



# Havtil

Norwegian Ocean  
Industry Authority

*Wellintegrity*  
**- A regulatory update**

NOG 2024, Stavanger

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*Norwegian Ocean Industry Authority*



# Agenda

- Introduction. Who is Havtil?
- Regulatory perspective
- Well integrity audits summary
  - Findings
  - Impact on the industry
  - Havtil focus coming years.
- Ongoing work Havtil - Sektoroppgave
  - Well integrity
  - Well control
  - P&A

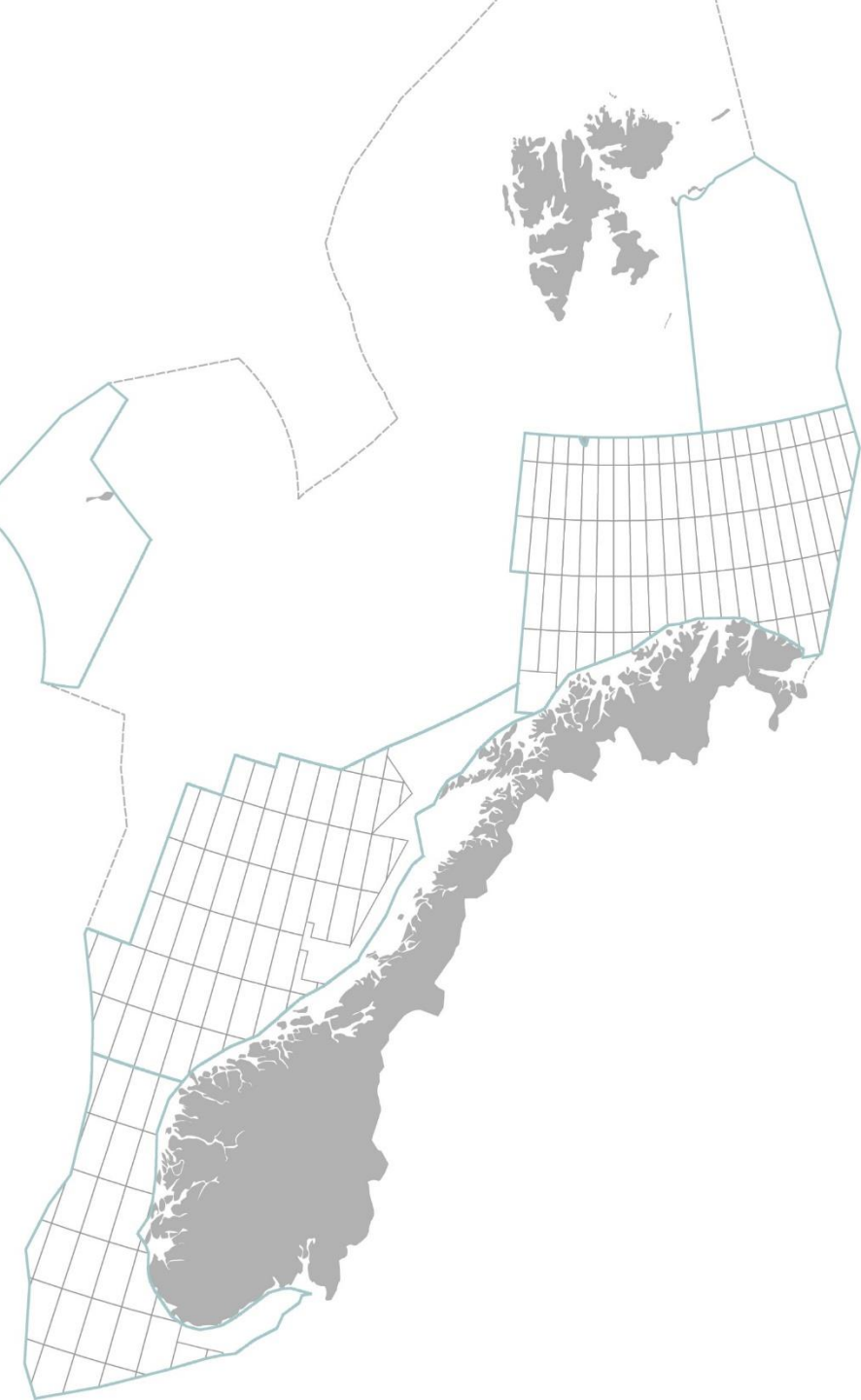
# What is Havtil?

