

Havtil

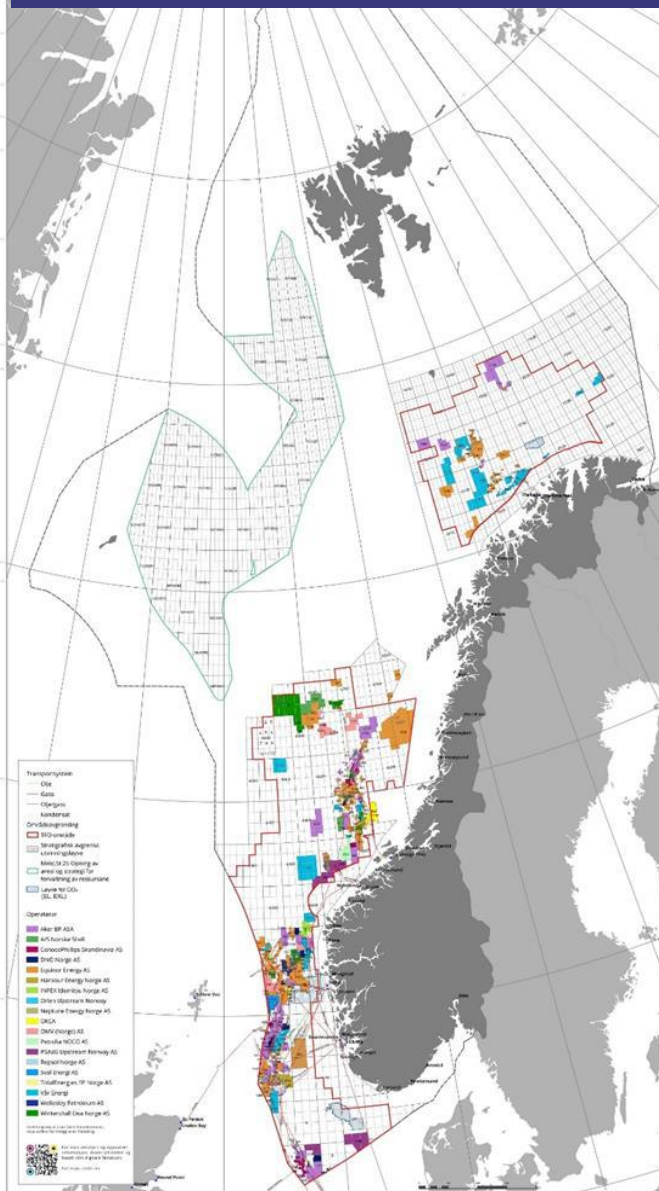
Norwegian Ocean
Industry Authority

Collaboration and sharing of collective learnings

SPE WELLS Decommissioning conference Aberdeen
4th of June 2026

Nina Ringøen
Drilling & Well Technology, Havtil

Havtil's areas of responsibility



Petroleum activities – offshore and onshore

- 97 fields in production
- 62 fixed facilities
- 43 mobile facilities with AoCs
- 401 subsea facilities
- **2,300 active wells***
- 25,000 employees offshore
- 18,780 km of pipelines
- 7 onshore plants

*Last updated January 1 2026,
Item marked * updated January 1 2026.*

- **Renewable energy production offshore** :Two areas on the Norwegian shelf open for the development of offshore wind: Utsira North and Southern North Sea II
- **Transport and storage of CO2** : Value chain for transport and storage in development
- **Mineral operations**: Future mineral operations on the Norwegian continental shelf

Are we ready?

Outlook from 2026 - 2050



Several fields in production will have a decline in production rate from 2030...



More than 2300 wells expected to be permanent plugged between 2026 – 2050/2070.



