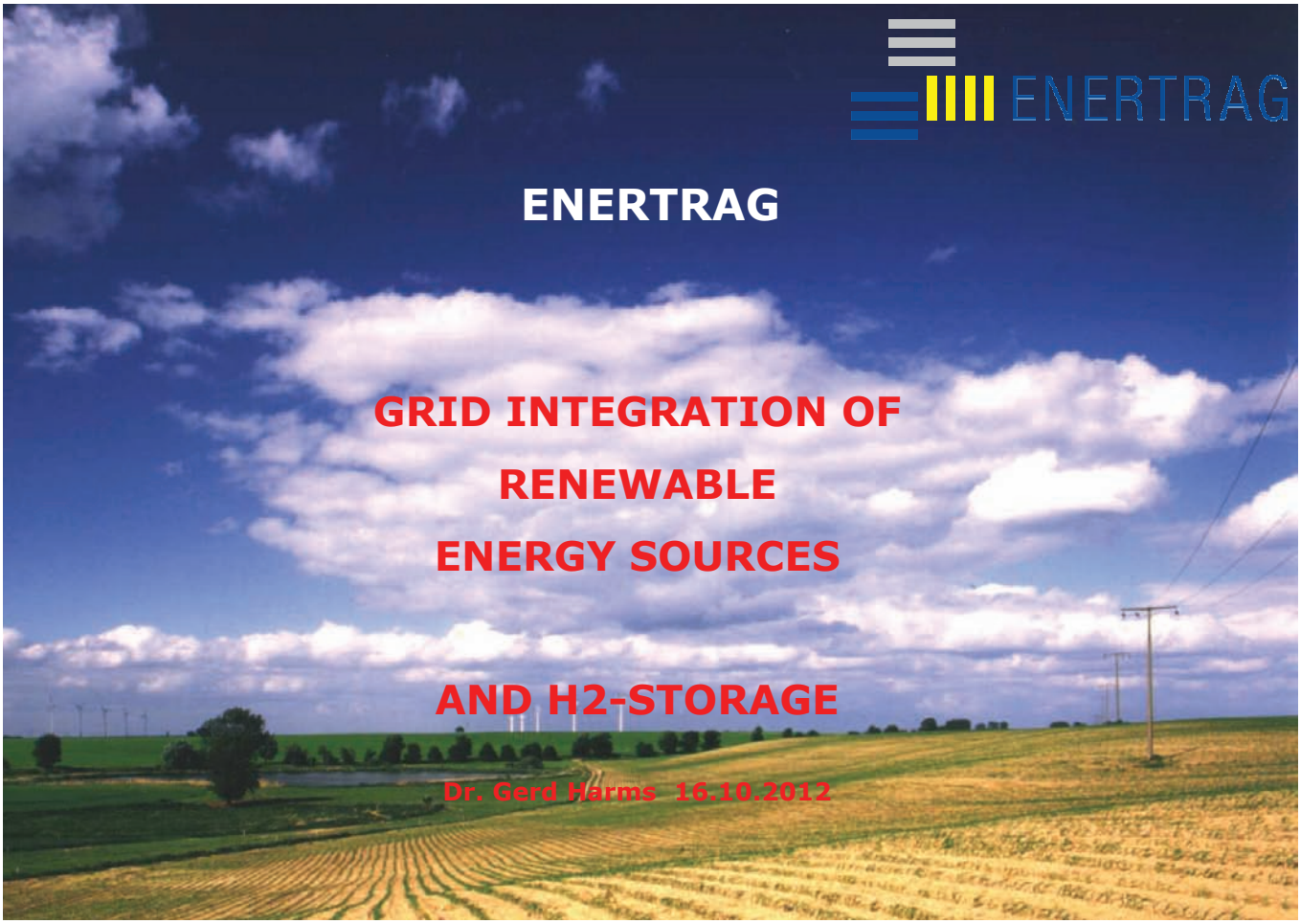


About ENERTRAG

ENERTRAG

over 1.300 million € investment

over 860 MW installed capacity

over 500 erected turbines

over 1.300 turbines under service and maintenance

over 250 million € annual turnover

over 1.9 billion kilowatt hours per year

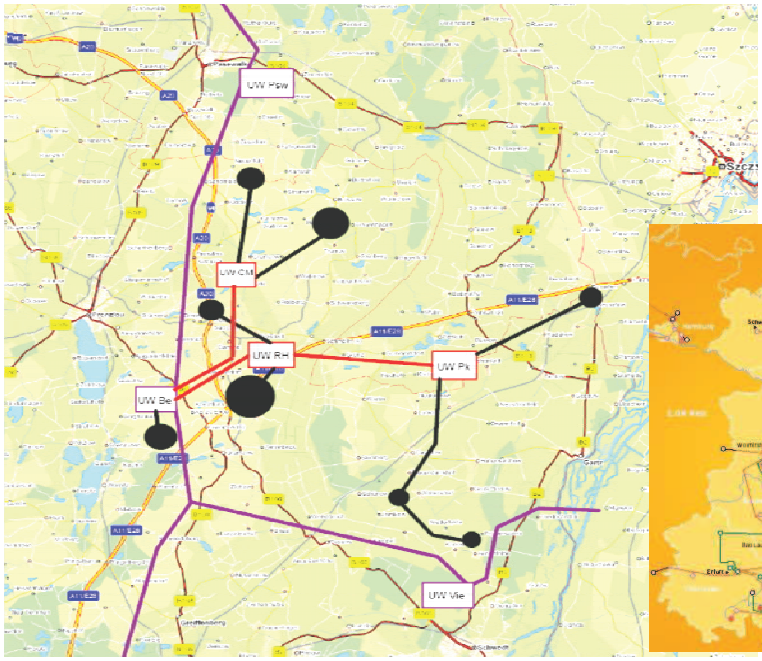
430 employees (140 of them in O&M)

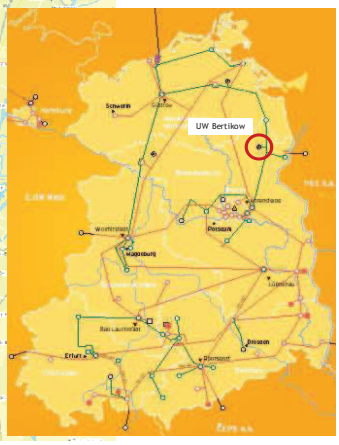
1.
FEED-IN GRID

FEED-IN GRID

ENERTRAG

Example: Virtual Power Plant Uckermark





Energy mix

20 MW Biomass

300 MW Wind Power

Grid:

37 km 110 kV

72 km 20 kV

Temperature Monitoring

Directly connected

to high voltage grid

ENERTRAG

2.
ONLINE MONITORING

Monitoring and Maintenance

ENERTRAG is responsible for the maintenance of over 1,300 wind energy installations.

In addition to daily installation operation, this includes service and inspection as well as preventive maintenance and repairs.