- Government supervisory agency subordinate to the Ministry of Energy (ED)
- Regulatory authority for safety, the working environment, emergency preparedness and security
- About 180 employees

## SUMMARY:

<u>Before</u>	<u>NOW</u>
PSA=PTIL =>	HAVTIL, Havindustritilsynet
NPD=OD =>	SODIR, Sökkeldirektoratet

\*With new areas of responsibility



# Areas of responsibility

## **Petroleum operations – offshore and on land**

- 92 fields on stream
- 62 fixed facilities
- 40 mobile facilities with an AoC
- 371 subsea facilities
- 25 000 employees offshore
- 18 080 km of pipelines
- 7 land plants

Updated 1 January 2024

## **Mineral operations**

- Regulatory responsibility for safety and emergency preparedness related to future mineral operations on the NCS has been delegated to Havtil

## **Renewable energy production offshore**

- Two areas of the NCS have been opened for offshore wind development: Utsira North and Southern North Sea II

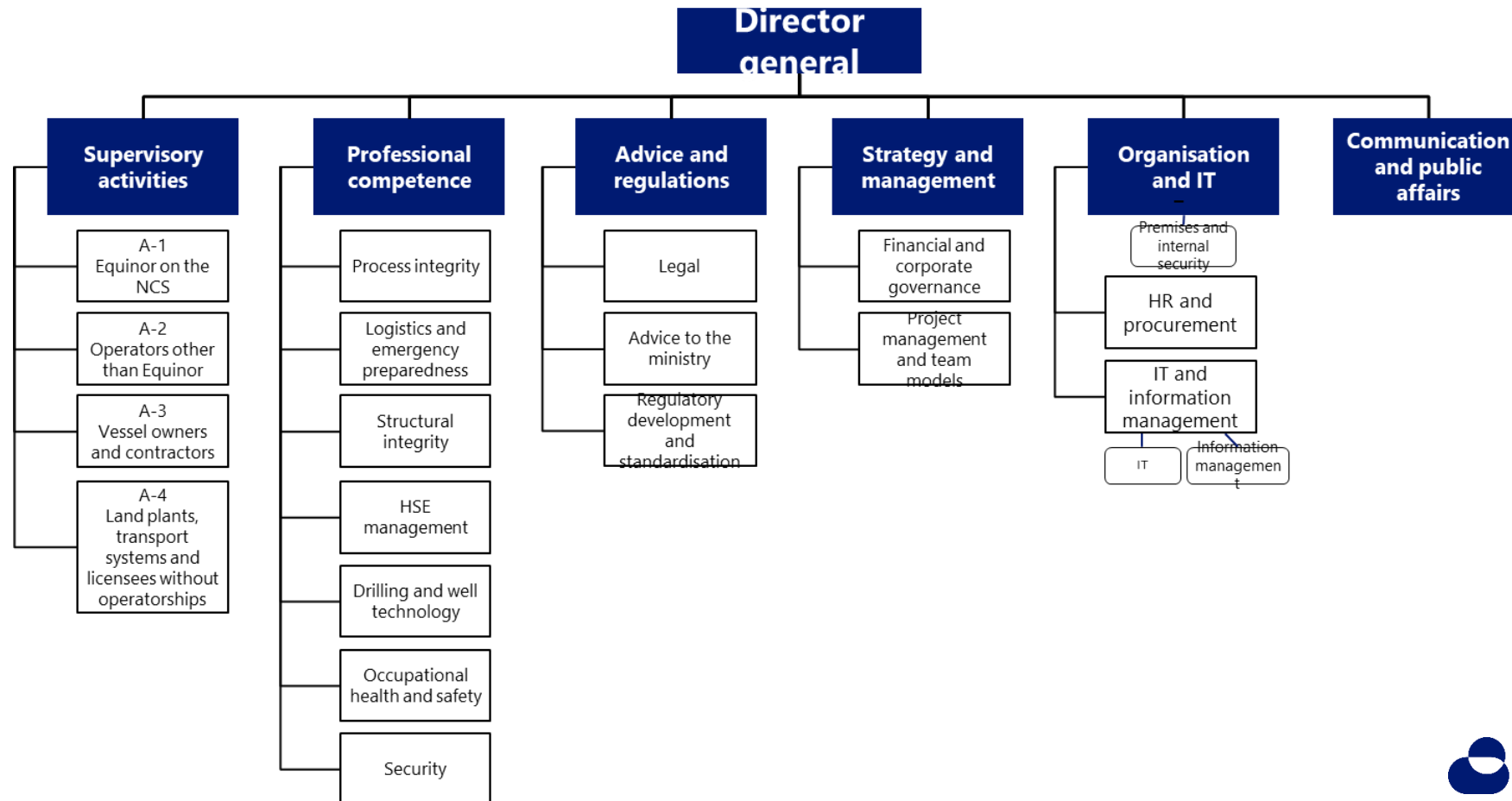
## **Transport and storage of CO<sub>2</sub>**