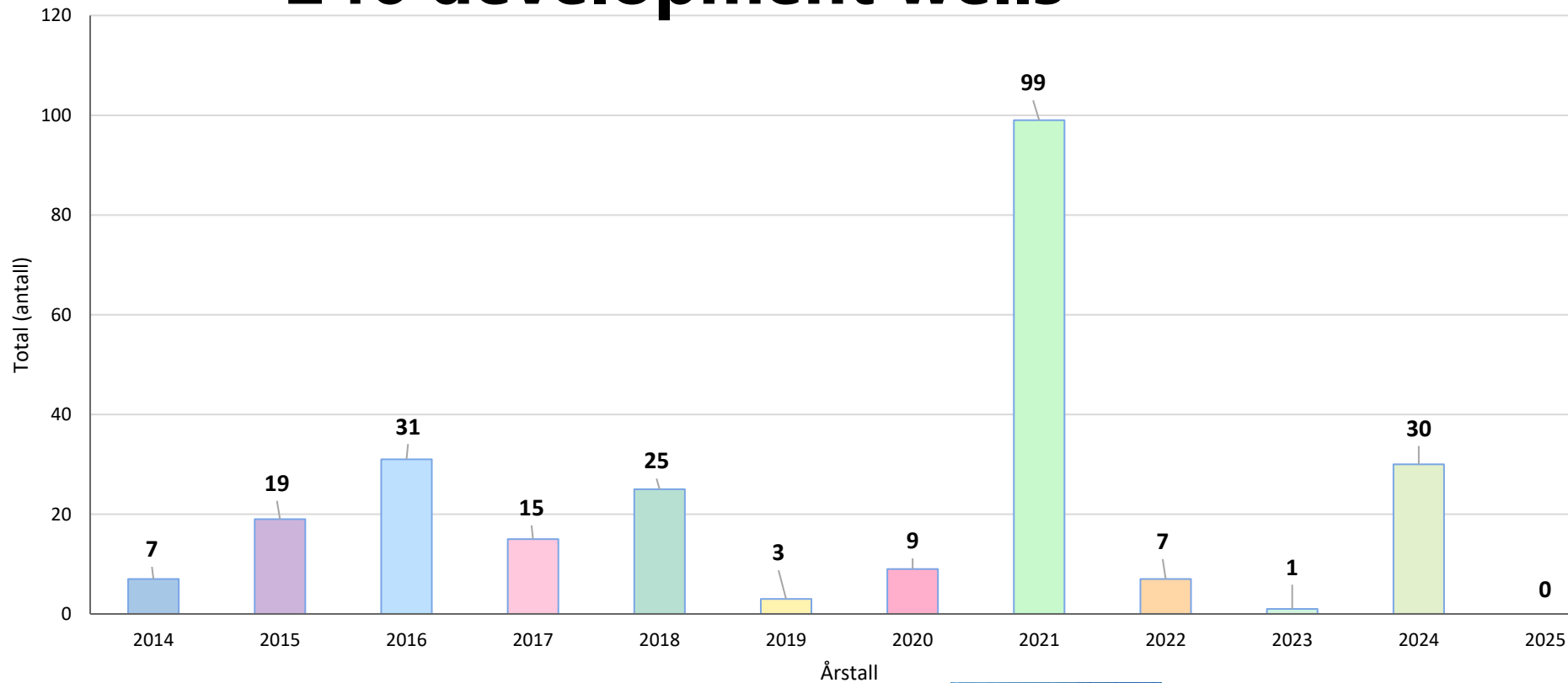
Wild Well Control reports an increase in well control incidents globally



Are WE on NCS prepared ?

Permanent Plugging & Abandonment 2014 - 2025

246 development wells



What did we learn ?

What kind of technology were used ?

Do we share «best practise» ?



What did we as an industry learn (Audits) ?

Havtil's overall message for the way forward:

- Continuous improvement is a key principle in the regulations.
 - more sharing of experience and learning in the industry
 - better qualification of technology
 - more robust and standardized solutions
- At the same time, they point out that:
 - P&A activity will increase sharply in the future
 - quality must be maintained despite cost reduction pressure

