



**We Care for a Better Future.**



# CHP Units for Biogas, Natural Gas & Hydrogen

**2G. Cogeneration.**

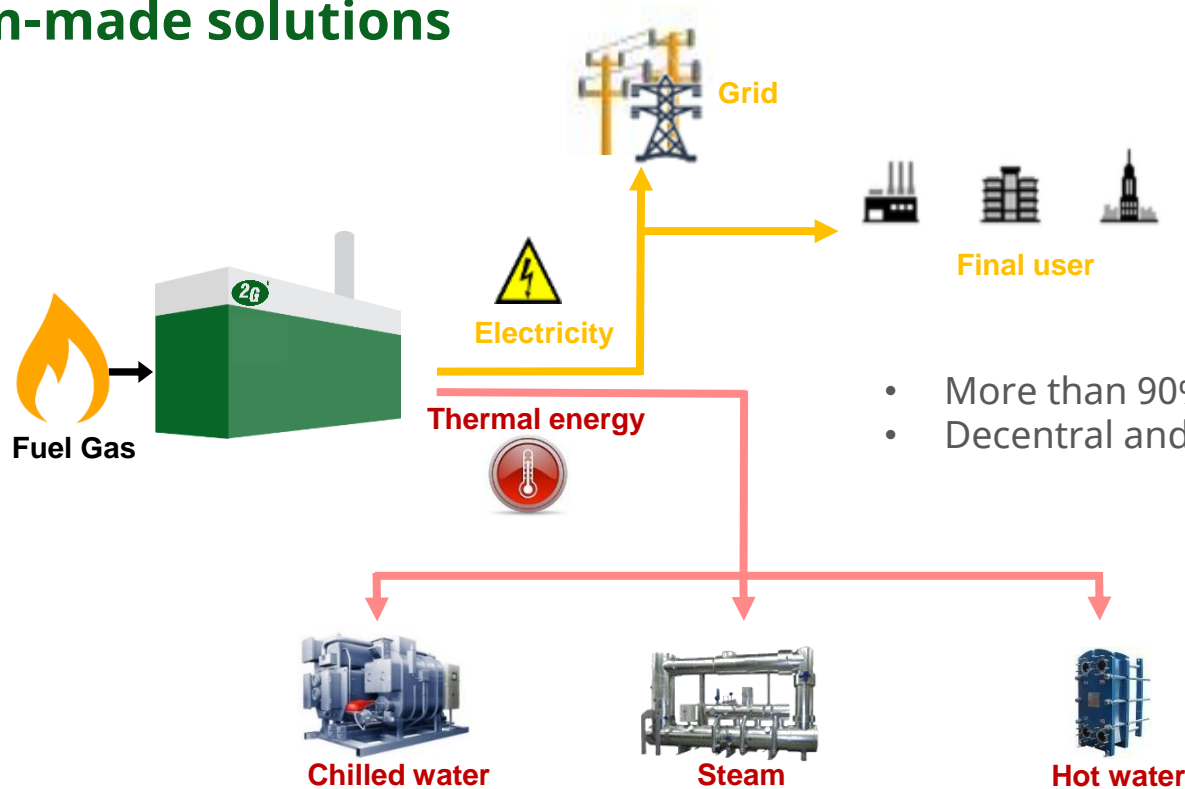
19.11.2021

## Introduction

- Founded 1995 - Headquarters in Heek, Germany
- The company is stock-listed since 2007
- We employ 650+ people, turnover 2020: 250 mio Euros
- We are a Gas Engine cogeneration solution provider, including design, engineering and after sales services
- We build Plants for biogas and natural gas applications
- We already provided 10 Plants for HYDROGEN applications
- We are present in more than 50 countries , 7,000 installations



