

LEADING THE WAY **CampusEnergy**2022

Feb. 15-18 | Westin Boston Seaport District Hotel | Boston, Mass.



Net-Zero CHP - the key building block to district energy decarbonization

Kurt West


VP of Business Development

2G Energy Inc.

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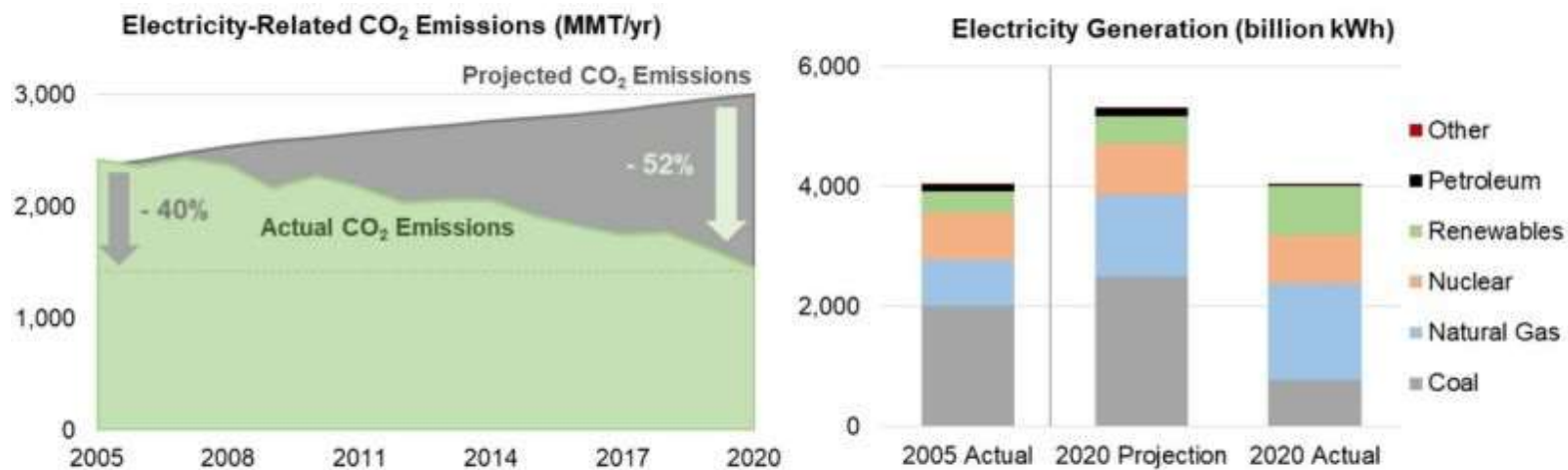
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Halfway there? The low hanging fruit is done.