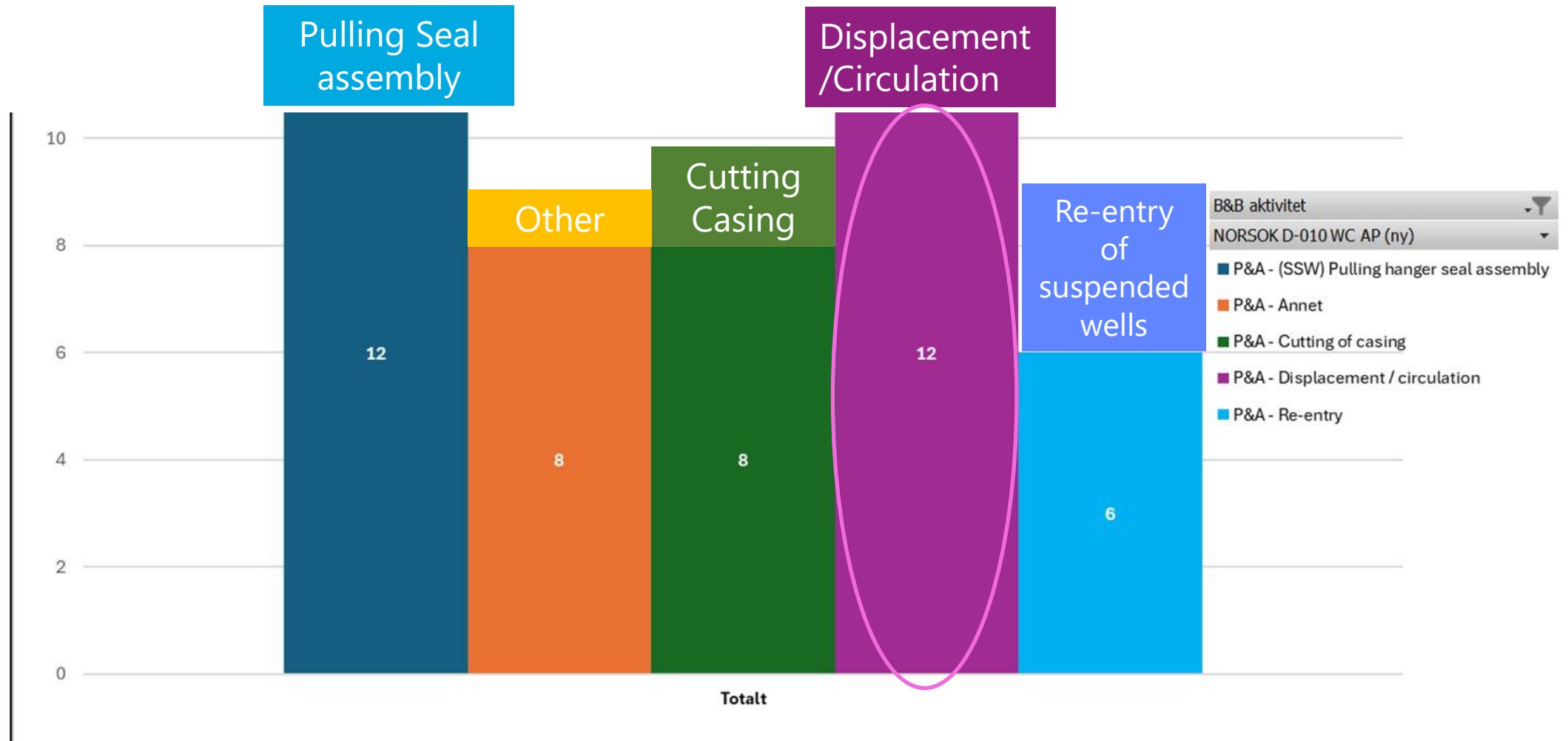
Strict requirements – but compliance varies

