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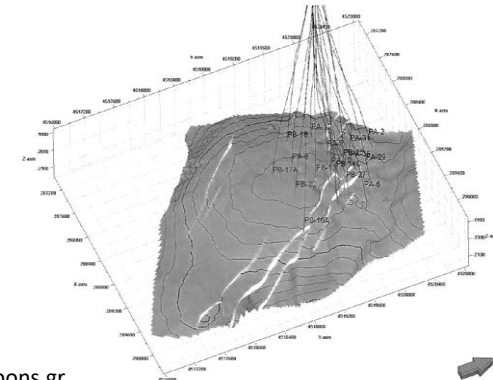
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Offshore Underground Gas Storage - An overview of the EU safety framework



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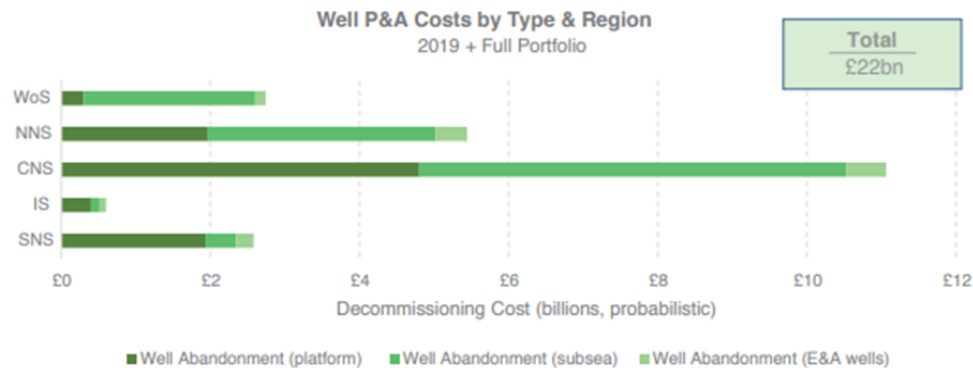


DECOMMISSIONING OR RE-USE OF OIL & GAS PLATFORMS?

- Many European oil and gas fields will reach the end of their economic lifespan in the coming decade → **decommissioning** has become one of the biggest issues in the global oil and gas industry
- Oil & Gas UK predicts that the cost of decommissioning will total around £15bn over the next decade on the UK Continental Shelf alone

UK	N	NL	DK	Total	
					
4,000	2,400	700	500	7,600	Wells (#)
323	199	156	62	740	Platforms (#)
370	350	25	5	750	Subsea (#)
20,000	>10,000	3,500	1,800	>35,000	Pipelines (km)
67	25	5	5.5	86	Total future decom costs (€Bn)

DECOMMISSIONING OR RE-USE OF OIL & GAS PLATFORMS?



Source: UK Oil & Gas Authority

- For a significant part of the historical oil and gas infrastructures, there needs to be a re-evaluation of their use
- Rather than terminating economic activities the **re-evaluation of the use** of aging offshore constructions or removing them altogether is proposed



the conversion
approach tries to
look at options to bring
new economic purpose
to these sites

The reasoning for UGS is:

- strategic reserve in case of interruption of deliveries
- seasonal balancing
- short-term balancing
- optimization of gas production
- overcoming of local restrictions of gas grids
- general gas system optimization
- gas prices arbitrage
- underlying asset for financial derivatives

Does the existing legal framework for safety cover the conversion of an existing offshore oil & gas platform into an underground gas storage?

DIRECTIVE 2012/18/EU

OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC:

Article 2: Scope

(2) **This Directive shall not apply** to any of the following: (g) **the storage of gas at underground offshore sites including both dedicated storage sites and sites where exploration and exploitation of minerals, including hydrocarbons are also carried out**

DIRECTIVE 2013/30/EU

OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC

Article 2: Definitions

(3) **offshore oil and gas operations** means **all activities associated with an installation or connected infrastructure, including design, planning, construction, operation and decommissioning thereof**, relating to exploration and production of oil or gas, but excluding conveyance of oil and gas from one coast to another;

(30) **‘material change’** means: (a) in the case of a report on major hazards, **a change to the basis on which the original report was accepted including, inter alia, physical modifications**, availability of new knowledge or technology and operational management changes;

- The Competent Authority for Offshore Safety is the State Supervision of Mines of the Ministry of Economic Affairs and Climate Policy
- The national offshore safety law will apply to the offshore installation until the installation is dismantled (end of lifecycle)
- If an offshore platform changes from producing gas to storing gas, it will most likely be handled as a material change
- *Material Change: in the case of a report on major hazards, is a change to the basis on which the original report was accepted including, inter alia, physical modifications, availability of new knowledge or new technology and operational management changes;*

Source:



- Competent Authority for Offshore Safety is the Ministry for Ecological Transition
- The Spanish Competent Authority for offshore safety is also responsible for the safety of offshore Underground Gas Storage
- The conversion is handled as a material change
- Offshore Underground Gas Storage is included in the definition of exploitation
- Currently there is one operating offshore underground gas storage in Spain

Source:



- Competent Authority for Offshore Safety is the Croatian Hydrocarbon Agency
- Offshore Underground Gas Storage is included in the definition of exploitation and the Competent Authority for offshore safety is responsible
- An approval of the amended RoMH – due to the material change – needs to be granted before the conversion, which has to include a full description of the risk during the conversion and any variation from the original design of the installation

Source:  **CHA**

- Competent Authority for Offshore Safety is the Health and Safety Executive and the Offshore Petroleum Regulator for Environment and Decommissioning
- The offshore oil & gas regulations in the UK waters apply to all activities carried out on “offshore installations” under a petroleum license but do not apply to a gas storage facility
- The underground gas storage was deliberately excluded from the national law
- The RoMH does not require information on potential re-use as a gas storage facility
- UK’s offshore safety act applies to the offshore installation from the point of its design and construction to the point when offshore decommissioning and dismantling work is completed (or where there is a permanent change of use)

Source:



- Competent Authority for Offshore Safety is the Ministry of Economic Development - DGS UNMIG
- The conversion is not covered by the national offshore safety law
- Competent Authority's role stops with the assessment of the decommissioning program, which includes the risk associated with the conversion
- In March 2019 the «*Italian Guidelines for mining decommissioning for offshore platform and connected installations*» were published, with special provisions for the re – use of a platform for non – mining purposes

Source:



HHRM is the Competent Authority

2013/30/EU
Offshore Safety
Directive
(OSD)

Law 4409/2016
(transposition of
the OSD)

HHRM SA
appointed
Competent Authority
July 2016

- Law 2289/1995 interprets the “Hydrocarbon Exploitation” as: *“the extraction of hydrocarbons, any treatment which is necessary to make them marketable, and their storage and transportation to the loading installations for further disposal. Any treatment referred to in this paragraph shall not include refining”*
- In Law 4409/2016 “Offshore Oil and Gas Operations” means *“all activities associated with an installation or connected infrastructure, including design, planning, construction, operation and decommissioning thereof, relating to exploration and production of oil or gas, but excluding conveyance of oil and gas from one coast to another;”*

- The current legal framework creates confusion, as indicated by the different arrangements and interpretations among the EU Members
- Since the legal regime for the safety of offshore and onshore operations is clear and already in place, an amendment is necessary in order for offshore underground gas storage facilities to be regulated.

Sharing of Information

- HHRM's website has a section dedicated to Offshore Safety
- It offers information for the public and the operators. The information includes the annual plan, the annual reporting of any incidents and the guidance documents.

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THANK YOU!