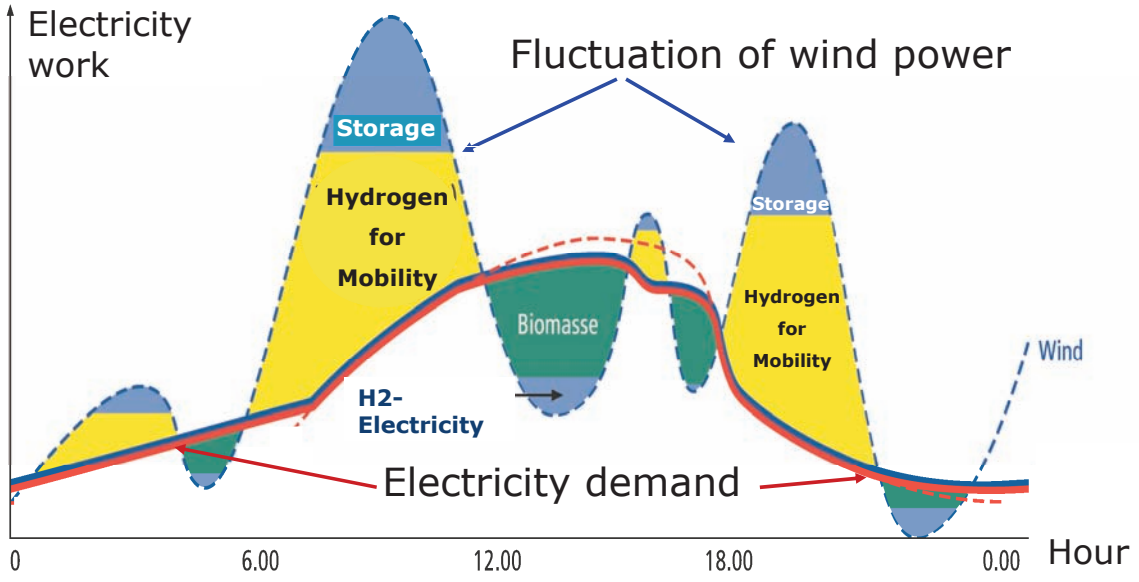
A control centre staffed 24/7 with dispatcher and service managers coordinates all tasks.

170 service technicians ensure a high level of power production.

