

PAF Seminar 2019

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AGENDA

- Introduction to PSA and our Regulations
- Temporary abandoned wells
- The way forward from the PSA's view
- Looking into 2035



The Petroleum Safety Authority

“The Petroleum Safety Authority Norway will set the terms for supervising that the players in the petroleum sector;

- maintain a high standard for health, safety, the environment and emergency preparedness,**
- and thereby also contribute to creating the greatest possible value for society.”**



Our Regulations


The regulations are based on performance (functional) requirements, which:

- give the industry the freedom to choose good solutions for itself
- underline where responsibility rests
- refer to norms and industry standards which provide predictability for the users and indicate the standard which solutions are expected to meet






Qualification and use of new technology and new methods - FACILITIES REGULATIONS § 9



Where the petroleum activities entail use of new technology or new methods, **criteria shall be drawn up for development, testing and use** so that the requirements for HSE are fulfilled.

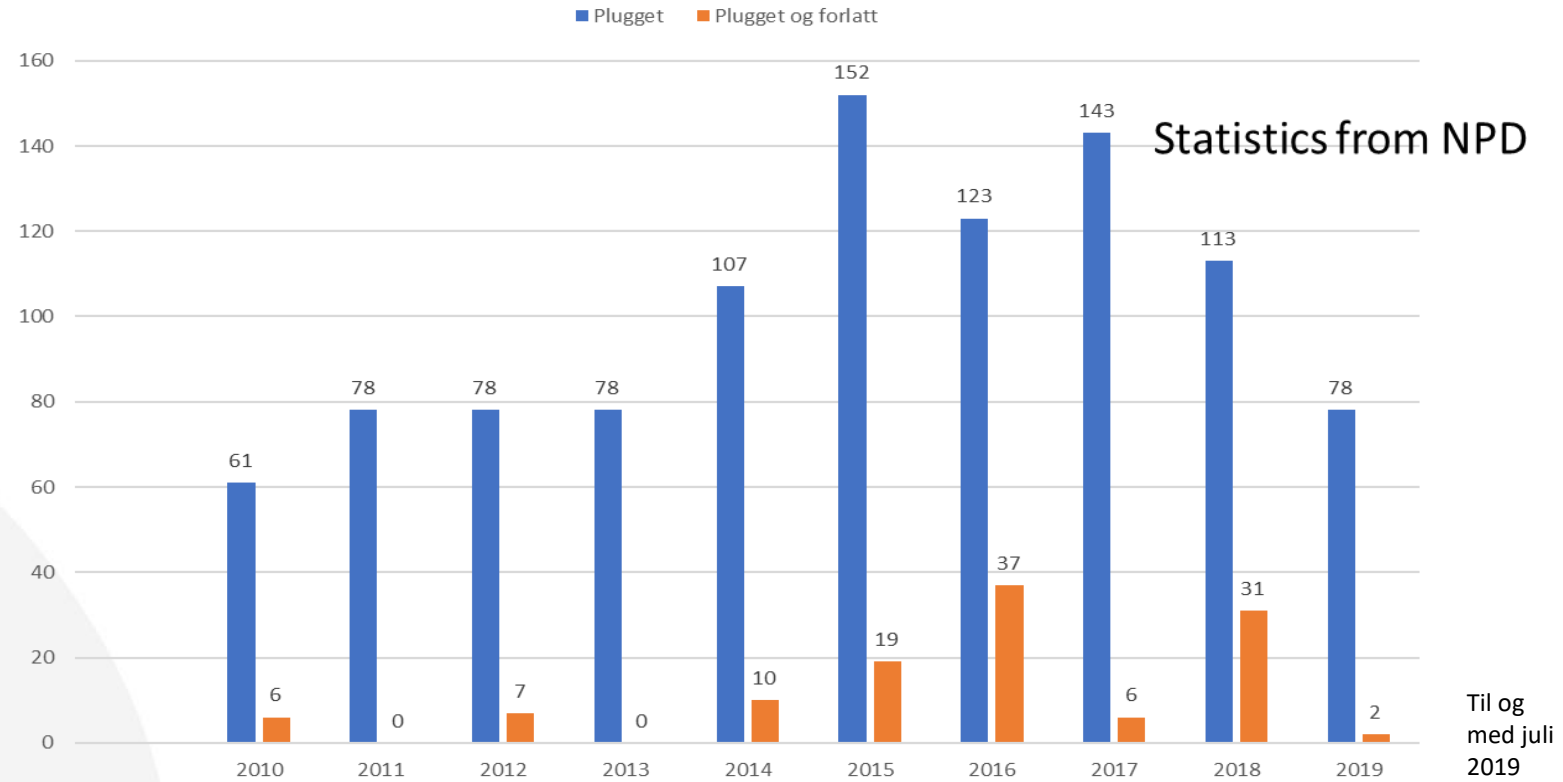


The criteria shall be representative for the **relevant conditions of use, and the technology or methods shall be adapted to already accepted solutions, e.g. verification.**



