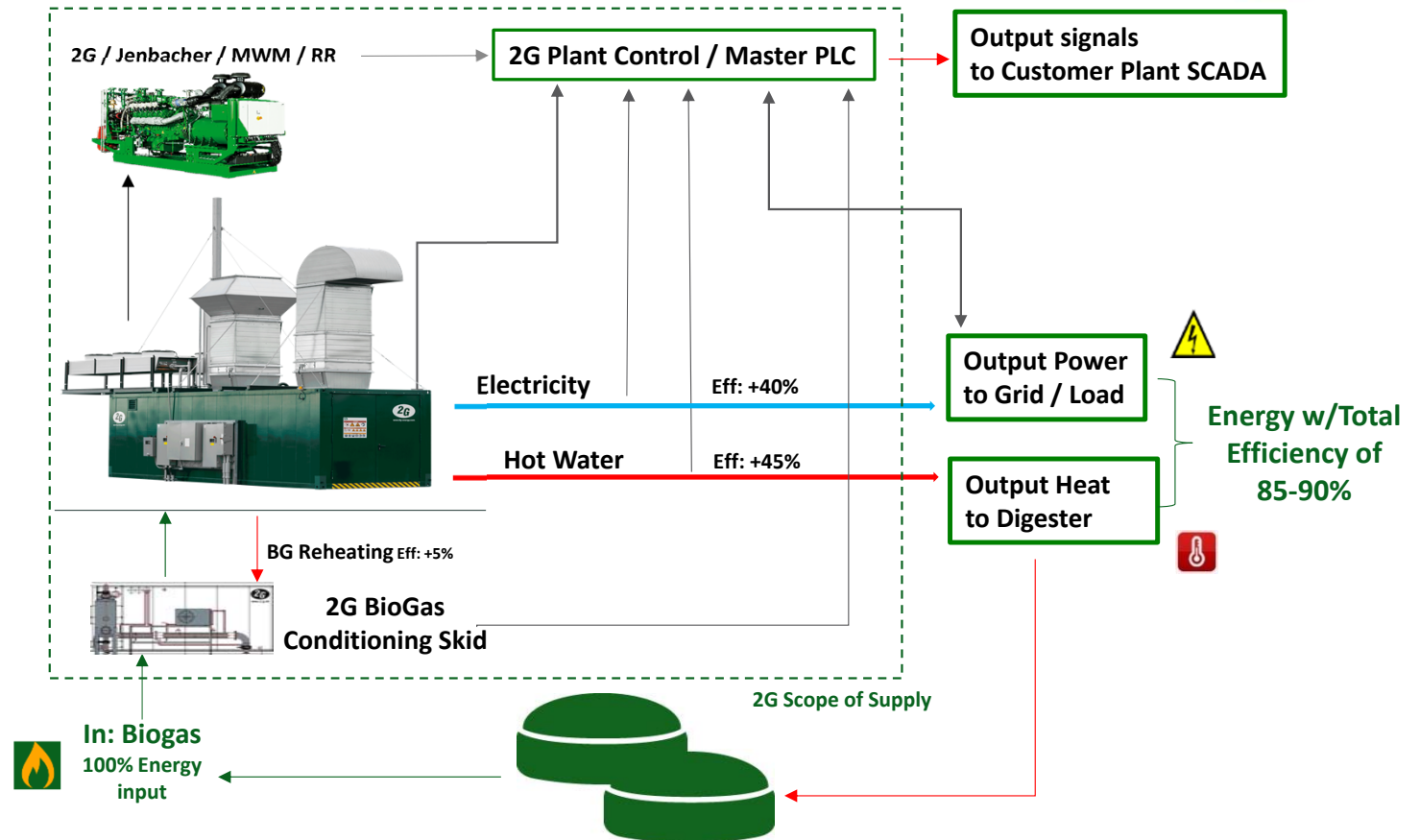
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# Products: Plug & Play CHP Solution

## Solution Integration:

- 4-Connection Points (1 inlet – 3 outlets)
- Input: Biogas
- Output: Heat & Power.
- Remote monitoring.







# Portfolio.

Product Group	Power Range	Type of fuel
g-box	20 to 50 kW	Natural Gas
aura	100 to 150 kW	Natural Gas
patruus	50 to 263 kW	Natural Gas / <b>Biogas</b>
agenitor	80 to 450 kW	Natural Gas / <b>Biogas / Hydrogen</b>
avus	400 to 3.500 kW	Natural Gas / <b>Biogas</b>