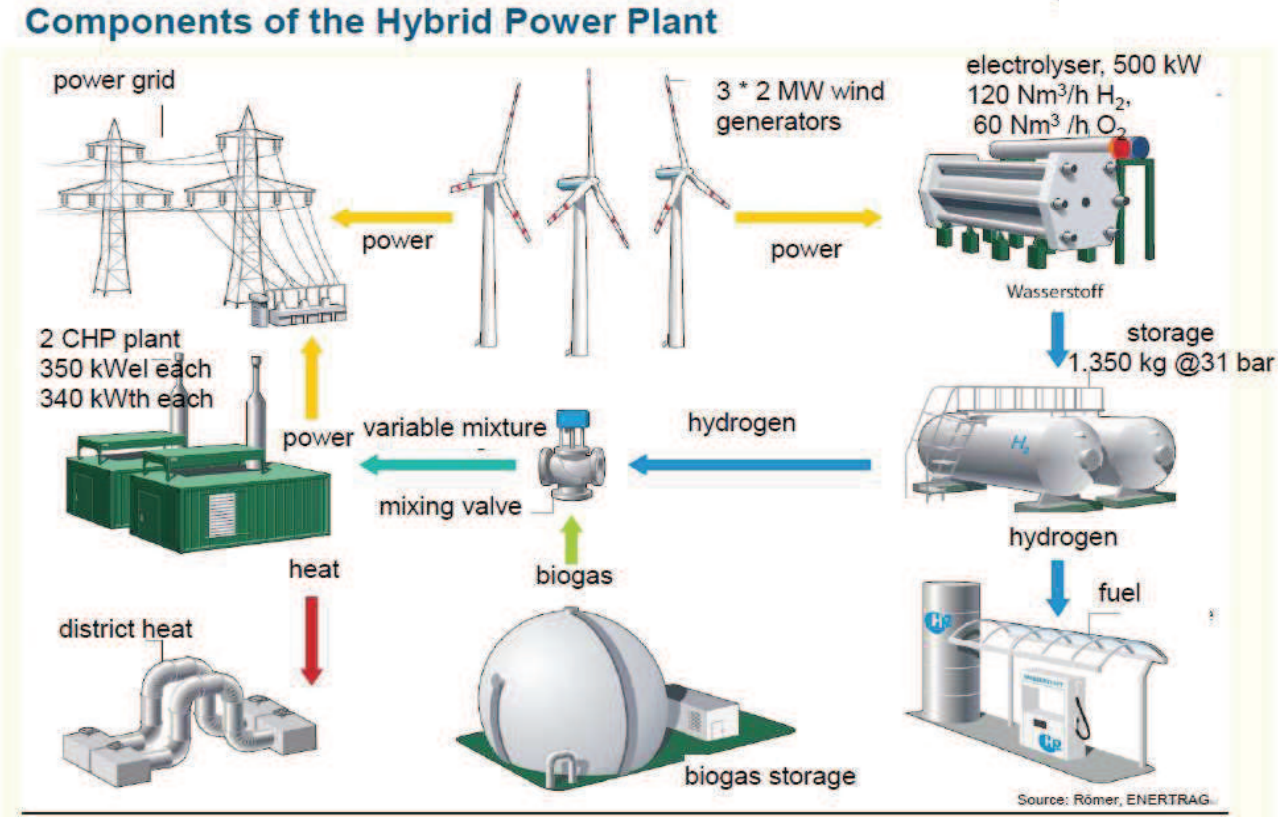
www.enertrag.com

3.
HYBRID POWER PLANT

ENERTRAG Generation Management



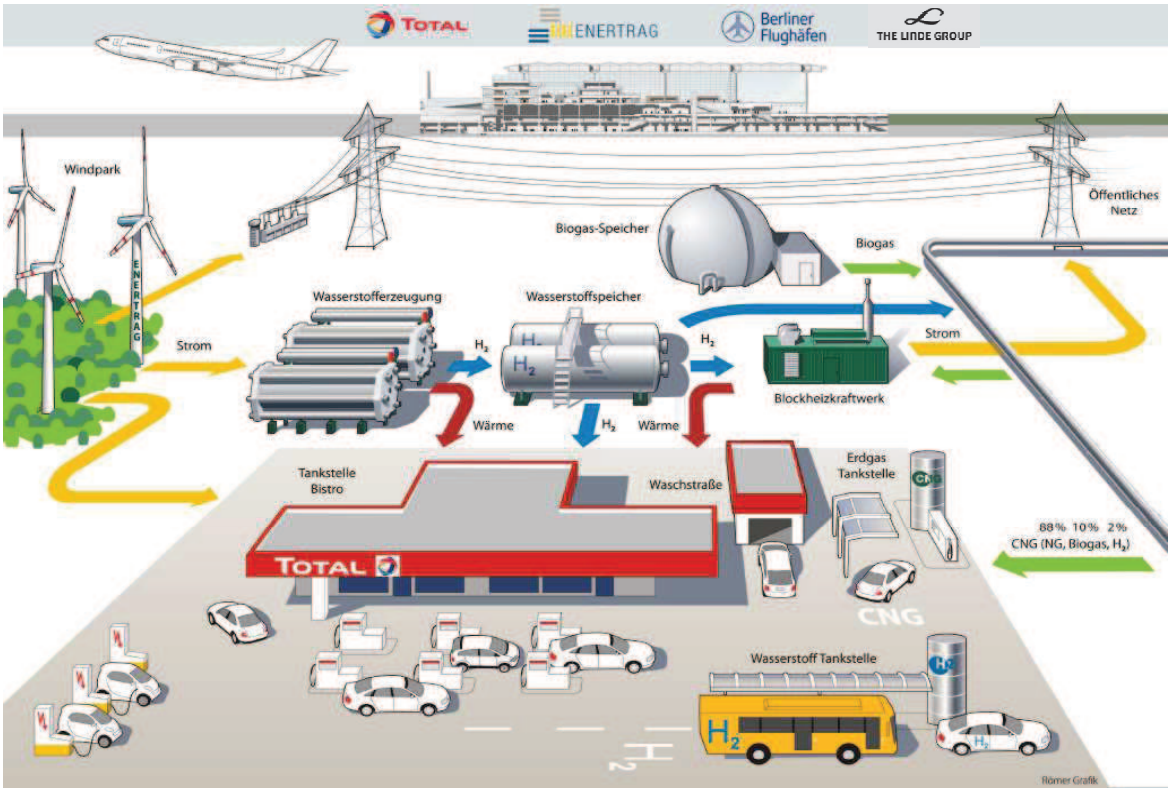
ENERTRAG - Hybrid-Power-Plant



ENERTRAG HYBRID POWER PLANT

11

BER



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4.
STORAGE

Energy Storage

Physical Storage

Pumped Storage Plants
- Limited possibilities
- Short term
- Efficiency appr. 70%
- Energy density 0,7 kWh/m³

