entsog
european network
of transmission system operators
for gas

18 February 2019

SESSION 1 – The role of gas in an increasingly electrified world

FSR, GIE, Eurogas Policy Workshop:
Gas as an integral part of the EU decarbonisation strategy

Brussels, 18 February 2019

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Image Courtesy of Thyssengas

Rationale

The future European energy system in this regard is clear: it is one of a dual or hybrid model based first and foremost on electricity from renewable sources but sustained and complemented by renewable and decarbonised gas"

- ***Klaus Dieter Borchardt, Director at DG Energy***

Biogas

Hydrogen

Power to gas

- ***Huge potential for renewable and decarbonised gases to support the energy transition.***
- ***Renewable/decarbonised gases will ease up some of the transition challenges, will be less expensive and will speed up the transition to meet our climate goals.***
- ***ENTSOG and our Members are working to make the European infrastructure ready for the variety of gases - together with partners across the value chain as well as governments and EU institutions.***

Some quantification of the gas potentials

Cost efficiency with green gases vs. full electrification in studies:

- ***Pöyry 2018 Decarbonisation Study estimates 94 B€/y savings for EU***
- ***Ecofys 2018 "Gas for Climate" study estimates 138 B€/y savings for EU***
- ***DENA-Leitstudie (pilot study) estimated up to 600B€ savings for Germany up to 2050***

The energy transition will require significant investment, but the Hybrid Energy System, supported by sector coupling and sectorial integration, can lessen the burden

European-wide exchange and storage of renewable energies via the gas infrastructure

1 000 GW
cross-border capacities
>100% of EU demand

270 GW
EU wind & solar capacity

1 100 TWh
EU Gas storage capacity

372 TWh
EU wind & solar generation 2016

Gas cross-border transmission capacity equals more than 3x current wind/solar capacity

Gas storage equals 3x annual energy production from current variable e-RES

Feedback received from stakeholders

Quotes from ENTSOG Annual Conference 2018

"Sector coupling is absolutely crucial for wind energy."

Giles Dickson, WindEurope

"Some industrial sectors will not be able to be directly electrified … we will have to develop clean gas - hydrogen, P2G, & biogas."

Marion Labatut, Eurelectric

"You won't store energy for seasonal setting by electrons. There should be molecules used for storage."

Ben Voorhorst,TenneT

Further exploration up to 2050 on P2G has to start now

Bente Hagem, ENTSO-E

We are preparing

TSOs are already investing in projects to prepare for this future.

Technology

ENTSOG Members are developing new and innovative technologies to offer sustainable solutions for the gas sector. These technologies focus on infrastructure optimization, digital solutions and supporting decarbonization of the EU gas system.