- Verification of well barriers and integrity

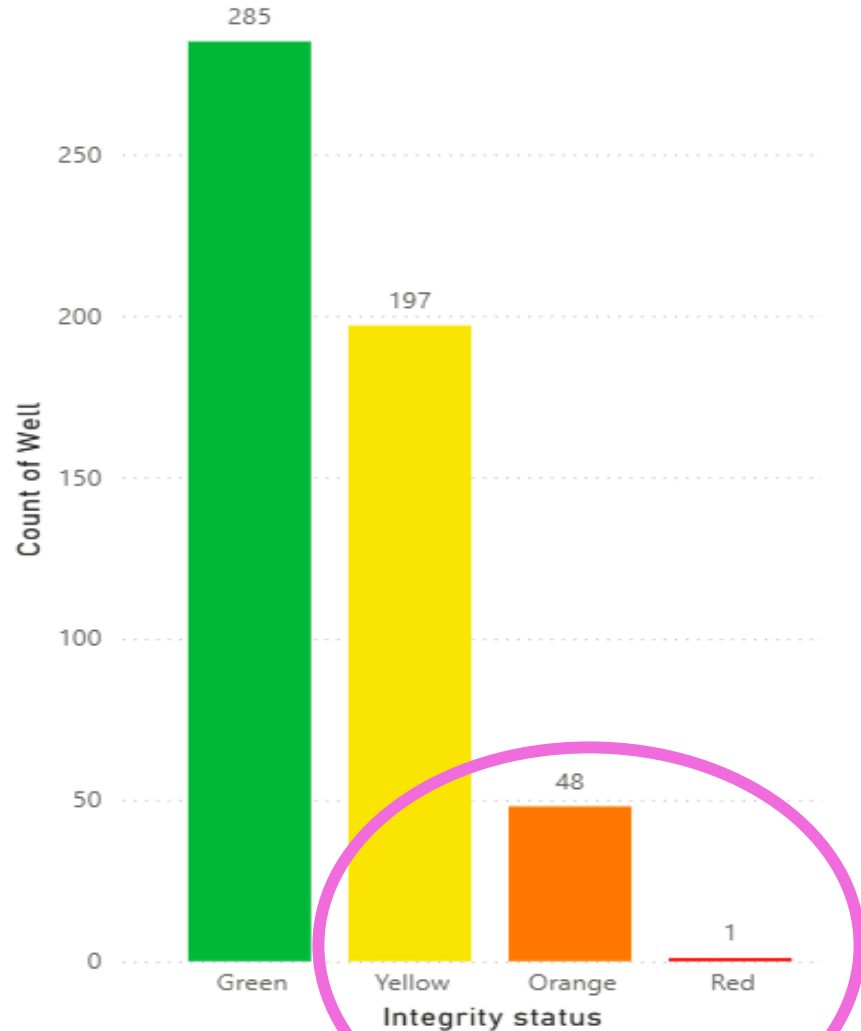
- Inadequate qualification of materials and new technology

- Risks associated with temporarily abandoned wells before permanent plugging

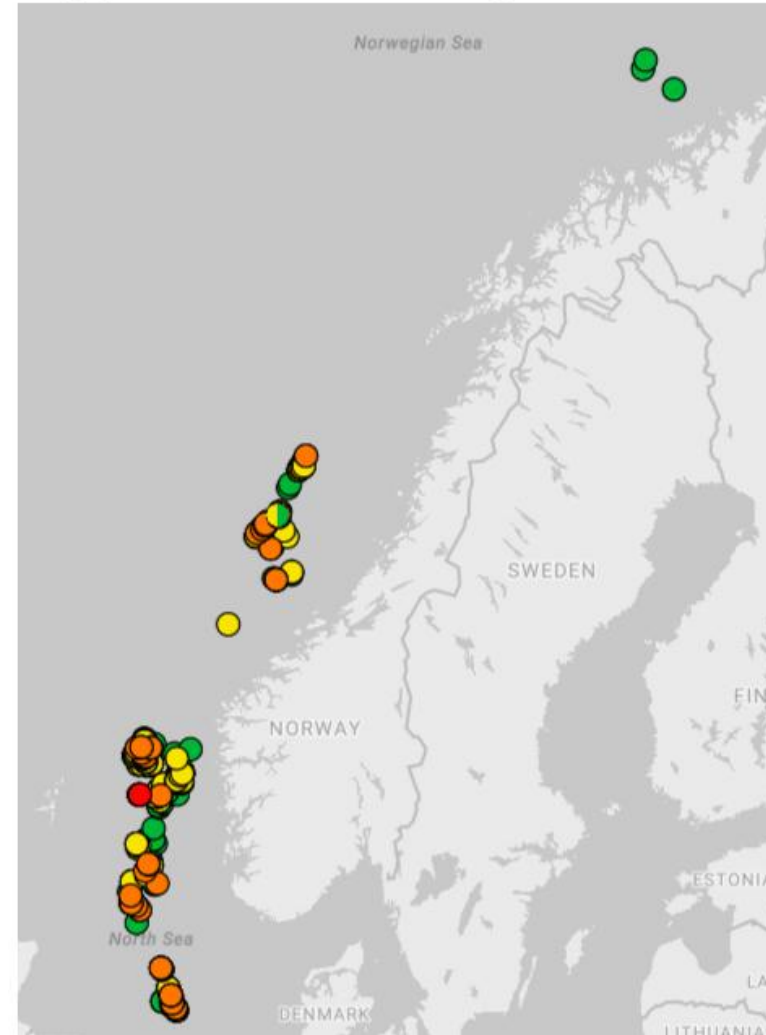
Well incidents during P&A reported to HAVTIL (2017 – 2025)