- Value chain for transport and storage under development.
- Land plant at Øygarden in Vestland county.
- Pipeline transport to permanent storage in formations beneath the North Sea.

# Expertise

## Staffing

- Havtil is staffed and organised to “mirror” the industries it is responsible for.
- Its highly qualified workforce has both broad-based and leading-edge expertise.



# Key duties

## **Regulations**

- Develop and adopt regulations

## **Supervision**

- Supervise the companies

## **Build knowledge**

- Acquire, administer and communicate knowledge which contributes to improvements in the sectors – and be the specialist agency for our area in relation to the industry, other state agencies and the general public

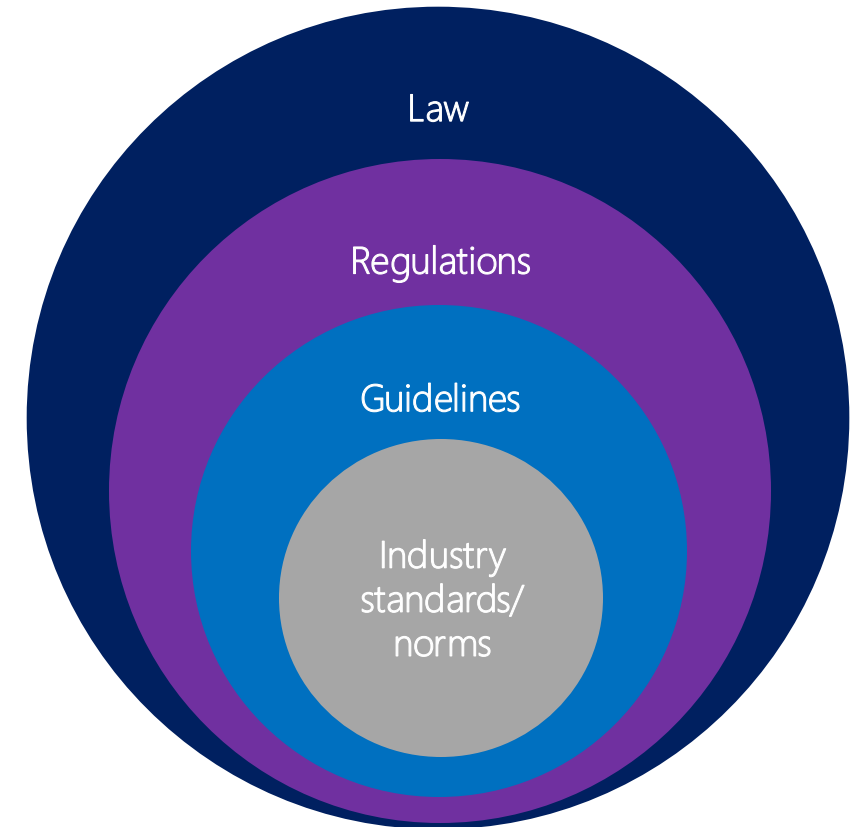
## **Advice**

- Provide specialist advice to the ministry

# Regulations

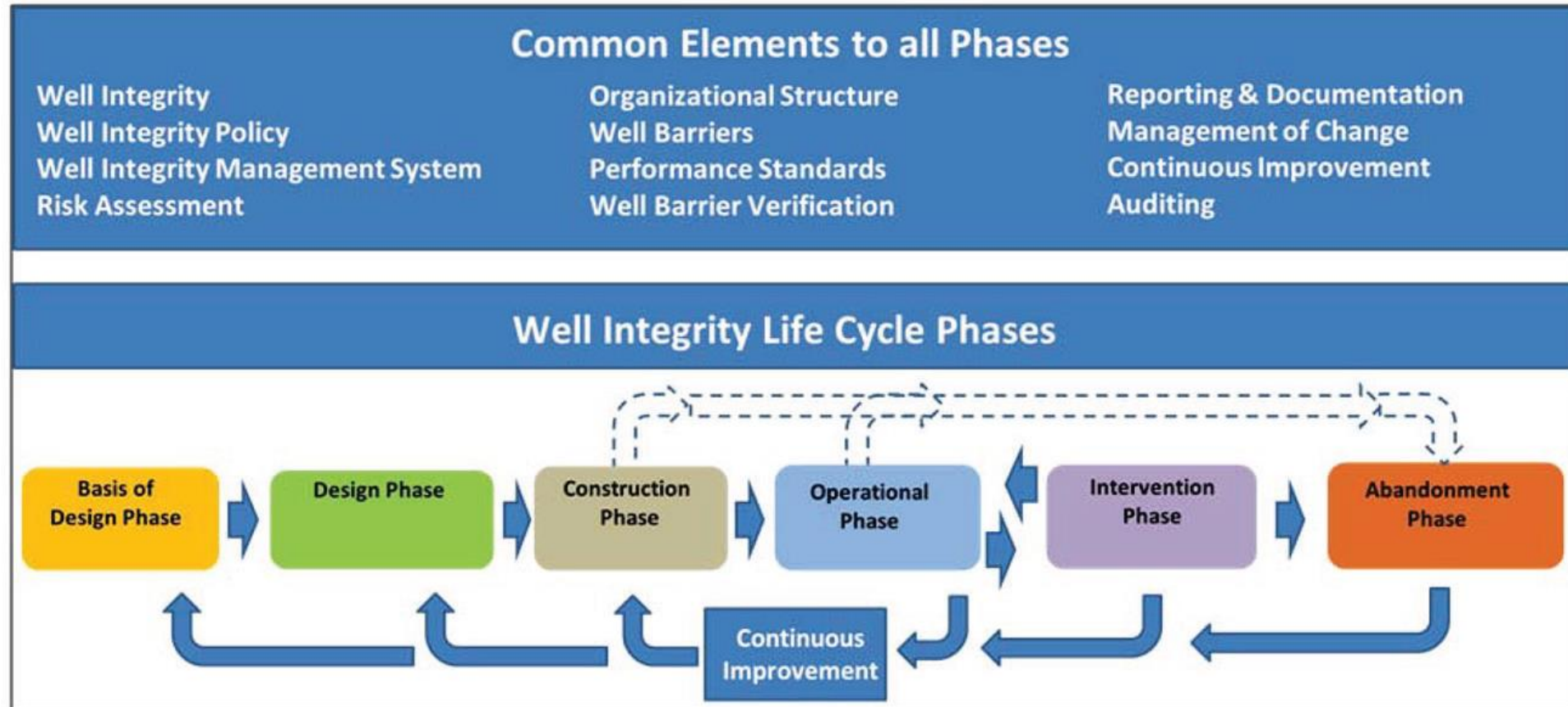
## Key principles

- Havtil's regulations are largely **performance-based** – they specify *what* level of safety is to be achieved, but not *how*
- Reference **norms and industry standards** – providing predictability for users and indicating the expected standard for solutions
- Give companies themselves the **freedom to choose their own solutions** – and underline the allocation of responsibility
- Emphasise the **responsibility** of the industry/players for developing relevant and prudent norms and standards
- Require the companies to **establish HSE targets** and manage their business to meet these