Source: Berkley Labs

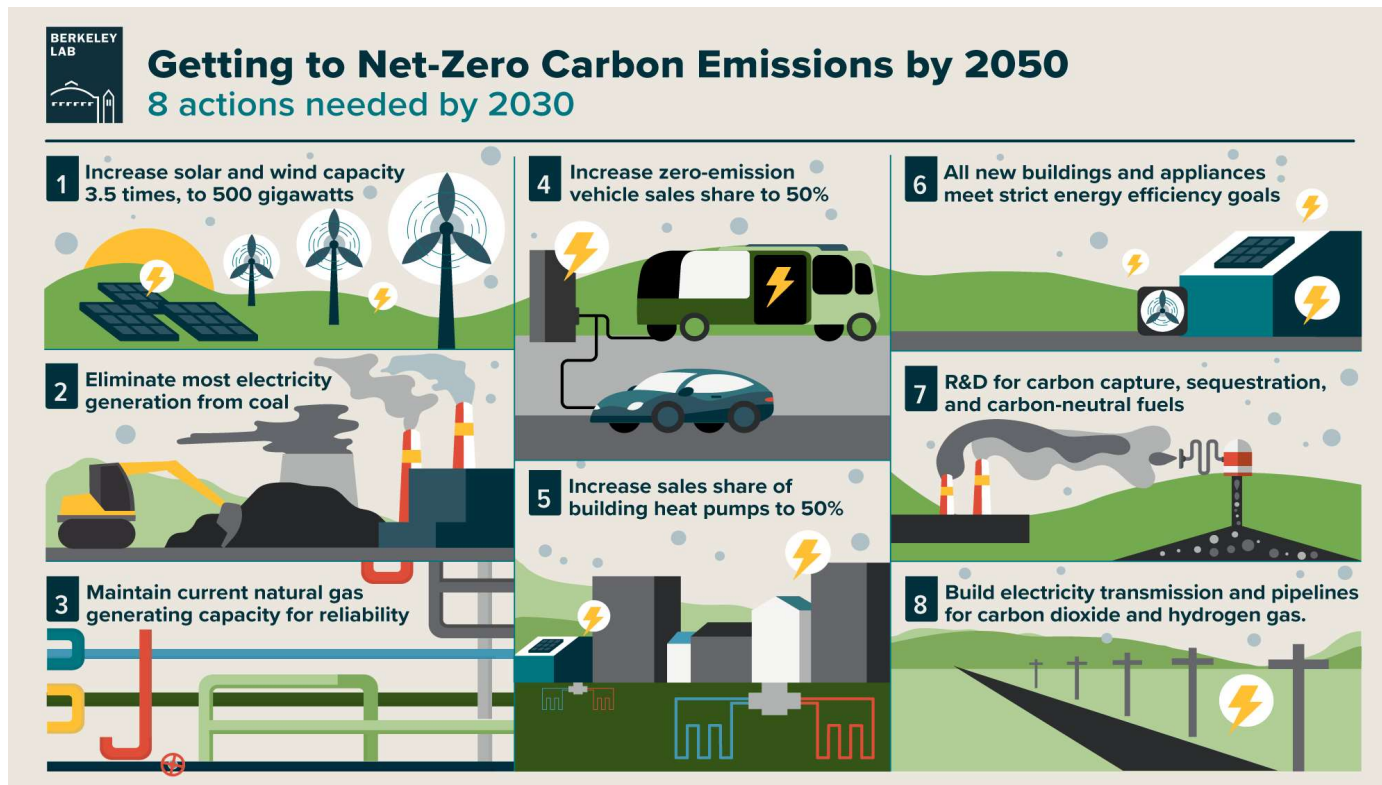
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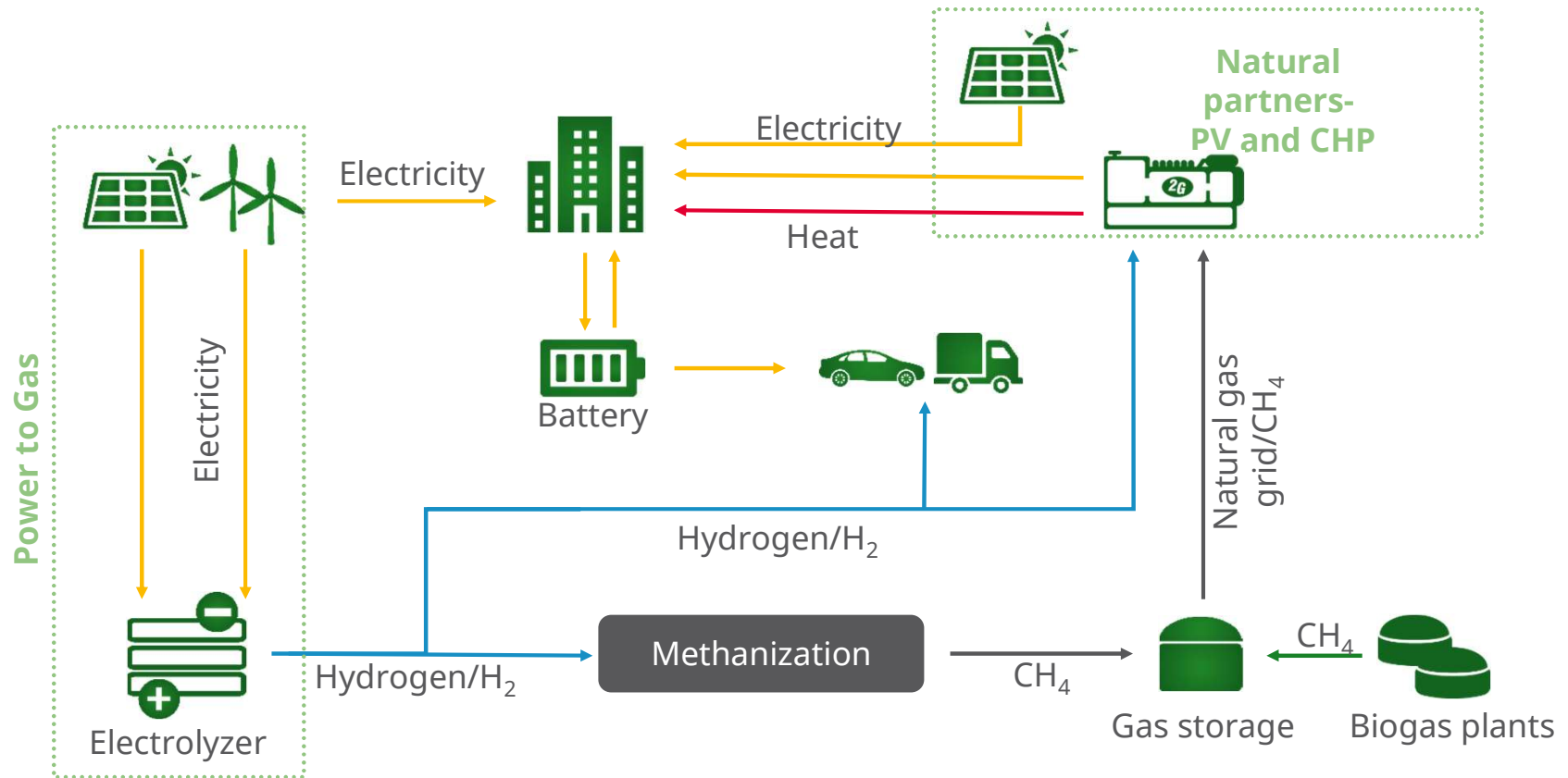