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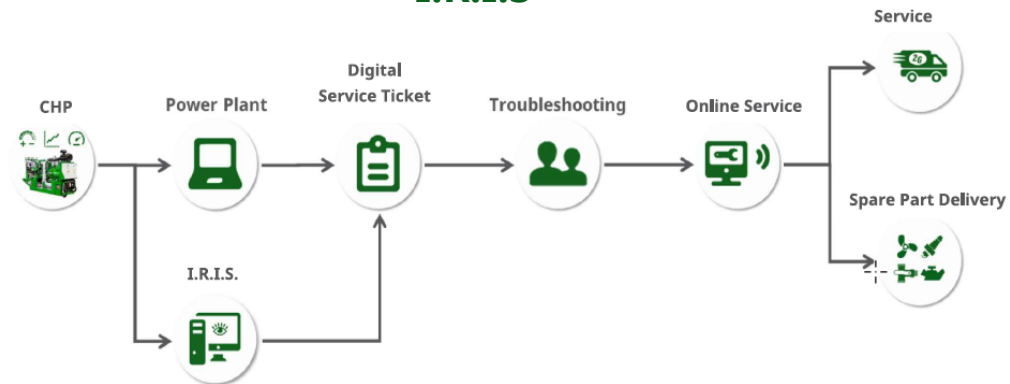
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# Digitalization / Services



my.2-g.com



## Intelligent Report Information System



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## BG-2-Energy Project, QRO



### Project Description

**Client:** dairy farmer who sells its production to Alpura.

**Organic:** cattle manure.

**Fuel:** BioGas w/60-65% CH<sub>4</sub>.

**Application:** Net metering.

**2G/CHP Solutions' offering:**

Integration of the entire project and LTSA.



Total Eff: 65%

Maint Intervals: 2/30/60 koph

Oil Consump: 0.2 gr/ekWh



## Project Challenges

### Ambient conditions:

- Altitude 1,800 masl.
- Huge temp swing of 23-24°C.

### Local regulations:

Sub-500 ekW max of Installed Capacity  
and 500 mg/Nm3 NOx max.

### Engineering:

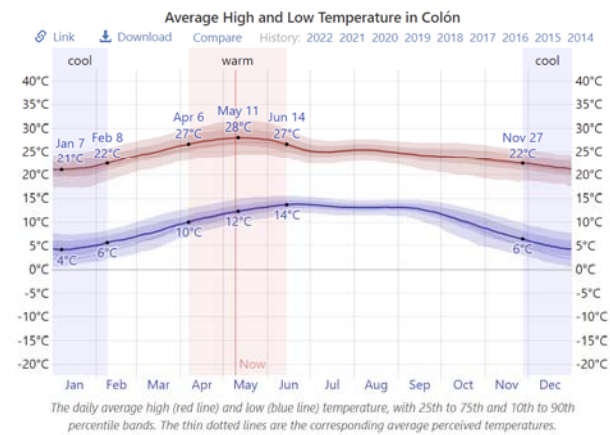
Turnkey Project with fully integrated CHP Solution



### Average Temperature in Colón

The warm season lasts for 2.2 months, from April 6 to June 14, with an average daily high temperature above 27°C. The hottest month of the year in Colón is May, with an average high of 28°C and low of 13°C.

The cool season lasts for 2.4 months, from November 27 to February 8, with an average daily high temperature below 22°C. The coldest month of the year in Colón is January, with an average low of 4°C and high of 21°C.



The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.

Source: [www.Weatherspark.com](http://www.Weatherspark.com)