Permanent P&A of wellbores / wells from NPD

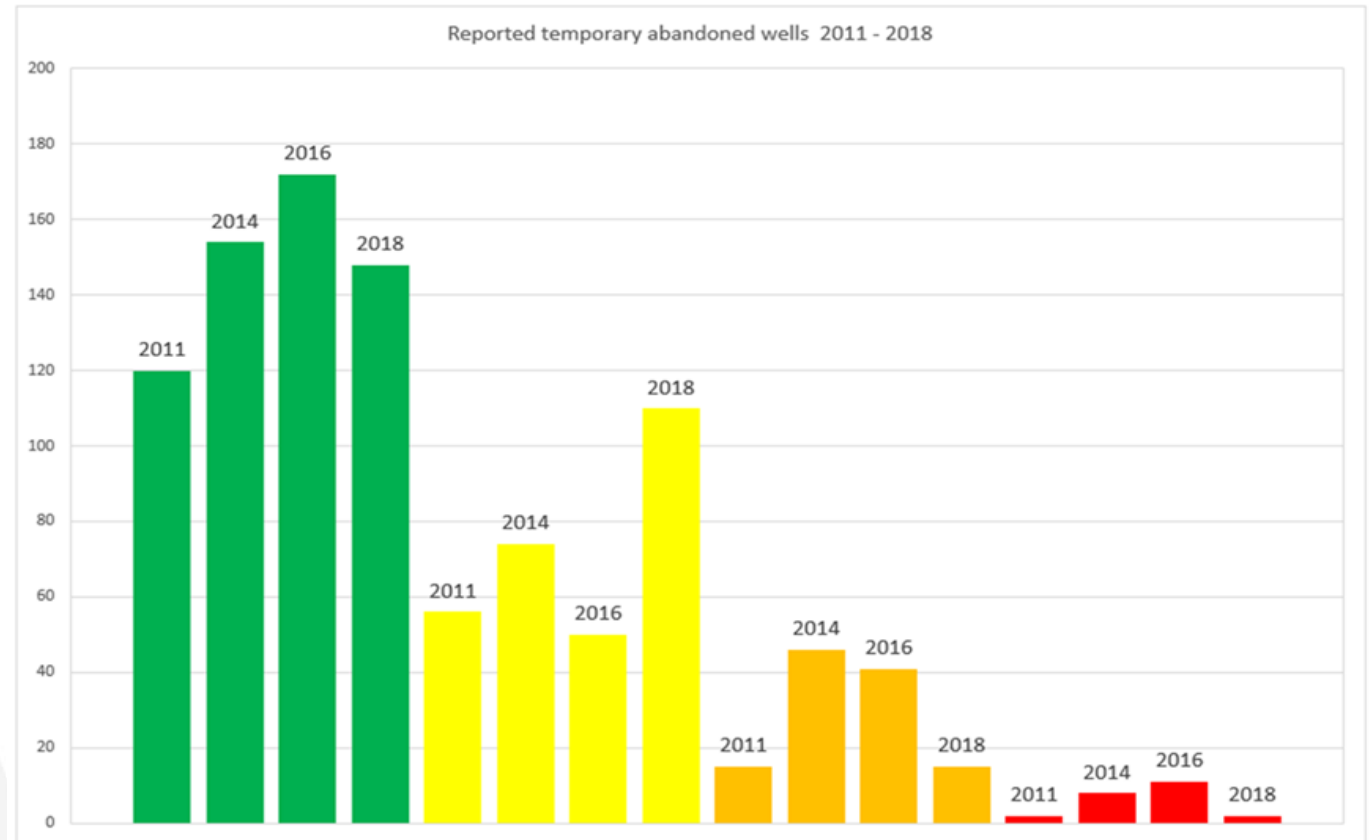
Antall brønner som plugges og plugges og forlates per år



Survey of Temporary abandoned wells

Categorization principles:

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



Comparison of surveys from: 2011 – 2014 – 2016 – 2018

Number of companies	8	12	10	6
Number of wells	193	282	274	275



Observations from the survey



163 WELLS IN
2018 INHERITED FROM
2016,
WHILE 112 NEW
ENTRIES IN 2018



A NUMBER OF WELLS
THAT HAVE BEEN
TEMPORARY
ABANDONED FOR MORE
THAN 3 YEARS ARE NOT
MONITORED



41% OF THE REPORTED
WELLS DID NOT HAVE
PLANNED DATE FOR
WHEN TO DO
SOMETHING WITH THE
WELLS



26% OF THE WELLS
DOES NOT HAVE AN
INDICATION OF
FORWARD PLANS



The way forward from PSA's view

+/- 1994 wells to be plugged in future !!

Sufficient **well barriers** to be established in each well, cross-sectional barriers:

- **Restore the sealing capacity** of the cap rock for all sources of inflow
- **Sufficient Verification** of each well barrier required to ensure no leaks for eternity
- NORSOK D-010 is the framework for proposed solutions reference in the guidance level in the regulatory requirements within permanent plugging & abandonment



Looking into 2035

4 Future Visions

Willingness to invest and have faith in the future

<https://www.ptil.no/contentassets/2cbf526aa8c84a55808fc1fc0bf84886/2018/dialogue-2018-no2.pdf>



Read the full Scenario Vision of 2035 in PSA's magazine Dialogue No 2 - 2018



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