# Well integrity – Regulatory Perspective



# Well integrity - Audit Summary





Information Technology - Security

# Ongoing activity NCS

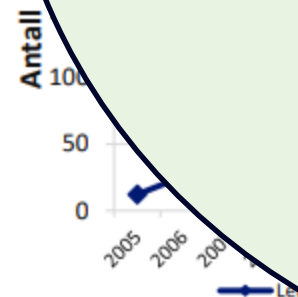
## CCS - The Northern Lights Longship

1. Facilities in Øygarden will be ready to receive CO<sub>2</sub> later this year - with a storage capacity of up to 1.5 million tonnes of CO<sub>2</sub> per year.
2. Two wells are drilled and available for CO<sub>2</sub> injection and storage

## EU Methane Regulation, 2019/942

Regulation => Full legal effect in member states

- **EEA relevance** will be determined shortly by the Ministry of Foreign Affairs
- Regulates **only Methane** (CH<sub>4</sub>)
- Applies i.e **venting, flaring, and yearly reporting of inactive wells** and one-off **inventory on PPA wells**
- Regulates obligations for **monitoring and reporting** as well as **inspection and repair**
- **Not** risk-based or focused on prevention.

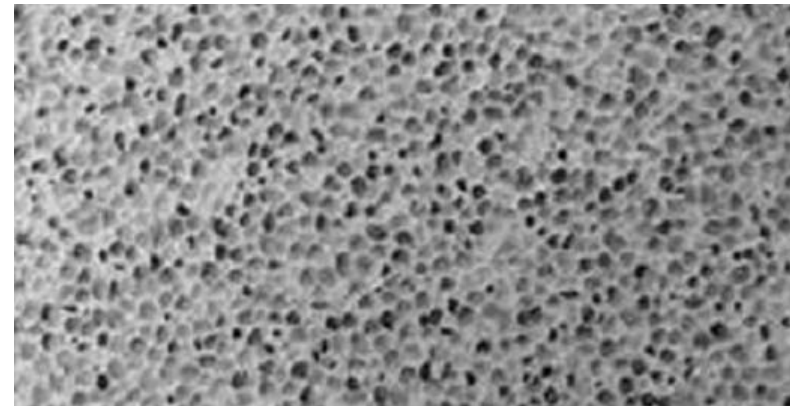
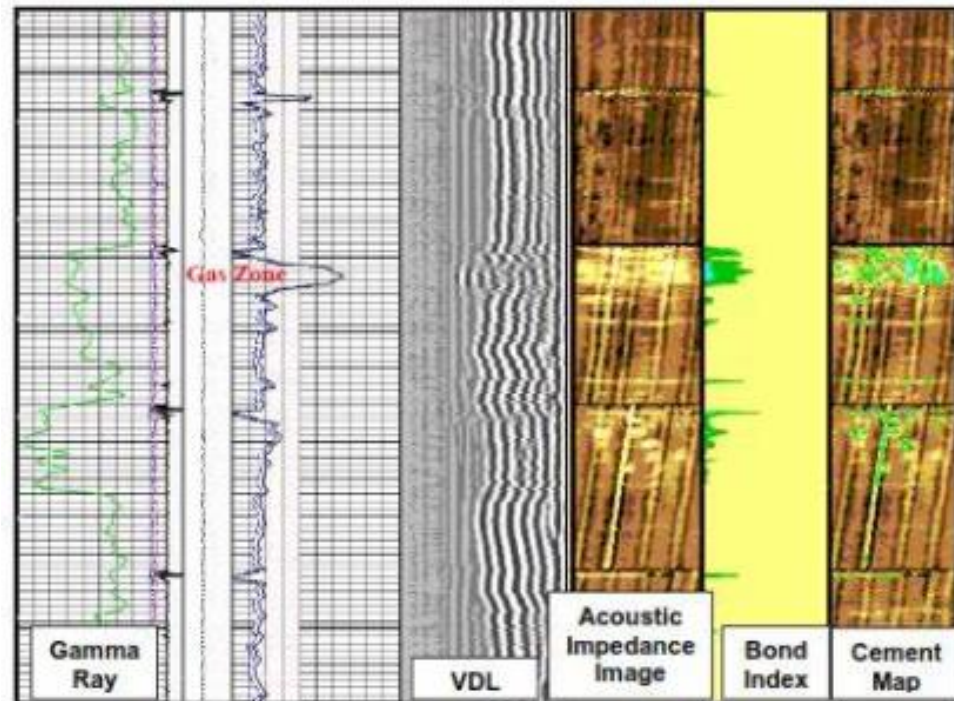


