entsog
european network of transmission system operators for gas

London – 16 May 2018
MAR0118_19

What is happening in the EU?

Future of Gas Forum

Malcolm Arthur
Business Area Manager – Market

Image Courtesy of Thyssengas

ENTSOG overview

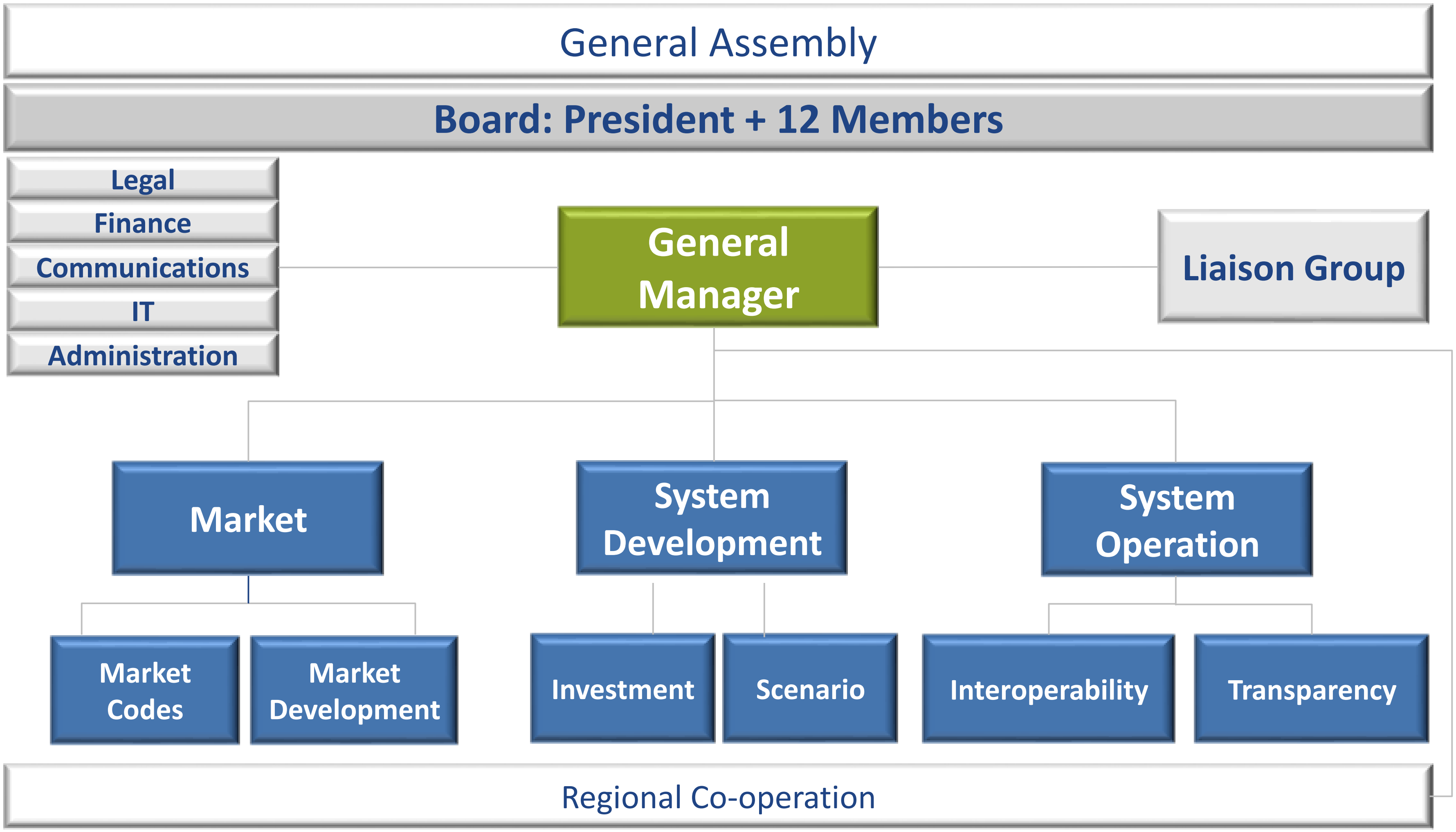
ENTSOG MEMBERS

ENTSOG was created on 1 Dec 2009. There are:
44 Members and **3 associated members**

8 Observers from EU affiliate countries:

Albgaz (Albania)
BH-Gas Ltd. Sarajevo (Bosnia and Herzegovina)
GA-MA AD (FYROM)
Erdgas Ostschweiz AG (Switzerland)
Gassco AS (Norway)
Swissgas AS (Switzerland)
Ukrtransgaz (Ukraine)
Moldovatransgaz (Moldova)

ENTSOG organisation



All the Brussels' staff members can be found on the ENTSOG website

Where are we now?