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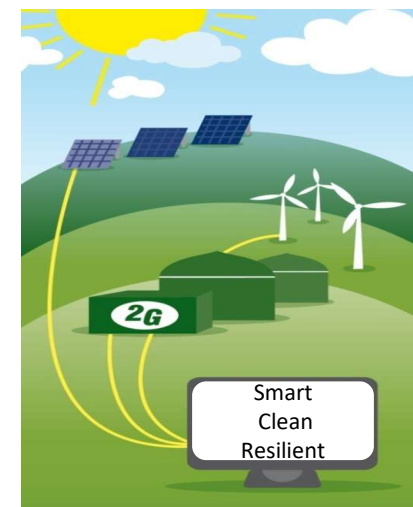
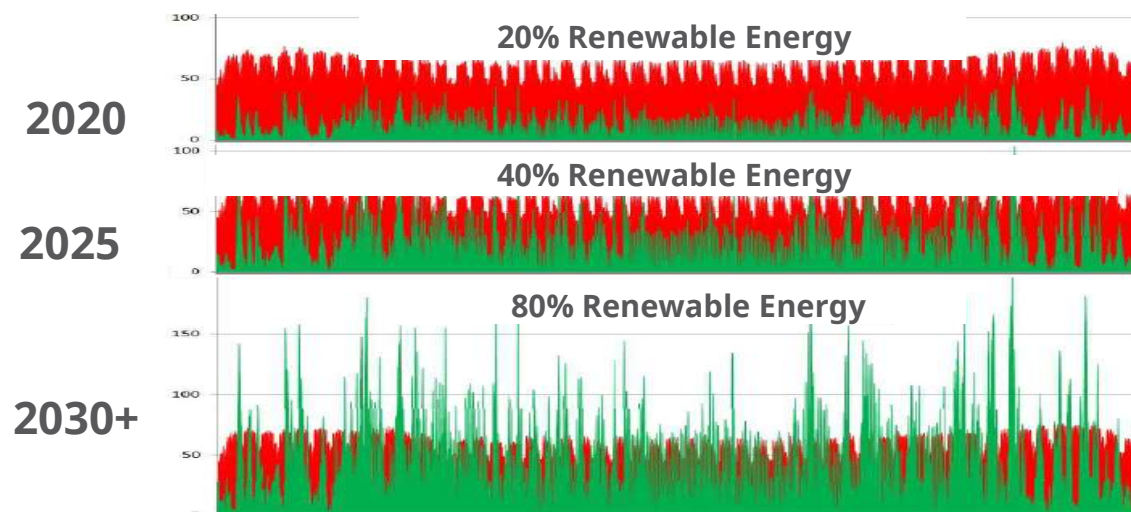
Enabling Net Zero in the USA: How do we get there?



