

Congres WaterstofNet – 14 November 2019



HYDROGEN

ENERGY STORAGE

FLUXYS: EUROPEAN MIDSTREAM GAS INFRASTRUCTURE COMPANY



- Present across Europe
- Major gas transit operator
- Fully independent player





SHAPING TOGETHER A BRIGHT ENERGY FUTURE



POTENTIAL FUTURE OPEN-ACCESS HYDROGEN TRANSPORT BACKBONE CONNECTING THE PORT REGIONS IN FLANDERS



GREEN HYDROGEN FLEXIBILITY SOURCE: POWER-TO-GAS



WHAT

WHY



Increase of intermittent renewable energy will make storage the main energy challenge



Gas grid represents the biggest batteries available and enable seasonal storage



Avoid congestion at locations such as arrival of the electric cables coming from off-shore wind parks



Storage Capacity

HYOFFWIND IS KICK STARTING GREEN HYDROGEN IN BELGIUM

> First large scale P2G installation in Belgium

• Collaboration between Parkwind, Eoly (Colruyt group) and Fluxys



- Subsidies for the feasibility study have been granted by the federal Fund for Energy Transition reconomie
- End-markets: mobility, industry, grid injection and ancillary services



POSSIBLE LOCATION ZEEBRUGGE (ENERGY HUB IN BE)



Zeebrugge area : throughput capacity of ~ 57 bcm/y = over 12% of border capacity needed to supply Europe

Nemo link to UK Proximity offshore windparks



HYDROGEN INJECTION IN GAS GRID: NO MAJOR TECHNICAL HURDLES BUT END-USAGE LIMITATIONS

Injection in natural gas grid possible up to 2%vol without any impact





HYDROGEN INJECTION IN GAS GRID: NEED FOR STANDARDIZATION IN EUROPE

> Today 2%vol is largely accepted but not yet official

Ountries in Europe are not aligned, need for standardization to enable cross-border transport



Allowed hydrogen percentage in natural gas per country[vol%]



IN A NUTSHELL

Hydrogen backbone S Today – through blending - existing infrastructure can accommodate substantial flows of hydrogen

In line with evolution of end-users usage:

- Existing infrastructure can be further adjusted accommodating further blending
- As well as new and dedicated infrastructure can be build

> European hydrogen transport will require cross-border legislation and operational rules

Hyoffwind

- Technology is ready although still expensive, P2G can help for integration of high flux of renewable energy into the grid
- Solution Market for green hydrogen is still under development making the business case challenging without additional revenues, therefore a support scheme is necessary to develop power-to-gas



FLUXYS