EU Network Codes

Phases of Network Code Development

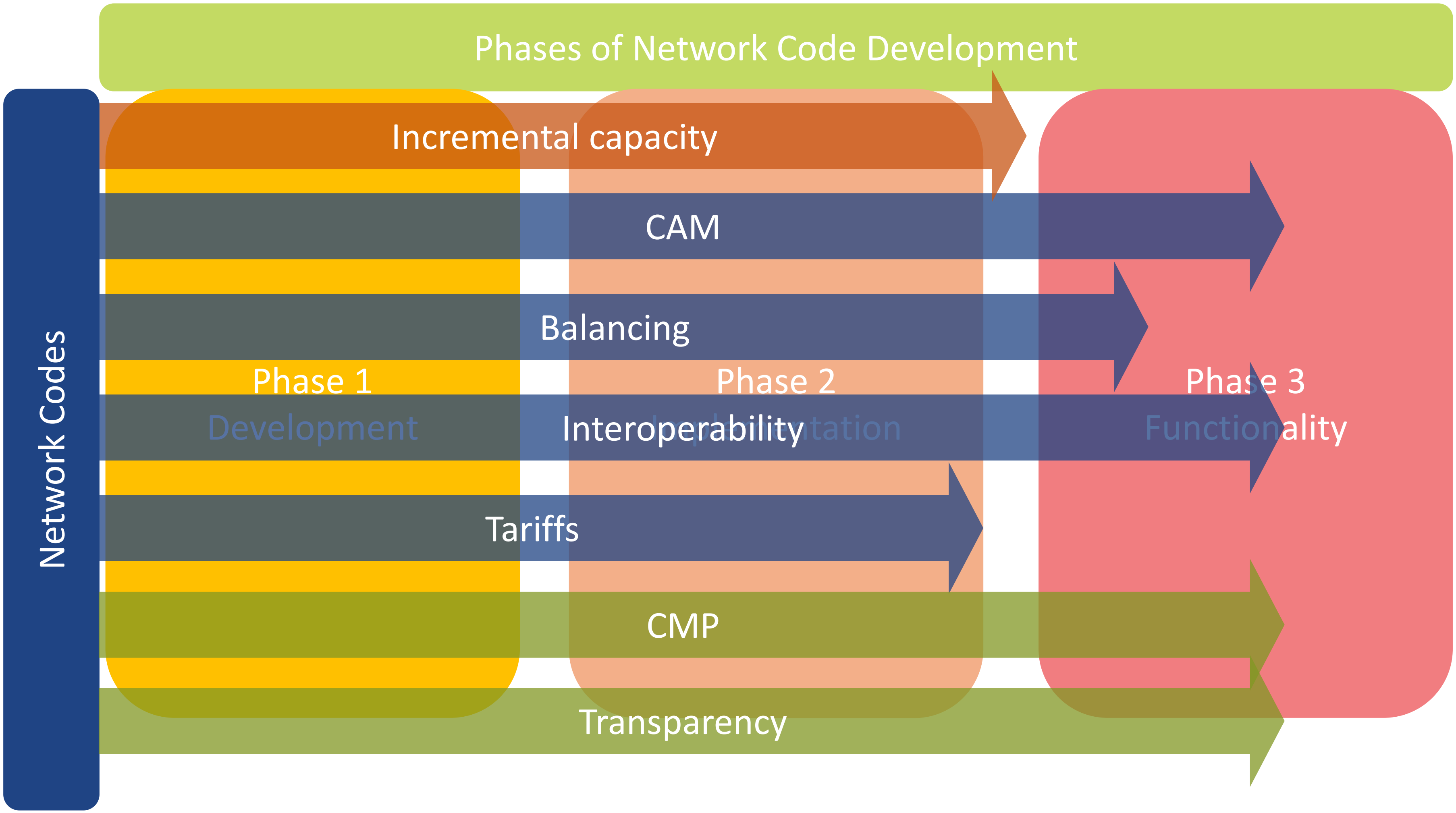
Network Codes

Phase 1
Development

Phase 2
Implementation

Phase 3
Functionality

EU Network Codes



Potential legislative changes

What might be the scope of next package?