Pressure Storage
- Short term
- Efficiency appr. 42%
- Energy density 2,4 kWh/m³

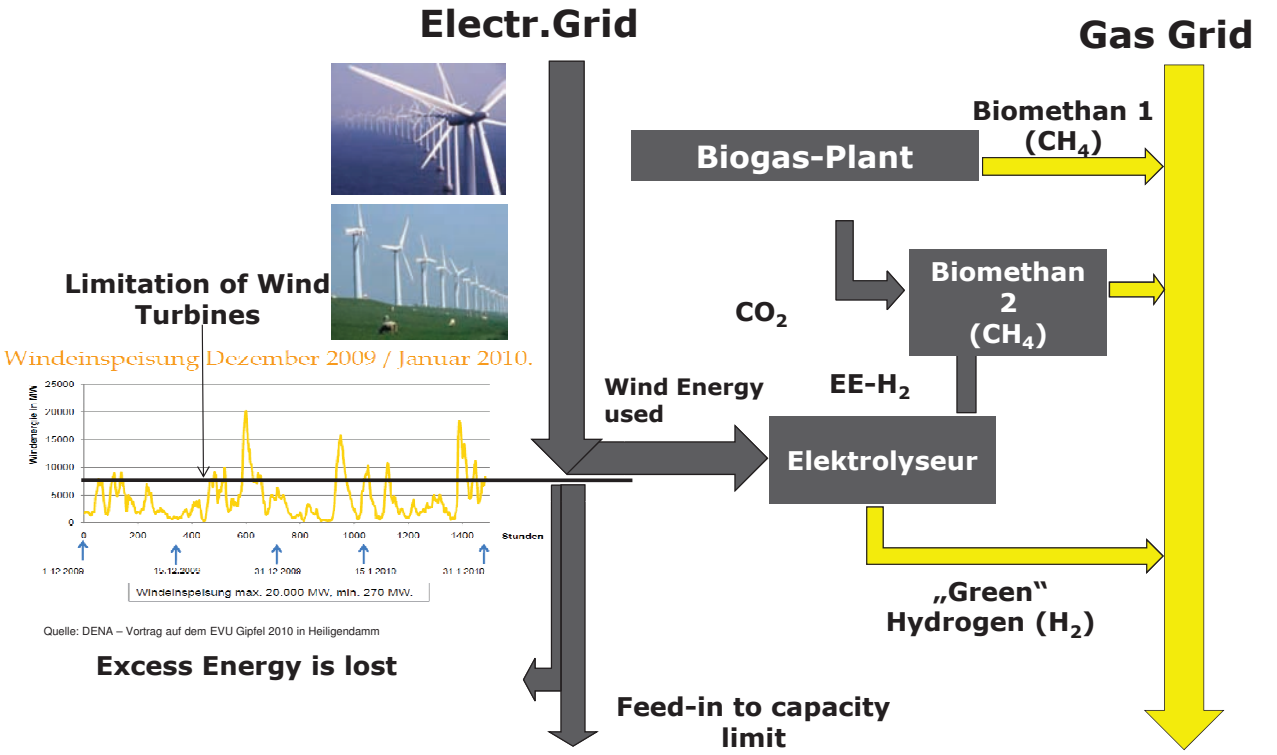
Chemical Storage

Hydrogen Storage (Physical)
- Long term – up to months
- efficiency (el. Power – el. power) up to 50%
- Energy density 170 kWh/m³ / 216 MJ/kg