Count of Well by Integrity status



Integrity status ● Green ● Yellow ● Orange ● Red

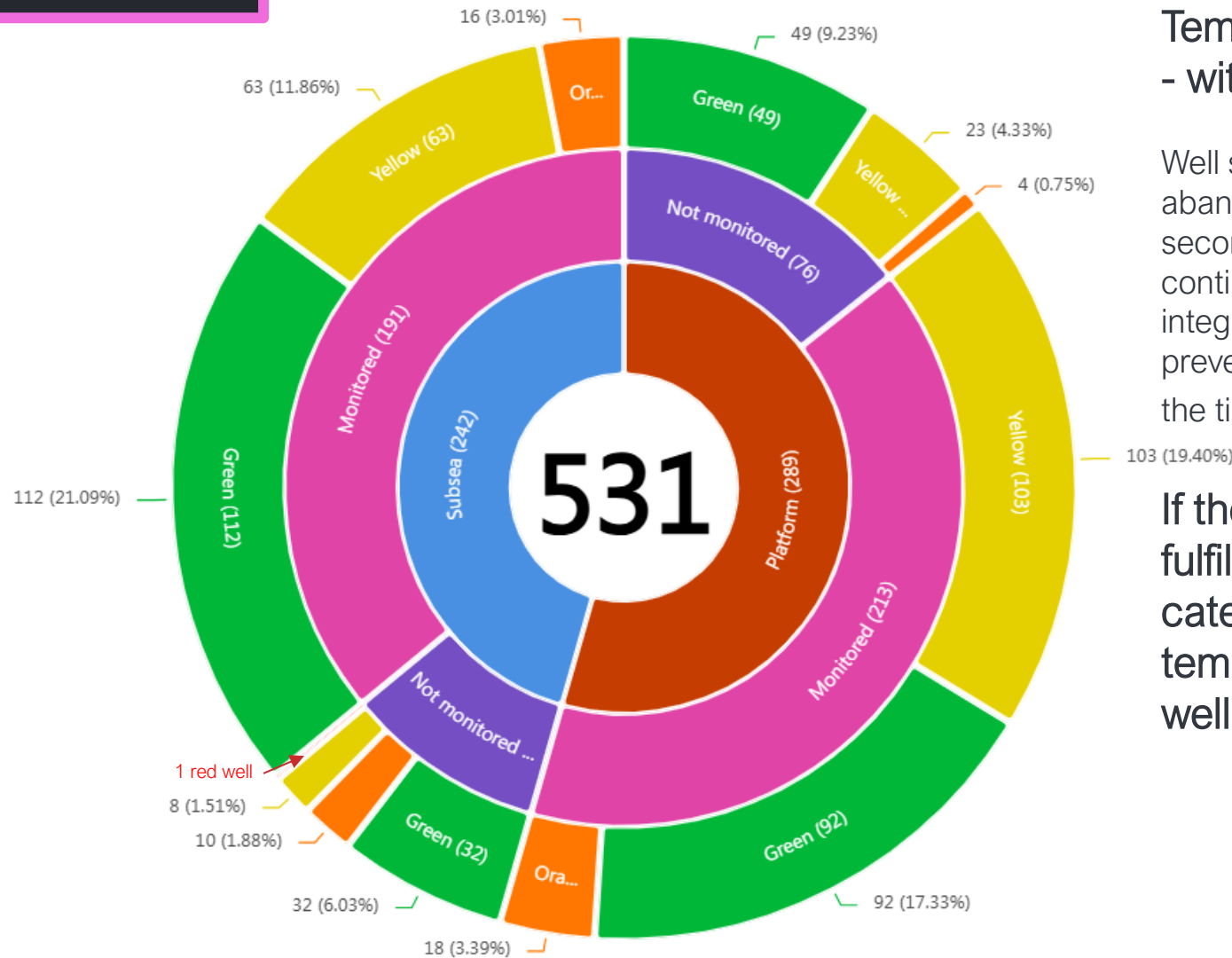


Category	Principle
Red	One barrier failure and the other is degraded/not verified, or leak to surface
Orange	One barrier failure and the other is intact, or a single failure may lead to leak to surface
Yellow	One barrier degraded, the other is intact
Green	Healthy well – no or minor issue