Pillar 1: Mirroring common topics	*Pillar 2: Strengthening market functioning*	*Pillar 3: Future role of gas*
• Governance • Open and fair retail markets • Smart meters • Consumer protection	• Benchmarking of NC implementation and plan for EU action • Capacity and commodity release • Review of TSO tariff structures and revenues	• Hybrid Energy System • CCS/CCU • Biogas • Hydrogen • P2G/sector coupling
What arrangements will be reflected in gas?	EC launching several new studies for 2018/2019	What does the energy system of the future look like?

Only mirroring and small gas IEM changes (tariffs, licensing, retail)?
Or addressing the future of renewable and decarbonised gas?

Potential Scope for Next Package

"Large" Package?

Agreed: Clean Package

Published: Long Term Emissions Reduction Strategy

Next?: Sectorial integration?

EU competitive-ness?

EU Energy import dependency?

"Small" Package?

Pillar 1. Mirroring common topics

Pillar 2. Strengthening functioning of market

Pillar 3.Future role of gas

- Hybrid Energy System
- CCS/CCU
- Biogas
- Hydrogen
- P2G & sector coupling

Optimizing EU energy climate, industrial policies?

Energy grids planning and repurposing ?

Level of ambition for the package?

ENTSOG would like a larger package, to include gas in energy, climate & industry policy

Overview of ENTSOG’s main themes

ENTSOG's Themes for Gas Package 2020

Hybrid Energy Infrastructure
Building on both electricity and gas is more efficient, resilient, sustainable and less expensive EU energy system

Product & Service Innovation
Products & services of TSOs to address market needs & support efficient and sustainable use of assets

Enabling decarbonisation by gas and gas infrastructure

Technology Neutrality
All relevant technologies to contribute to transition based on a level playing field for support schemes & funding

New Gas Markets
CO2 reductions and air quality gains with natural gas in some regions - and in longer term with decarbonised gas

Green Gas Innovation
Improved framework for green gases in decarbonised gas system to speed up EU energy transition