Batteries
- Short term
- Efficiency appr. 70%
- Energy density appr.1 MJ/kg

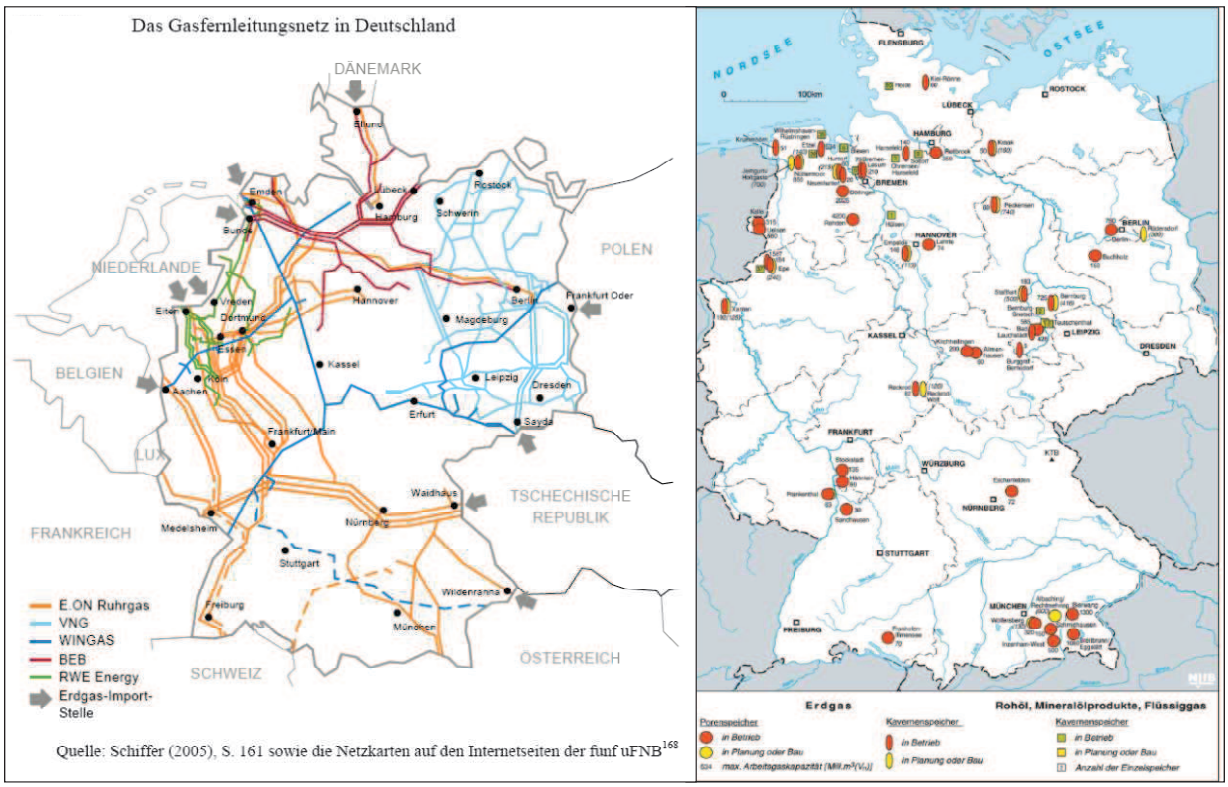
Natural Gas Grid as Storage System

ENERTRAG

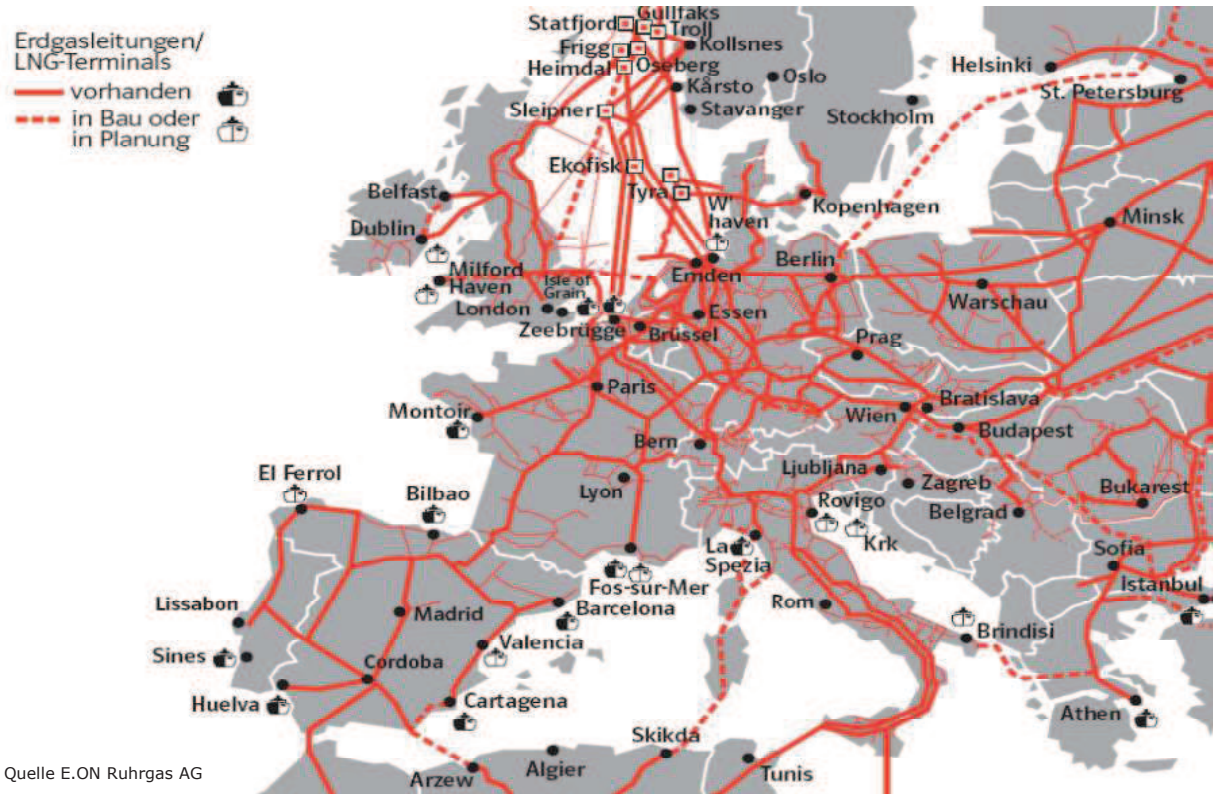


Hydrogen in Natural Gas Grid

ENERTRAG



European Gas Grid Infrastructure



