Gasification in the Netherlands: a birds eye view

International Seminar on Gasification 2016, Malmö
Greening the gas: a necessity

Joint Declaration

Dublin, 23 April 2015

Green Gas Initiative of European gas transmission operators
Energinet.dk, Fluxys Belgium, Gasunie, GRTgaz, Swedegas, Gaznat and ONTRAS

“We aim to establish a 100% CO2-neutral gas supply by 2050”
Greening the gas: the Dutch case

- Gas Demand
- Current Production (Digestion)
- Estimated Potential Biogas (Digestion) in 2030

* Source: Routekaart Groen Gas
Greasing the gas: the next step

DIGESTION
a biological process which needs **efficiency**

GASIFICATION
a thermal process which needs **innovation/upscaling**
Innovation/scaling up is crucial

- Need to make gasification technology “bankable” (TRL 9)
- Current projects: TRL 5-8
- **Upscaling and successful projects are necessary**
- **Financing is key**

2020-2025 Market Development

2025-2030 Commercial Phase

Now-2020 Innovation and scaling up technology
Financing: public vs private capital

Valley of Death

Private Funding Possibilities
Public Funding Possibilities

Lab phase | Pilot phase | Demo phase | Commercial phase
--|--|--|--
CAPEX
Developments in the Netherlands: Ambigo

4 MW installation demonstrating the biomass to SNG process in Alkmaar is planned to be constructed in 2017.
Developments in the Netherlands: SCW Systems

2 MW installation demonstrating the wet biomass to SNG process in Alkmaar is planned to be constructed in 2017, scale up to 20 MW after successful demonstration.
Developments in the Netherlands: Torrgas

0.7 MW demo installation is now being tested. 10 MW plant in Delfzijl is planned for construction in 2018.
Developments in the Netherlands: Investa

Expertise Centre for Thermochemical Conversion of Biomass in Alkmaar, the Netherlands. Currently in development. Ambigo and SCW will be the first users.
Concluding remarks

- Gasification is necessary in a CO neutral gas supply
- Scaling up/innovation is crucial, financing is an issue
- Be aware of the valley of death
- Private parties and governments need to find financing models for the pre market phase
- The Netherlands are preparing for the next step
- **Time to act!**
Thanks for your attention