- 25% of 2300 wells on NCS
- Re-establish barriers in orange and red wells

Preliminary data

Overview 2026 survey

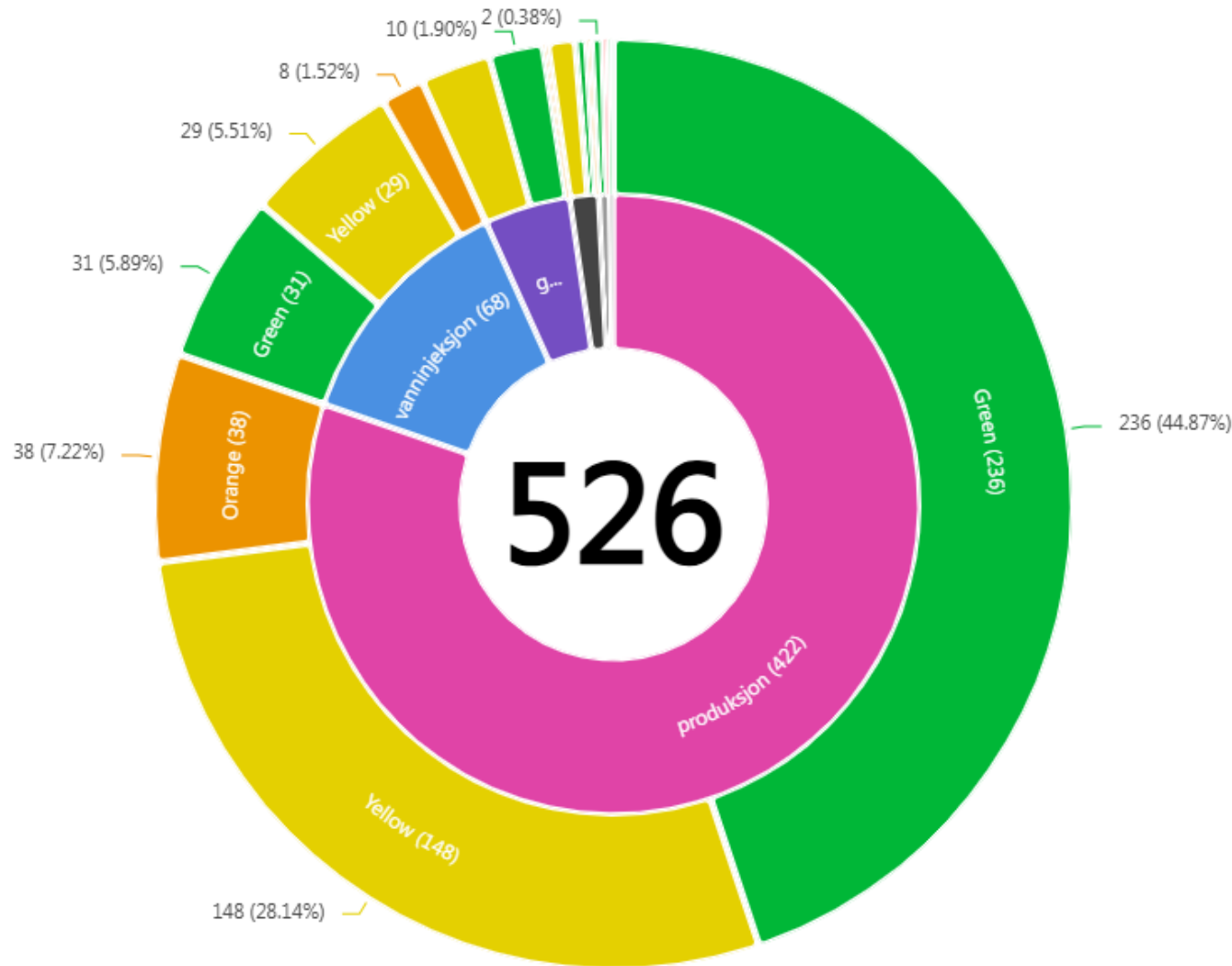


Temporary abandonment - with monitoring:

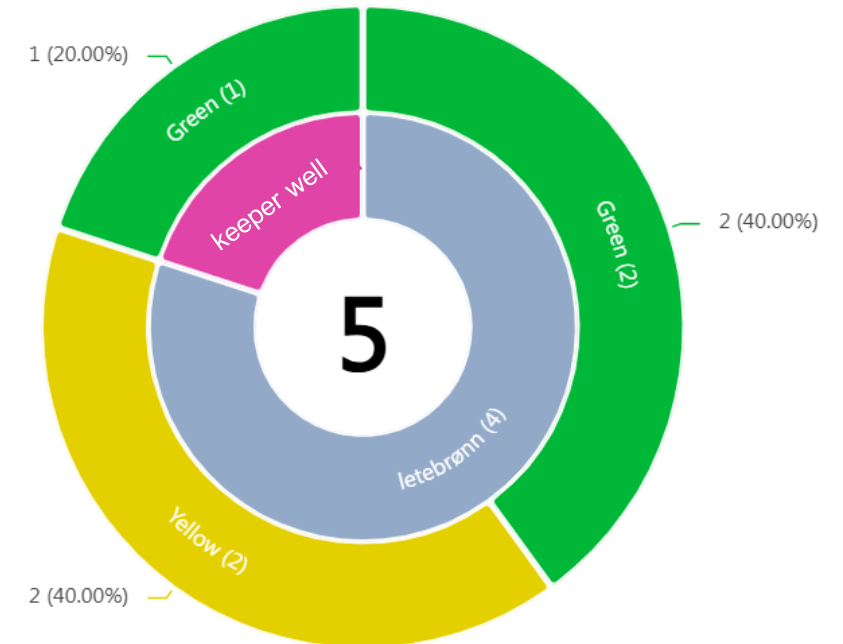
Well status, where the well is abandoned, and the primary and secondary well barriers are continuously