Find City or Airport

Colón, Querétaro, Mexico

Full Year Today

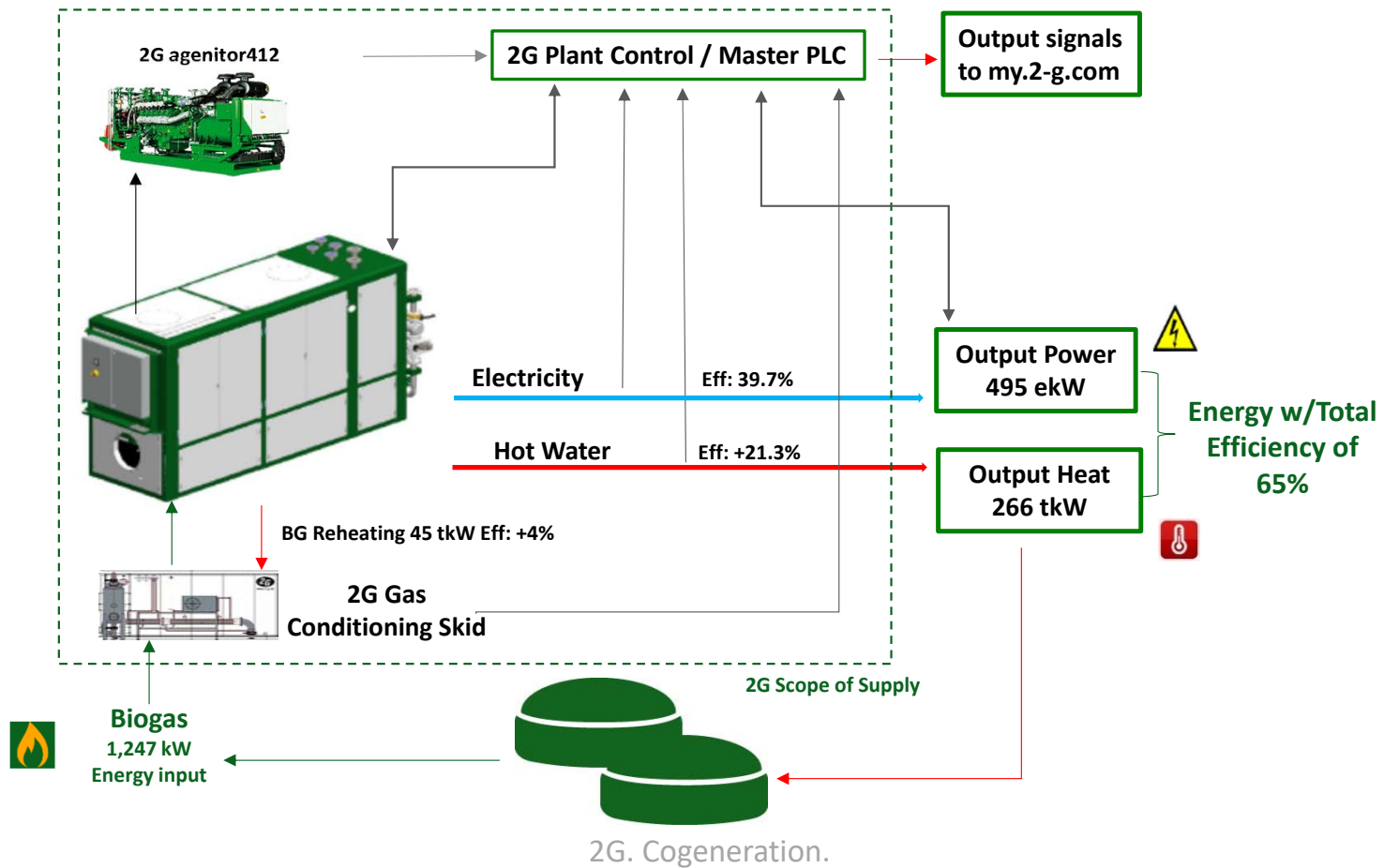
Spring Summer Fall Winter

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Summary  
Temperature  
Clouds  
Precipitation  
Sun  
Moon  
Humidity  
Wind  
Best Time to Visit  
Growing Season  
Solar Energy  
Topography  
Data Sources



# Project Conceptualization for 2G



## 2G's Scope of Supply (Mechanical)

**CHP Solution:** 2G avus500plus BG

**Indoor capsule:**

- 50 dB(A) sound attenuated.
- 2G's forced VFD ventilation system.
- Integrated thermal skid w/customer circuit.

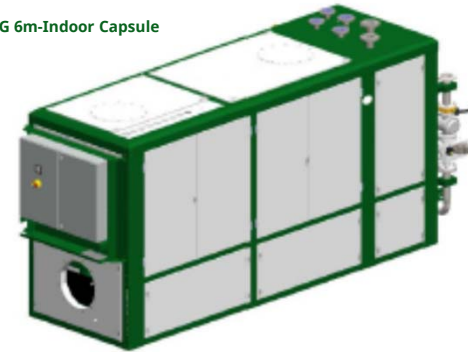


**BoP:**

Table coolers, silencer, fuel train, flanged connections.



2G 6m-Indoor Capsule



2G agenitor412 BG



## 2G's Scope of Supply (Digitalization)

### CHP Control Panel: 2G Plant Control

- Indoor cabinet w/10 in Touch Screen Display.
- PLC with 2G Software for CHP control,
  - Sync to the grid.
  - Net metering, export control.
  - Auxiliaries control.
  - Integrated thermal skid and BG cond. skid.
- Low speed modem for RM and Service via [www.my-2-g.com](http://www.my-2-g.com) for troubleshooting and maintenance schedule.







## 2G's Scope of Supply (Electrical)

### Load Cabinet: 2G

- LV 480 Volts.
- Protection relay (engine and generator).
- Indoor cabinet.
- Motorized circuit-breaker rated at full cap.
- Interconnects to the grid.





## 2G's Scope of Supply (BioGas Cond. Skid)

### Made by 2G

1. Dehumidifier via Chiller.
2. BG Reheating via low temp engine circuit.
3. Biogas blower.
4. All components controlled by our 2G Plant Control panel.

\*Carbon-activated filters supplied by the client.





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## BG-2-Energy Project, QRO



### Project's Benefits for the Client and the Environment

#### Electric power:

495 ekW w/byproduct (25-30% savings)

#### Environment:

Engine destroys 17,000 Ton-CO<sub>2</sub>/yr equivalent CH<sub>4</sub> emissions, while simultaneously avoids 4,200 Ton-CO<sub>2</sub>/yr in electric/thermal emissions.

**Total savings: 45-50%.**





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**Thanks a lot !!!!**