Regulation & Business Models

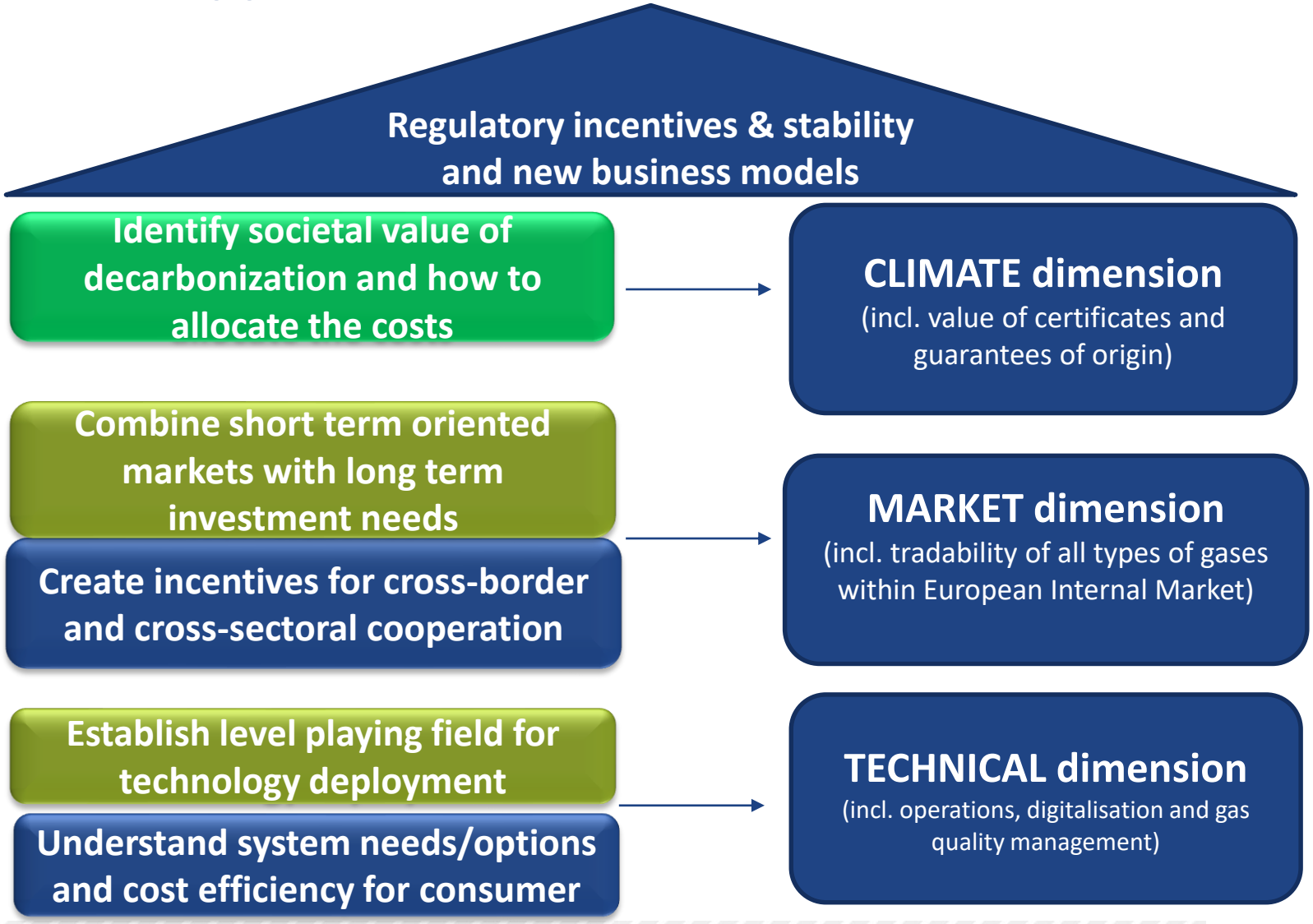
The energy transition will both inspire new business models and require new regulations. Our Members are developing the new products and services which foster the uptake of renewable and decarbonised gas.

Partnerships

Transitioning the gas sector will require cooperation at every step of the value chain. Our Members are already working with partners on projects which offer sustainable solutions for the gas sector and the whole EU economy.

More information on ENTSOG Members' activities at Innovative Projects Platform
https://www.entsog.eu/members-activity

