We capture hydrogen and make it count!

CYTOK
hydrogen pirates

Energy Factories
the all-rounders

- **EMISSION-FREE**
- **SUSTAINABLE**
- **DECENTRALISED**
- **ECONOMICAL**

CYTOK® energy factories are the all-rounders in the field of sustainable integrated energy of electricity, heat, mobility and chemicals.

They supply residential and commercial areas on a large scale with renewable electricity / heat from wind and solar plants and utilise the surplus of renewable electricity for the production of synthetic fuels (e-fuels) or green chemicals.

The power-to-X technology is internationally patented and the energy factories can be adapted to regional requirements in terms of size and output.

FEATURES

The factory stores:
- oxygen
- methane
- carbon dioxide
- green electricity

The factory produces:
- hydrogen
- LNG
- methanol
- ammonia

BENEFITS

- climate-neutral, local electricity and heat supply
- energy storage in the GWh range
- local utilisation of renewable energies through integrated energy
- regional value creation through decentralisation
- local job creation

The annual production rate of a CYTOK® energy factory based on a 10 MW electrolysis plant is up to:

- **1.340 tonnes of green hydrogen**
- **10.710 tonnes of green oxygen**
- **2.680 tonnes of green LNG**
- **28 GWh usable process heat**
- **7.140 tonnes of green methanol**

***based on 7,500 full load hours**

The scalability of the energy factory starts at 2 MW.

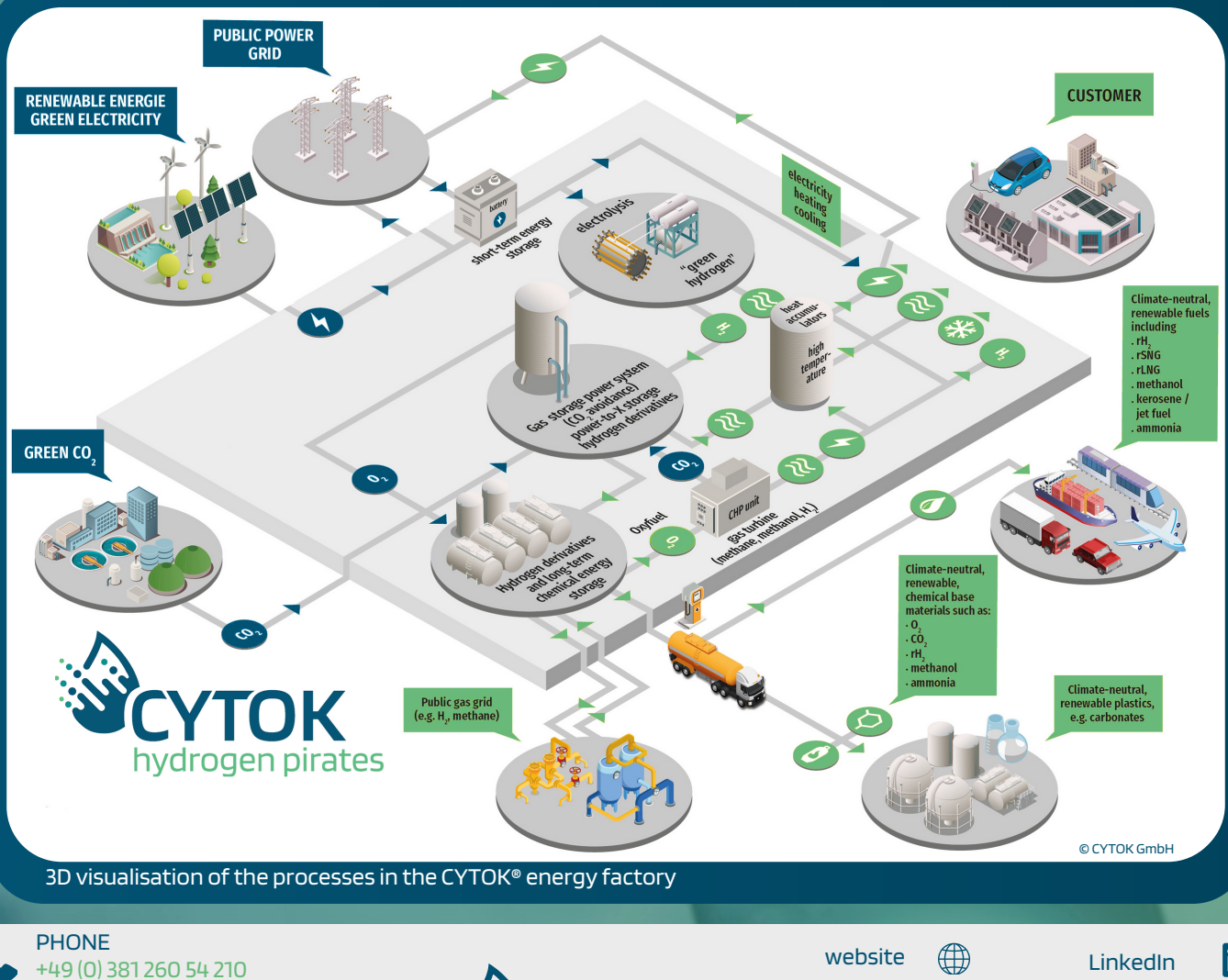
CYTOK® - hydrogen pirates is one of the first companies in the world to realise commercial projects for the decentralised use of renewable energies.

This includes:

- feasibility studies
- transformation concepts
- planning and implementation services
- after sales service

The processes in the energy factory

1. Renewable electricity from wind- and/or large photovoltaic plants is fed into the energy factory.
2. The electricity is used to split water into green hydrogen and oxygen through electrolysis.
3. In a catalytic reactor, the hydrogen is converted with green carbon dioxide into synthetic methane / methanol. Carbon dioxide is used as a carrier for hydrogen.
4. The green methane / methanol can also be used to produce other e-fuels such as dimethyl ether (DME), petrol, diesel or jet fuel.
5. The heat from the energy factory's electrolysis / production processes can be utilised, for example, for feeding into a heating grid.
6. When nitrogen is used as a hydrogen carrier, green ammonia can be produced in the energy factory.



3D visualisation of the processes in the CYTOK® energy factory

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