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TECHNICAL ASSOCIATION
OF THE EUROPEAN NATURAL GAS INDUSTRY



Smart Grid aspects related to Gas: Main conclusions of the EU Commission Task Force for Smart Grids

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- The 20/20/20 targets
 - A reduction in EU greenhouse gas emission of at least 20% below 1990 levels;
 - 20% of EU energy consumption to come from renewable resources;
 - A 20% reduction in primary energy use compared with projected levels, to be achieved by improving energy efficiency;
- Energy end-use efficiency and energy services (2006/32/EC)
- Promotion of cogeneration (2004/8/EC)
- Renewables Directive (2009/28/EC)
- Third Energy Package (2009/72/EC and 2009/73/EC)
- ...

- Created in 2009

http://ec.europa.eu/energy/gas_electricity/smartgrids/taskforce_en.htm

- The mission of the Task Force Smart Grids is to advise the Commission on policy and regulatory directions at European level
 - Coordinate the first steps towards the implementation of Smart Grids under the provision of the Third Energy Package
- Mandat M/490 to support Smart Grid deployment

- Analyse the benefits, roles and responsibilities for smart gas grids based on the work done in the Task Force on electricity grids
- Smart gas grids should not be developed in isolation but should be linked to electricity, heat and cooling
- Gas smart grids are possible without a complete roll-out of smart gas meters
- Empower consumers to optimize their energy use
- Enable the active participation of the end-users in the energy market
- Provide a user-oriented service

Gas

- Networks store large amounts of energy
- React relatively slowly over time to changes in demand
- m³
- Gas safety issues
- ...

Electricity

- Cannot easily be stored
- Tariffs to manage peak demands
- Networks require real-time responses to changes in demand
- kWh
- Electricity safety issues
- ...

Gas

- Gas appliances are mainly used to provide for basic needs (hot food and minimum comfort temperature)



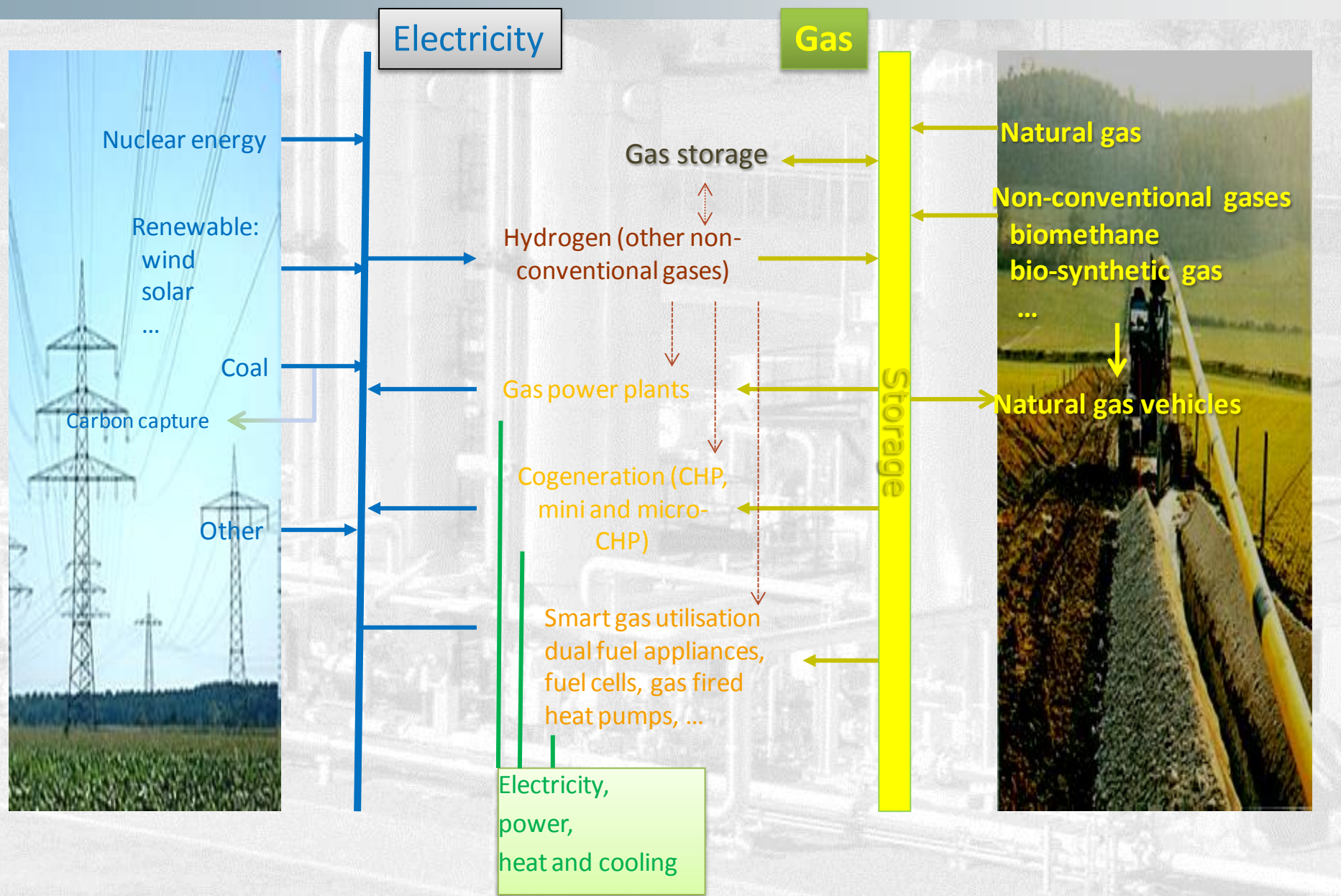
Electricity

- Multiplicity of electrical appliances

1. Flexible grids
2. Acceptance of non-conventional gases
3. Smart gas utilisation
4. Grid operation and safety - management of continuity of supply

(*) EU Commission Task Force for Smart Grids - EG4: Smart Grid aspects related to Gas

Interaction between gas, electricity, heat and cooling



- Gas systems are located in an **increasingly complex environment** with **increased safety consequences** when its integrity is compromised.
 - **Smart** (self) **monitoring** of the system could be a cost effective solution
 - The introduction of new techniques of more '**active**' control of the distribution system (**smart tools**) would lead to
 - a more efficient network and
 - could also improve the integrity of this network
 - e.g. in the field of pressure regulation, traceability, internal pipe inspection, odourisation, and cathodic protection

- Existing mandates and on-going standardisation work
 - Mandate M/475 “biomethane”
 - Mandate M/400 “gas quality”
 - Mandate M/441 “smart meters”
 - Mandate M/490 “ smart electricity grids”
 - ...
- Additional research and/or standardisation work to be considered
 - Technical and safety requirements for pressure regulating and metering stations injecting biomethane and/or other non-conventional gases in the gas networks
 - Low cost and low maintenance gas quality measuring instruments
 - Smart pressure regulators/flow controllers
 - ...

- Define the **responsibilities for gas quality and composition** at a European level
- Promote smart gas utilisation and gas appliances which **accept a wider range of gas compositions**
- Promote NGVs, especially in relation to public transport and commercial / goods vehicles
- Promote cooling with gas, based on absorption
- **Stimulate projects** on smart gas grids at European level (EU FP7/8)
- Stimulate development of bio-synthetic natural gas pilot plants
- Promote **biomethane injection generally**
- Develop a regulatory framework to provide **incentives** for smart grids deployment

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THANK YOU FOR YOUR ATTENTION!