What we can learn from Germany.



CHP is the enabler for more intermittent resources



Balance the Net-Zero Equation faster and with less investment. CHP provides A backbone for more onsite renewables.



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Global leadership in resilient renewable energy

- Founded 1995, and publicly traded.
- 7,500+ CHP systems
- in more than 55 countries worldwide
- **>50% of fleet run on renewable fuels**
- Innovative R&D, finance, and service capabilities
- The world's first commercial 100% H₂ CHP system

*Natural Gas, Digester Gas, Landfill Gas,
Flare Gas, Syngas & Hydrogen*



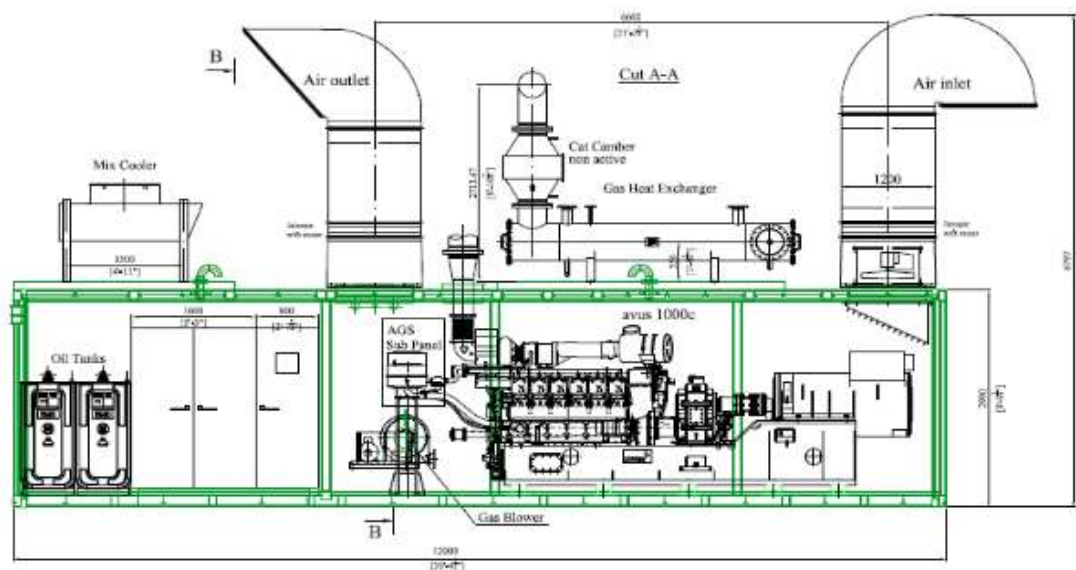
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The 5 Design Considerations for CHP

1. Fuel
2. Electrical
3. Thermal
4. Civil
5. Emissions



No other Technology has a larger range of Carbon Free Options

1. Biogas
2. RNG
3. Syngas
4. Renewable Propane
5. Hydrogen
6. Carbon Capture

2G Product Name:	Power Range:
Aura (Rich)	100 to 1,000 kWe
Agentor(Lean)	100 to 1,000 kWe
Avus (Lean)	550 to 2,500 kWe

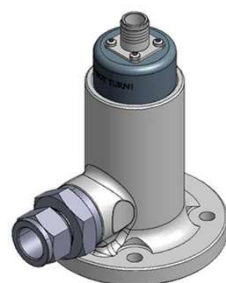


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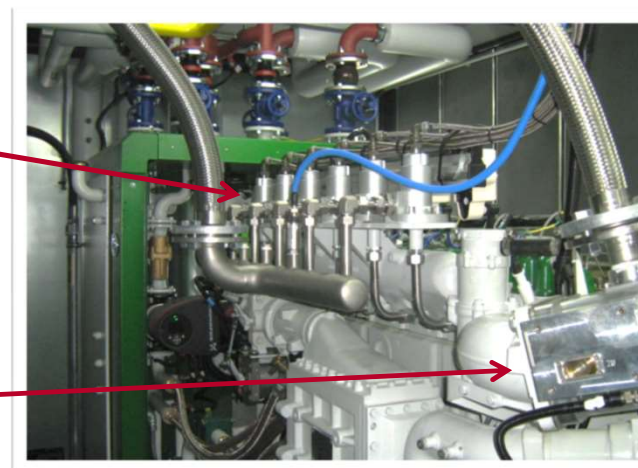
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Fuel Flexibility Minimizes Risk



