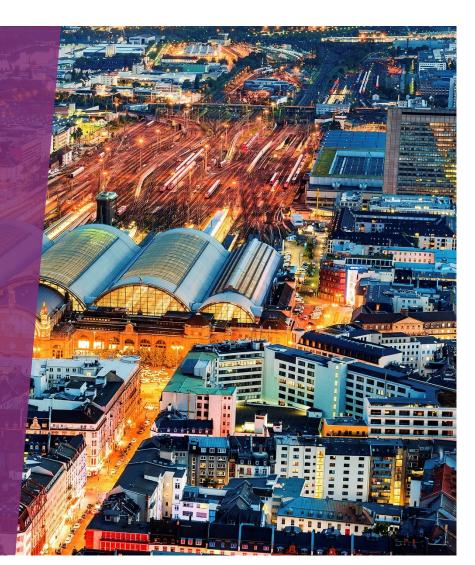


GAS AS AN INTEGRAL PART OF THE EU DECARBONISATION STRATEGY: WHICH SOURCES, CHALLENGES AND PERSPECTIVES Florence School of Regulation **Christian Schwarck IOGP Deputy Director, EU Affairs** 18 February 2019



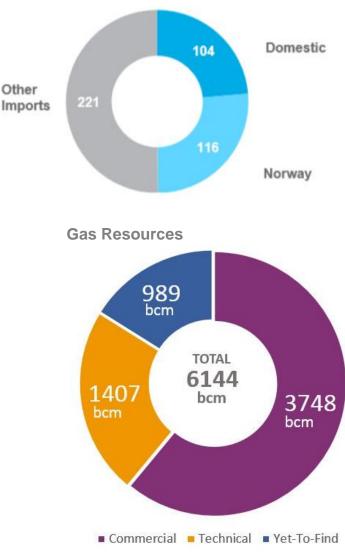
EU Gas Potential Remains High

2017 EU28+Norway Gas Supply Mix | bcm

Over 6000bcm of known and potential resources

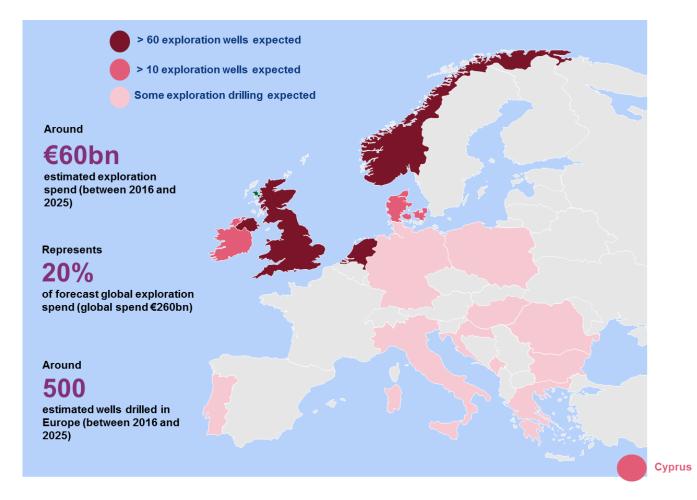
New exploration is critically important

Importance of sharing best regulatory practices e.g. maximising economic recovery and collaboration principles





Europe: Still an Exploration Hotspot



Europe Yields Some of Best E&P Results Globally!



EU gas market priorities

- Further hub development in Europe
 - From a supplier perspective, hubs are an efficient mechanism
 - Provide security of supply and flexibility
- We need to improve liquidity in other parts of Europe
 - Churn rate is non-existent in south-east Europe
 - New supply and production triggers hub development
- Gas storage obligations mitigate against new market entrants
 - Raises cost for the gas system
 - Discriminate against other forms of flexibility
- Regulated retail prices are impacting wholesale markets
 - Focus should be on competition and market integration, to enable efficiency



How to decarbonize natural gas?

- Natural gas can be decarbonised by converting it to hydrogen with CCUS
 - Sufficient storage capacity in Europe
 - Norway wants to receive EU's CO2
- Regulatory change may be needed
 - Enable TSOs and DSOs could be enabled to transport CO2 and H2 as a regulated activity
 - Post-storage liability needs clarification
 - Business models for hydrogen should be assessed
 - IOGP-coordinated report for next Madrid Forum





Source: Global CCS Institute





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