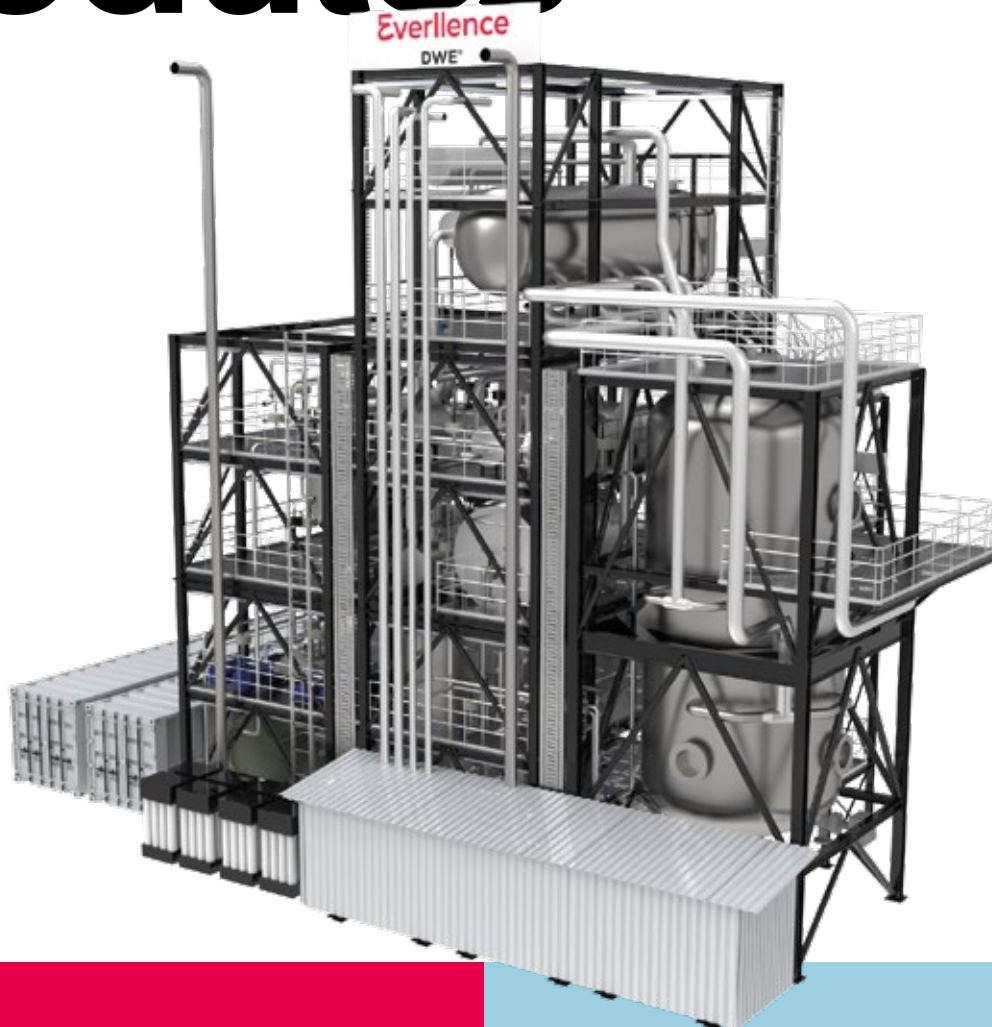


E-methane synthesis modules



Benefits at a glance

- Patented, proven and with all necessary process licenses
- One-stop, integrated package solution (includes hardware and software)
- Guaranteed product quality for grid injection or liquefaction units

Everllence

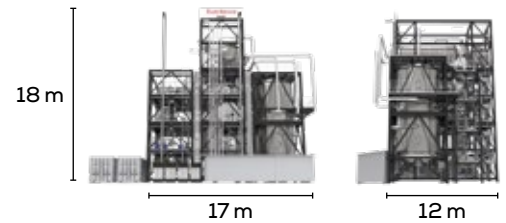
E-methane synthesis modules

DWE® Power-to-Gas (PtG) solutions

Production input / output

	1 MW _{el}	50 MW _{el}	100 MW _{el}	200 MW _{el}
Nominal e-methane production (Nm³/h)	50	2,500	5,000	10,000
CO ₂ input (Nm³/h)	50	2,500	5,000	10,000
H ₂ input (Nm³/h)	200	10,000	20,000	40,000
HP steam outlet (54 barg) (kg/h)	130	6,250	12,500	25,000
LP steam outlet (3 barg) (kg/h)	50	2,500	5,000	10,000
Process pressure (outlet) (barg)	20	20	20	20
Process temperature (°C)	270	270	270	270
Min. / max. load (%)	30 – 100	30 – 100	30 – 100	30 – 100
Ramp rate (%/min)	2.5	2.5	2.5	2.5
Auxiliary power consumption (kW)	100	250	350	400
Max. power consumption (kW)	200	900	1,200	1,600