monitored and well integrity is routinely tested (preventive maintenance) during the time they are abandoned.

If the criteria cannot be fulfilled, the well shall be categorized as a temporary abandoned well without monitoring.

Development wells



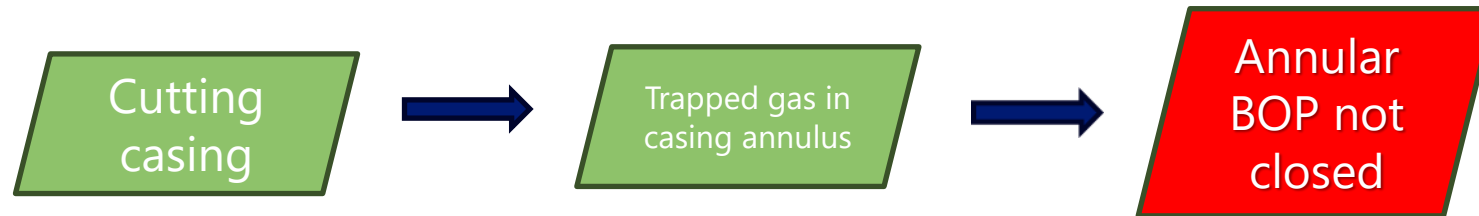
Exploration wells



A high safety level is perishable....