## Custom-made solutions



- More than 90% total efficiency
- Decentral and highly flexible



## Applications



Schools and universities



Food & Beverage



Industrial companies



Sewage plants



Hospitals



Retirement homes



Hotels



Landfills



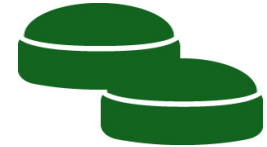
Residential buildings



Swimming pools, sport stadiums




Heating grids



Biogas plants


## 2G Energy AG : your Partner in Cogeneration



**Broad Product  
portfolio:  
20 – 4.000 kW**



**Gas engines with  
max. efficiency &  
reliability**



**Front-Runner in  
Hydrogen solutions**

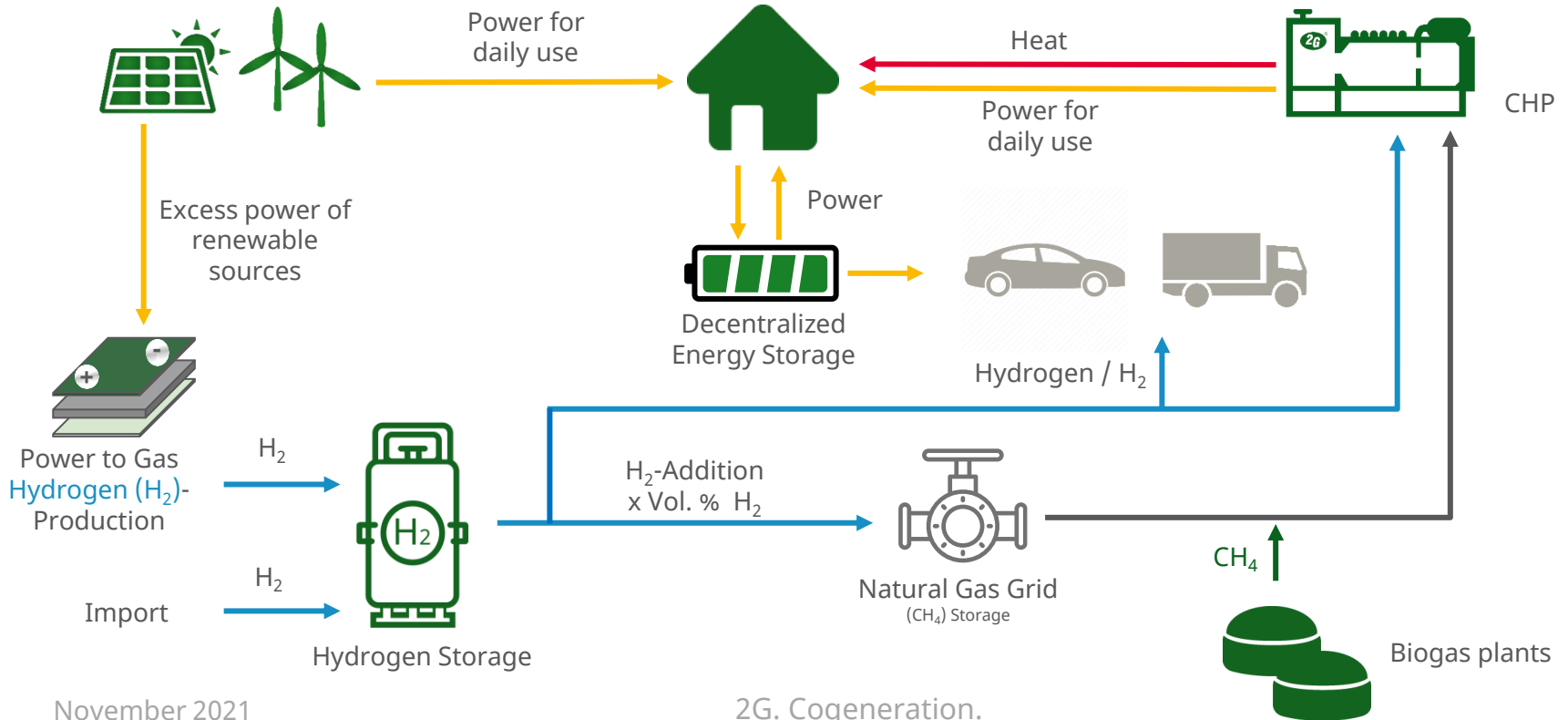


**Strong Service  
network**



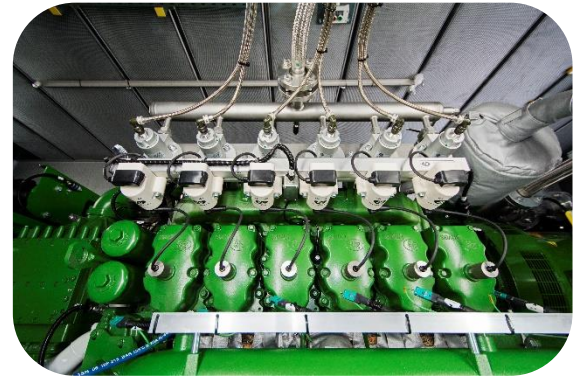
**Providing turn-key  
solutions**

# Power to Gas/Hydrogen



## Hydrogen CHP by 2G

- Gas train for Hydrogen
- Gas injection at each cylinder (multipoint injection)
- Special 2G spark plug & pistons
- Partial load capability from 50 – 100 % nom. load
- Island Operation possible
- Gas Blending possible (NG / H<sub>2</sub>)
- 2G engines can be retrofitted to H<sub>2</sub> in the future:  
We are Hydrogen- READY!!!!!!



## Latest H2 References

**TOTAL hydrogen service station at BERLIN airport / Germany 110 kWel**

**Haßfurt municipal works / Germany 140 kWel**

**Dubai, Sheikh Mohammed bin Rashid Al Maktoum Solar Park at Expo 2020 Center 360 kWel**

**APEX in Rostock / Germany 115 kWel**

**Green hydrogen Esslingen GmbH / Germany 170 kWel**

**Anonymous project / Japan 360kWel**

**Kirkwall Airport / Orkney / UK 115kWel**

**1st commercially operated H2 plant in Japan 360kWel1**





## Dubai, Sheikh Mohammed bin Rashid Al Maktoum Solar Park Expo 2020 Center

- Project with Siemens
- One of world´s largest solar parks
- 1,000 MW solar in 2020 / 5,000 MW solar in 2030
- Large scale combination of PV / CHP
- Electrolyzer transforms PV electricity into hydrogen
- 2G CHP with 360 kWel





## References





Thank you very much for your attention!



**2G Energy AG**

Benzstrasse 3 | 48619 | Heek

Tel: +49 2568 9347-0 | [info@2-g.de](mailto:info@2-g.de) | [www.2-g.com](http://www.2-g.com)