The specified dimensions apply to 200 MW_{el}. Further information on other dimensions on request.
Last updated September 2025



General

From gas grids to liquefied natural gas (LNG) applications – our Power-to-Gas solutions drive the transition to net-zero. By feeding renewable hydrogen (H₂) and captured CO₂ into our e-methane reactor module, we enable the production of carbon-neutral methane, also known as synthetic natural gas (SNG). This synthesis process yields a climate-friendly energy carrier that can be seamlessly integrated into existing gas infrastructure or stored for long-term use.

Why DWE® e-methane synthesis modules?

We at Everllence are frontrunners in PtG technology with reference projects of up to 6.3 MW and standard design packages for 1/50/100/200 MW_{el}, we can customize your reactor for up to 1,000 MW_{el}. We offer a compact design that allows you to use only one reactor instead of three or more for the same output. By waiving the usual modular approach you profit from economy of scale as well. Additionally our reactor systems do not use rotating equipment which results in minimal electrical consumption and an outstanding lifetime. As the process requires only one pass through a single reactor, no recycling or post-process gas treatment is necessary. The resulting product meets the quality standards for direct injection into gas grids or liquefaction units.

Quality Booster

We offer an optional third reactor stage – the Quality Booster – which increases methane purity from ~95 % to 98 %. This results in a CO₂ residual content of max. 50 ppm(v) in the product, enabling direct liquefaction, or a residual H₂ content of up to 400 ppm(v), which meets U.S. pipeline standards and allows direct grid injection. The enhanced process has been successfully tested and validated.

Applications

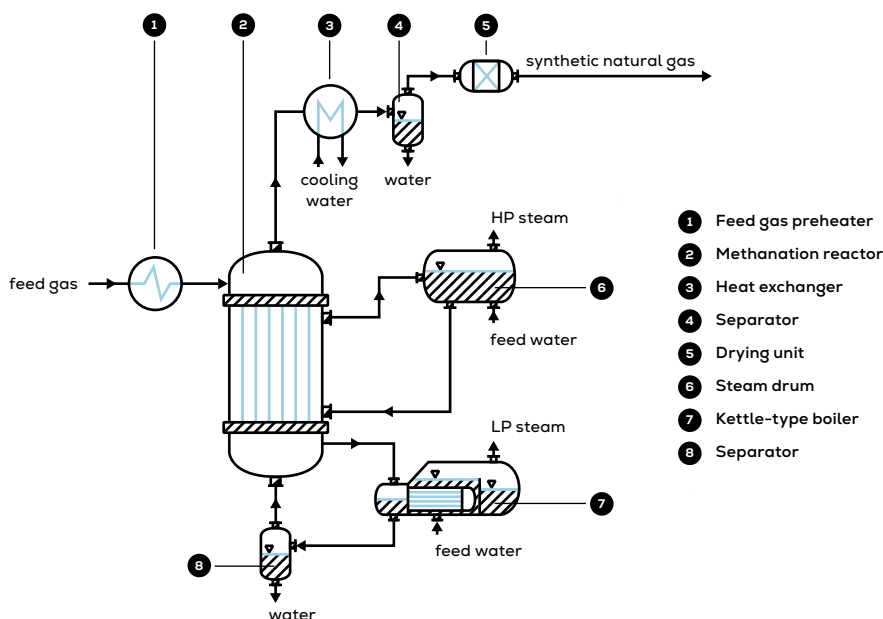
Typical CO₂ sources for e-methane production

- Waste incineration plants
- Biogas upgrading
- Biomass gasification
- Industrial processes (e.g., cement, steel)
- Direct Air Capture (DAC)
- CO₂ pipelines

Direct uses of e-methane

- Injection into existing gas grids
- LNG production
- Power and heat generation
- Fuel for heavy-duty transport
- Maritime fuel

Methane synthesis



Contact

Everllence

94469 Deggendorf, Germany
P + 49 991 381-0
dwe-info@everllence.com
www.everllence.com