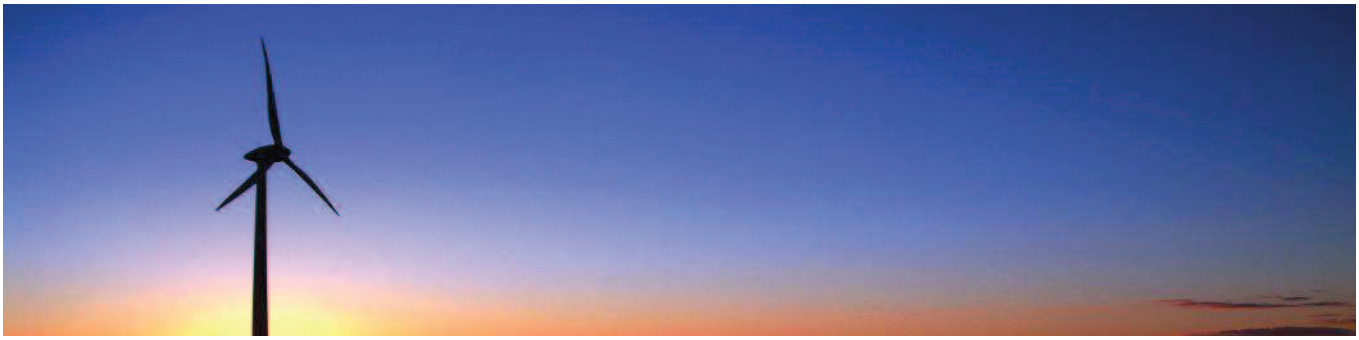
Quelle E.ON Ruhrgas AG

5.
ELECTRICAL POWER
HEAT
MOBILITY

Presented at 2012 3rd IEEE PES ISGT Europe, Berlin, Germany, October 14 -17, 2012

Full Energy Supply – The Integrated Future

ENERTRAG

ENERTRAG

Responsible Energy Industry