Well Control incidents in P&A operations



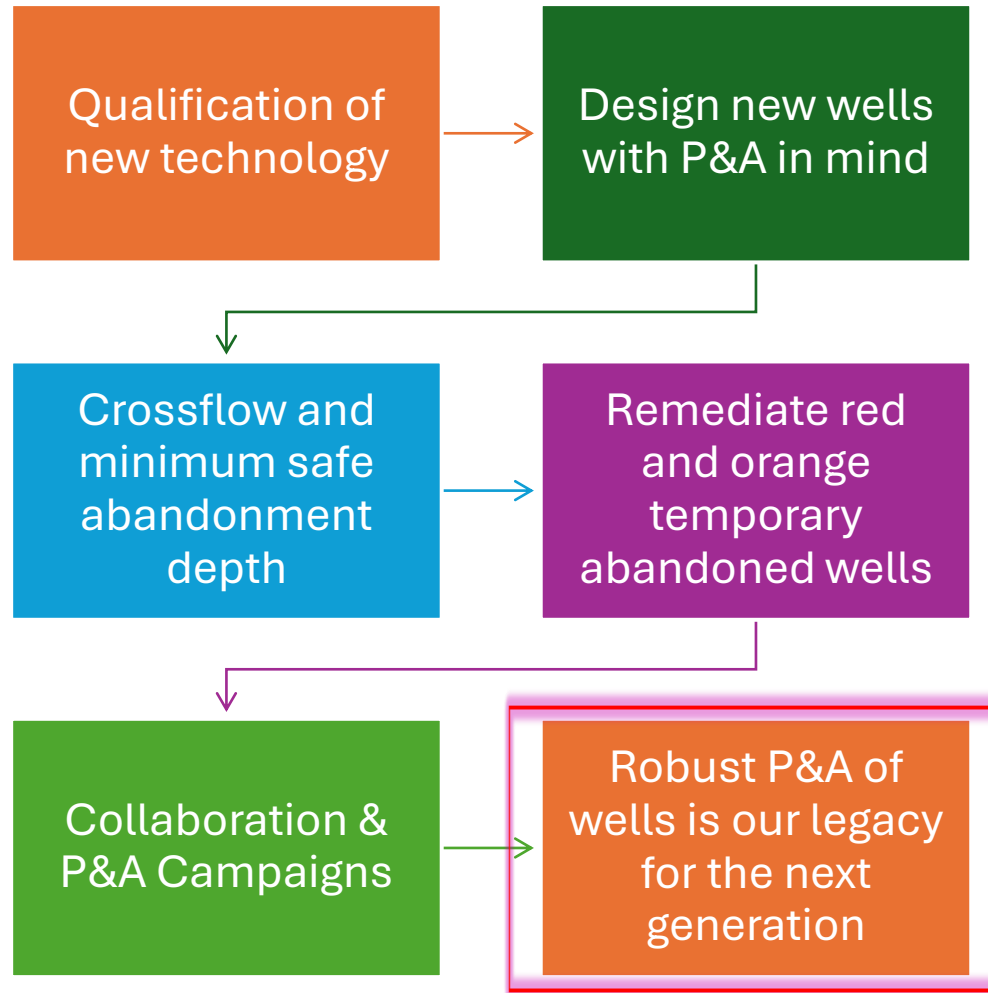
Permanent plugging of well 23.09.2025 (Deepsea Bollsta)

- Cut 13 3/8" casing at 510 m with mechanical cutter and rotation and pumping.
- After casing was confirmed cut, we got gas in Shaker area / drill floor.
 - ESD 1 was triggered and mustering according to procedure.
- Diverter was closed immediately and then upper annular in BOP after 71 sec - Situation normalised after 30 minutes

Lessons Learn: Close annular in BOP when cutting casing shallow due to potential for trapped gas in casing annulus.



Collaboration and sharing collective learnings



Thank you !

- Questions ?

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