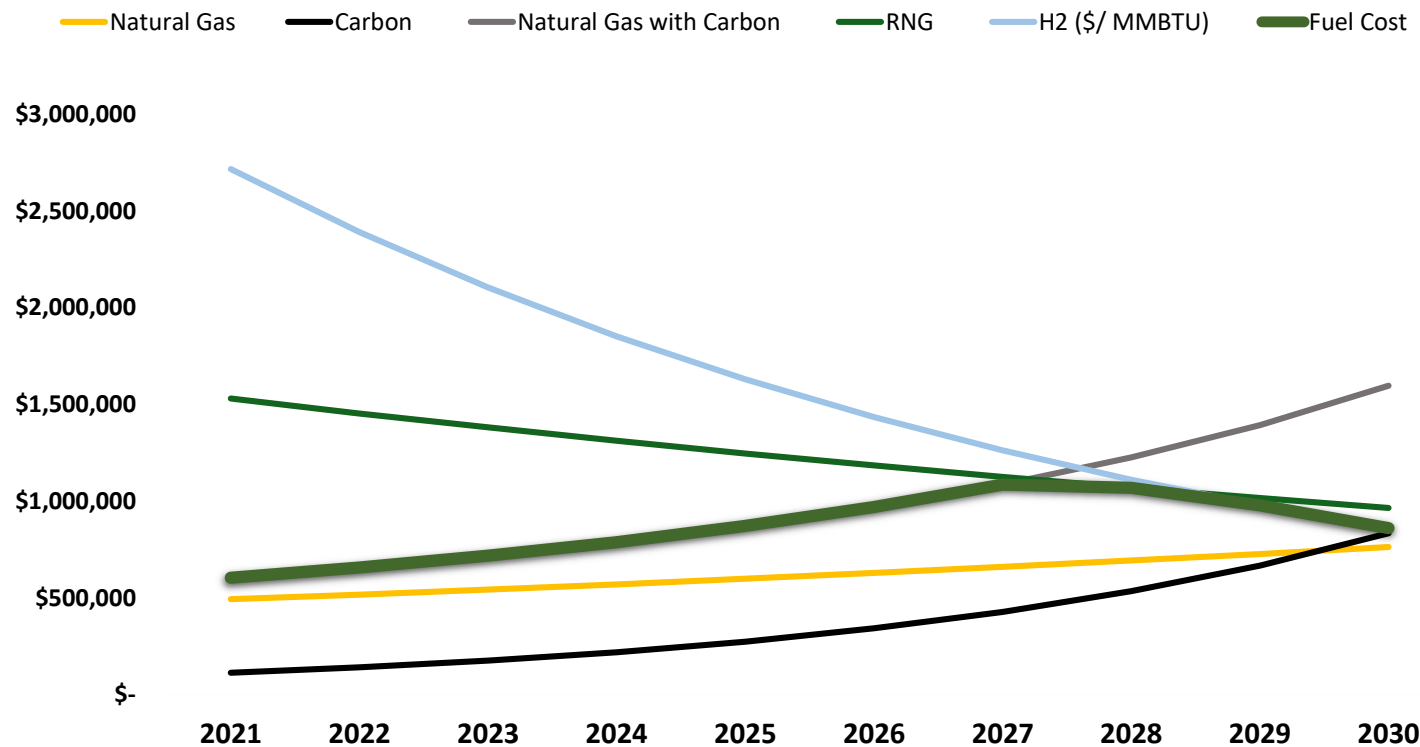
Hydrogen Gas
Injector

Conventional
Gas Mixer



- Simple field retrofit makes 2G Systems future proof
- Full range (0-100%) of carbon free flexibility: H₂, RNG, Syngas or Biogas
- Top efficiencies – Plug and Play- Microgrid Ready

Long term fuel cost/carbon hedge – Lowest Cost – Least Risk



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Community wide carbon Free Resiliency

City quarter deploys zero carbon trigeneration district energy system. Serving:

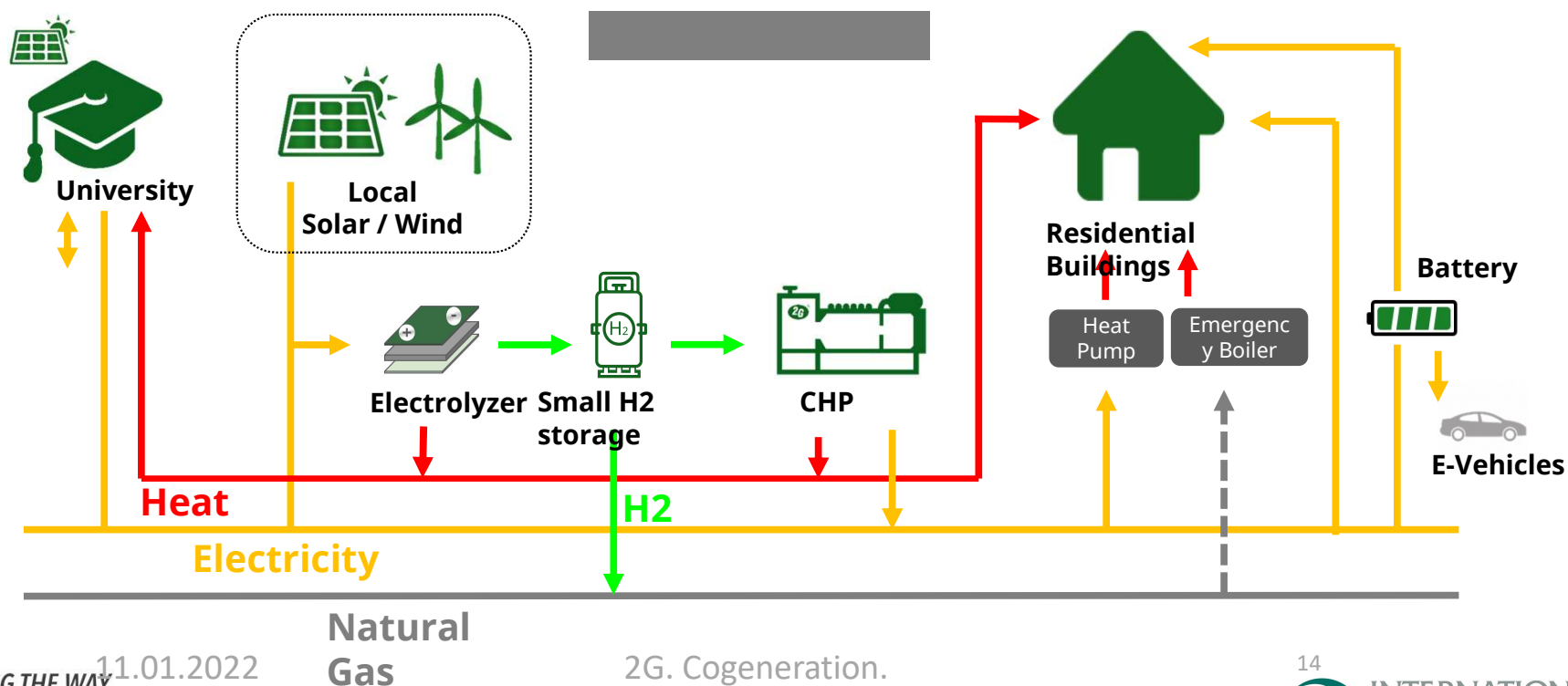
- 500 residential units
- University with 1,800 students
- Office buildings
- Bars and restaurants



There is only one manufacturer whose CHPs offer the right performance and can be operated with 100 percent hydrogen"

- Manuel Thielmann (Green Hydrogen GmbH)

Case Study: City of Esslingen



Green gas grid for decarbonized district energy on remote island

Green hydrogen to decarbonize heat and power at a remote island airport

- 170kWe Hydrogen CHP coupled to airport's existing heating system to meet the building's heating and power requirements
- Doosan Babcock Project EPC and Supported by Scottish Government



Nearly a dozen of these project executed around the globe....

H2 enabled CHP is the Lowest cost/Least risk net-zero technology

- Lowest cost per kWh (low capital, high efficiency)
- Full range of mixtures and widest fuel optionality
- Proven global performance on 0-100% RNG and/or H₂
- Turn up and turn down - start and stop-load follow – black start-island
- Rapid project delivery
- **Guaranteed long-term resilience**





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