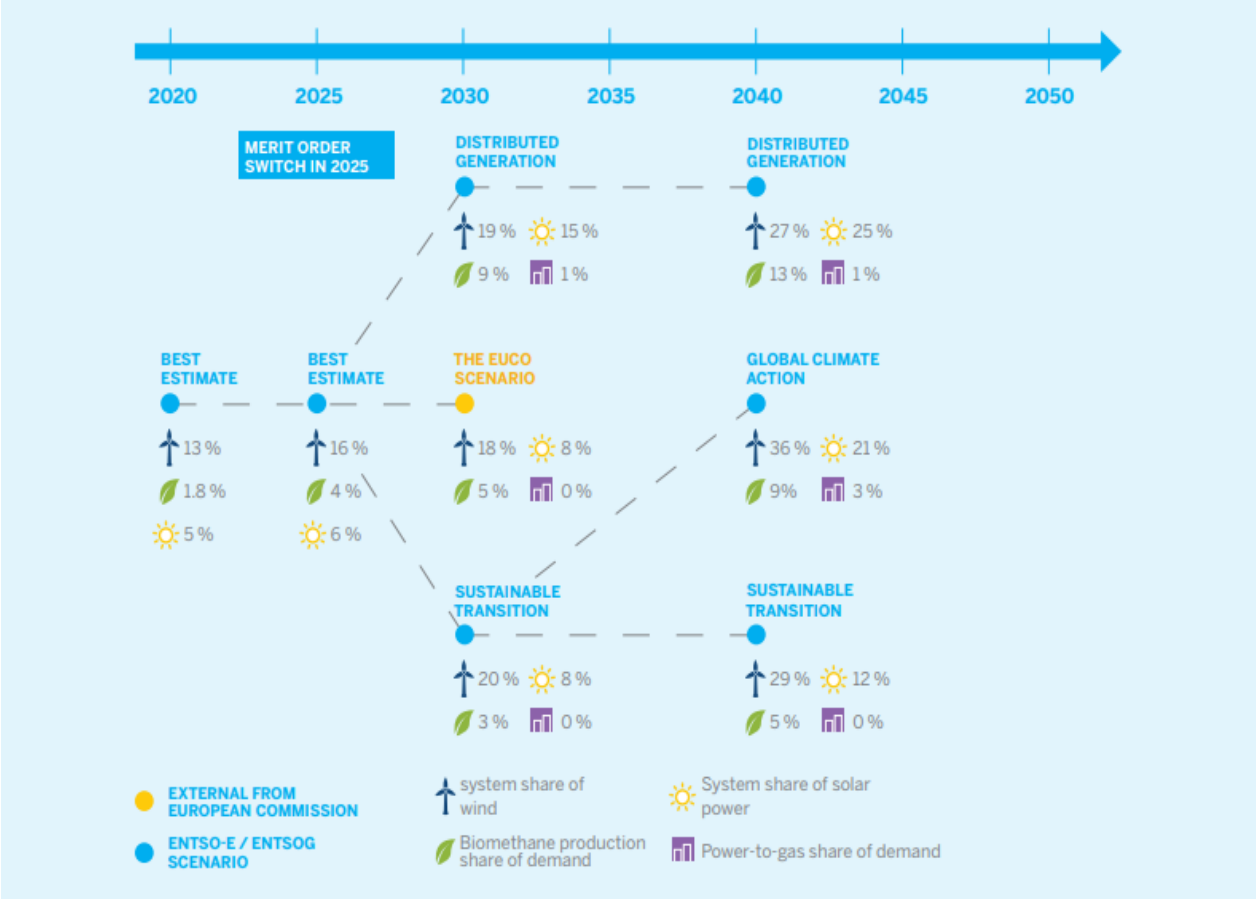
ENTSOG approach to decarbonized future



Planning for a Hybrid System

With a view of the energy system from the highest levels, ENTSOG and ENTSO-E are uniquely placed to enable sector coupling.

We are actively collaborating to ensure our gas and electricity transportation networks complement each other, today and into the future



TYNDP process, study on interlinked model, estimation of eRES and gRES potentials

ENTSOG will work for:

CLIMATE dimension
(incl. value of certificates and guarantees of origin)

Decarbonisation of gas sector and of industry enabling delivery of renewable and decarbonised gas to industrial centres across Europe.

MARKET dimension
(incl. tradability of all types of gases within European Internal Market)

A well functioning, internal energy market – with appropriate decarbonisation incentives - is an important tool for decarbonising Europe as efficient and as quick as possible.

TECHNICAL dimension
(incl. operations, digitalisation and gas quality management)

Gas grids will play a crucial role in a decarbonized economy, working for Hybrid Energy System of electricity and gas fueling other sectors

Roadmap for all three dimensions under preparation together with stakeholders

ENTSOG Messages for Gas Package 2020

BUILD ON SYNERGIES

- ***Political acceptance/support at EU and MS level for a hybrid energy carrier system - utilizing electricity and gas assets efficiently and obtaining improved flexibility and security of supply***
- ***Improve sector integration between electricity and gas, also including transport and heat***
- ***Obtain better regulatory coordination between electricity and gas on both EU and MS level***
- ***Ensure level playing field for green energy technologies, including green gas support schemes***

INNOVATE WITH GAS

- ***Promote and support innovation on decarbonizing the gas sector***
- ***Establish consistent terminology for renewable/decarbonised/climate-neutral gases***
- ***Establish EU-wide green gas certification for trustworthy tracking and efficient cross-border trading of green gases***
- ***Incentivize TSO product/service innovation - meeting the needs to decarbonize EU energy system***
- ***Clarify role of grid operators in facilitating decarbonizing of EU energy system – including scaling up R&D/pilot projects, investing & operating P2G biogas facilities etc.***
- ***Establish risk-reward scheme for gas-related innovation ensuring sufficient investments/R&D***

ENTSOG will contribute actively and constructively to the Gas Package 2020 process

Thank You for Your Attention

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