Figur 3-3 Utvikling i antall olje- og gassbrønner 2005-2023

# Well integrity - Sektoroppgrave

## Verification of foam cement barrier

- Study (Three60Energy)
- Contributors (COPNO, Equinor, Vår, AkerBP, BakerHughes, Halliburton, and SLB)



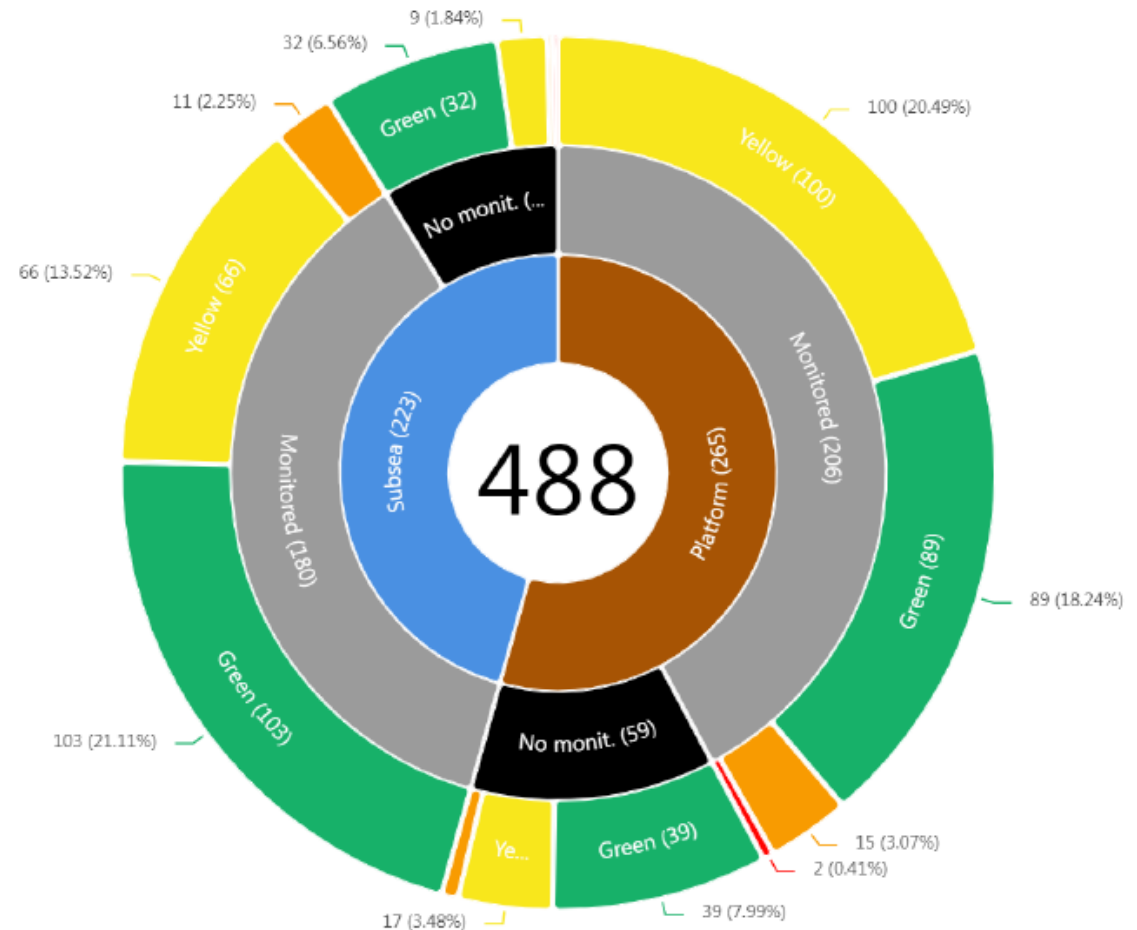
# Well control - Sektoroppgrave

- Shallow hazards (gas/water flow)
- Pore pressure prediction and communication of the uncertainty.
- Well control wrt CO<sub>2</sub> injection



# P&A Sektoroppgave

- Definition of temporary abandoned wells
- EU methane regulation
- Overview of temp abandoned wells



Fig| 3.5 Overview of temporarily abandoned wells

# Thank you!

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