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***

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

1 000 GW
cross-border capacities

270 GW
EU wind & solar capacity

1 100 TWh
EU Gas storage capacity

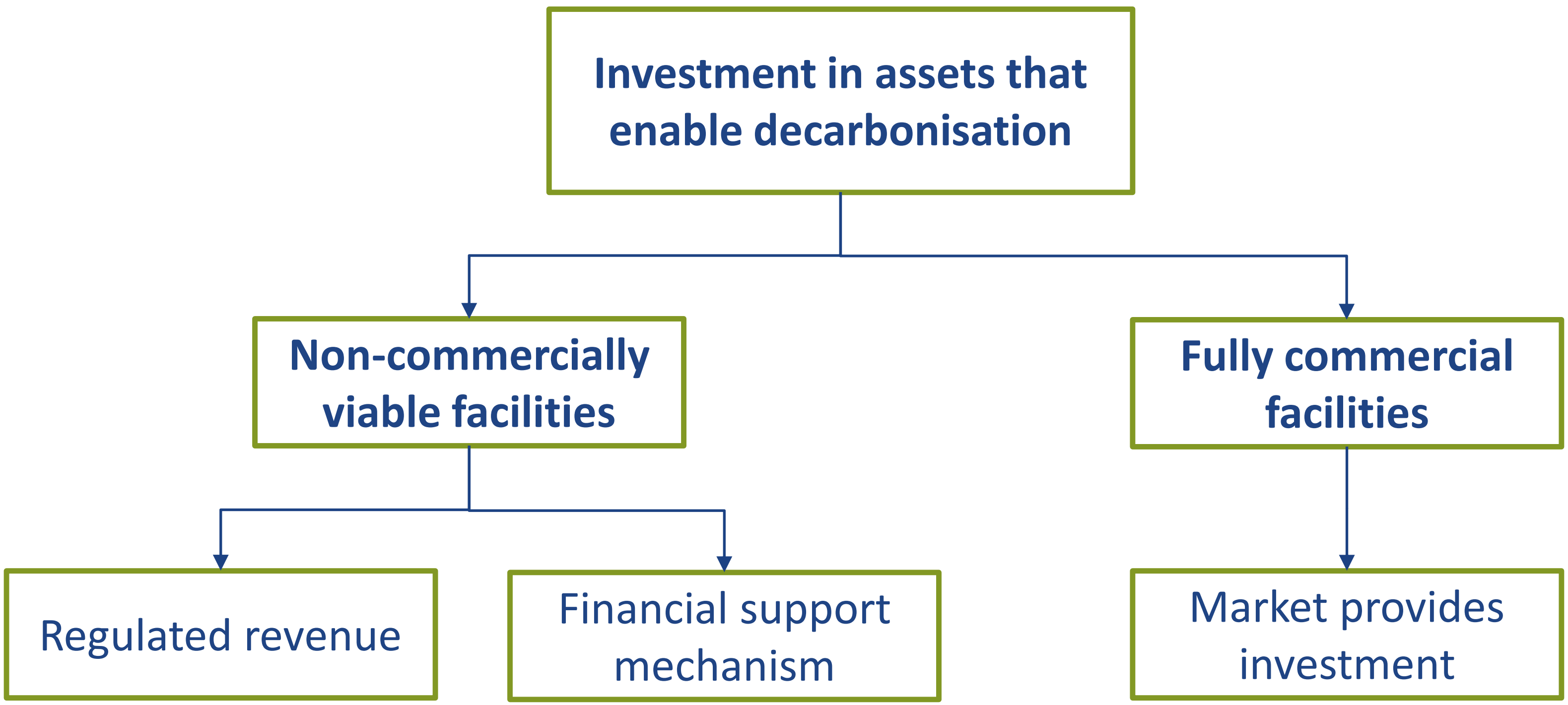
372 TWh
EU wind & solar generation 2016

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

TSOs potential role

TSOs Role in Investment in new services

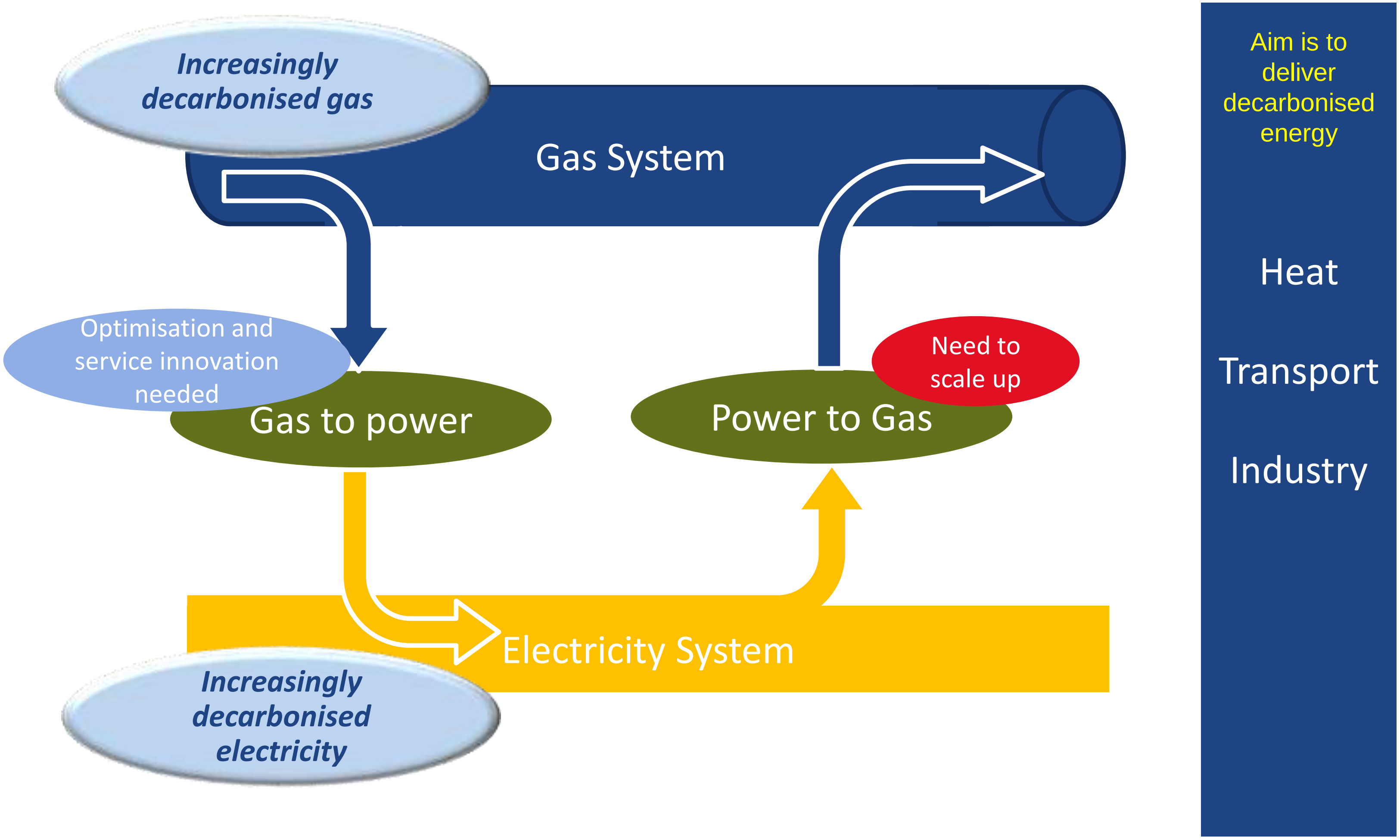


Level of regulation

Level	Aim achieved at that level	When should it be put in place ?
Level 3	Regulated tariffs	When you want to control the cost for the final end-users
Level 2	Non-discriminatory third party access	When we want open access for all parties and when the market power of the various users differs too much
Level 1	Natural monopoly	When the size and/or the risk of the investment is so large that there is not point to double the investment and/or recognised by law

TSO could be involved, in a regulated or non-regulated way, at all these three stages

TSOs Role Example – Hybrid System



Work being progressed

EC studies

Study	Expected Timing
Sector coupling	6th March public workshop, Presentation at Madrid Forum
Capacity and commodity release programs	Launch Q1 2019
Distortive effects of non harmonised tariffs	Launch Q1 2019
Tailor made regulation	Launch Q1 2019
LNG market in EU	Launch Q1 2019
Authorisation for trade (GTNCs)	Launch Q1 2019
Methane leakage prevention strategies	Launch Q1 2019
Barriers to entry into gas retail markets	Launch Q1 2019
Biogas and hydrogen impact on gas grids	Pending

Madrid Forum Work Areas 1/2

Madrid Forum participants take the lead

<table>
<tr><th>Topic</th><th>Lead</th><th>Timing</th><th>Status</th></tr>
<tr><td>Role of CCS/CCU technology</td><td>IOGP</td><td>Workshops:
12 February, Brussels
16 April, Brussels</td><td>IOGP looking at a regulatory approach to CCUS infrastructure</td></tr>
<tr><td>Fugitive methane emission reduction</td><td>GIE / Marcogaz</td><td>Workshops:
17 January, Brussels
27 March, Geneva</td><td>GIE and Marcogaz have produced report on methane emissions</td></tr>
<tr><td>Cross-sectoral flexibility market</td><td>IFIEC</td><td>Prime Movers:
Jan, Feb & April</td><td>Topic will be presented to the October Madrid Forum</td></tr>
<tr><td>Joint interlinked model</td><td>ENTSOs</td><td>Stakeholder webinar: 25 February, Workshop in July</td><td>Work ongoing in line with regular TYNDP process run by ENTSOs. Reporting both to Copenhagen and Madrid Fora</td></tr>
<tr><td>Role of regulated entities in new services</td><td>CEER</td><td rowspan="2">“Regulatory Challenges for a Sustainable Gas Sector” Consultation period (March – May)
April workshop</td><td rowspan="2">CEER published their consultation on the “Regulatory Challenges for a Sustainable Gas Sector” that includes the role of regulated entities in new services and decommissioning. Response due 17th May</td></tr>
<tr><td>Decommissioning of gas infrastructure</td><td>CEER</td></tr>
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Madrid Forum Work Areas 2/2
Madrid Forum participants take the lead

Topic	Lead	Timing	Status
Gas quality	CEN	Gas quality standardisation work on WI: report is expected July 2019.	A number of work streams discussing different issues
Guarantees of Origin	GIE / ENTSOG	Prime movers meetings in Feb, April & May 9th May public workshop	Initial recommendations to be provided to the Madrid Forum
Unified new gases terminology	CEDEC	Under preparation	Work on unified terminology, EC may stick to ''renewable''/''low carbon'' gases vocabulary. CEP states renewable / non-renewable.
Gas storage	GSE	Quantitative analysis by June, workshop before June.	GIE meetings planned with IFIEC to align with work on cross-sectoral flexibility. No internal EC thinking on storage. Result from LNG study (pooling idea, bunkering, new services) may be included

Conclusions

Conclusions

The EU Commission is considering what changes are needed to legislation to facilitate the future

> Scope of potential change not yet defined – new Commission will decide
> Ideas and concepts currently being discussed – 2019 into 2020
> How to get involved:
  - Workshops, consultations, EU organisations

Thank You for Your Attention

Malcom Arthur
Business Area Manager – Markets

ENTSOG -- European Network of Transmission System Operators for Gas
Avenue de Cortenbergh 100, B-1000 Brussels

EML: Malcolm.Arthur@entsog.eu
WWW: www.entsog.eu