Havtil Norwegian Ocean Industry Authority

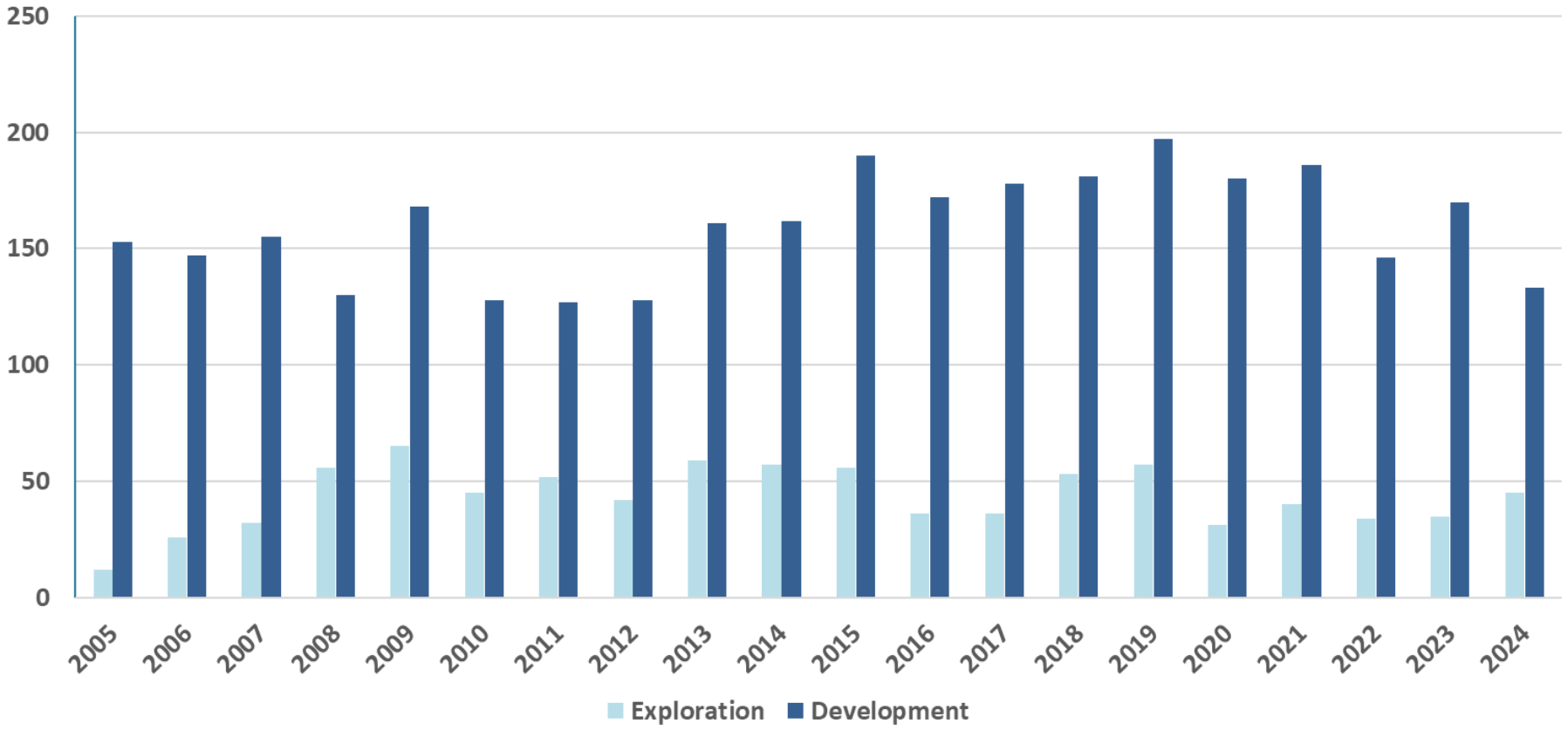
Incident Statistics & Focus

- Reduction of Well Control Risk

- Preventing Incidents

Presented by Fredrik Dørum

Spudded wellbores - 2005-2024



Norwegian Offshore Directorate statistics 2024:

- 133 development wells
- 45 exploration wells

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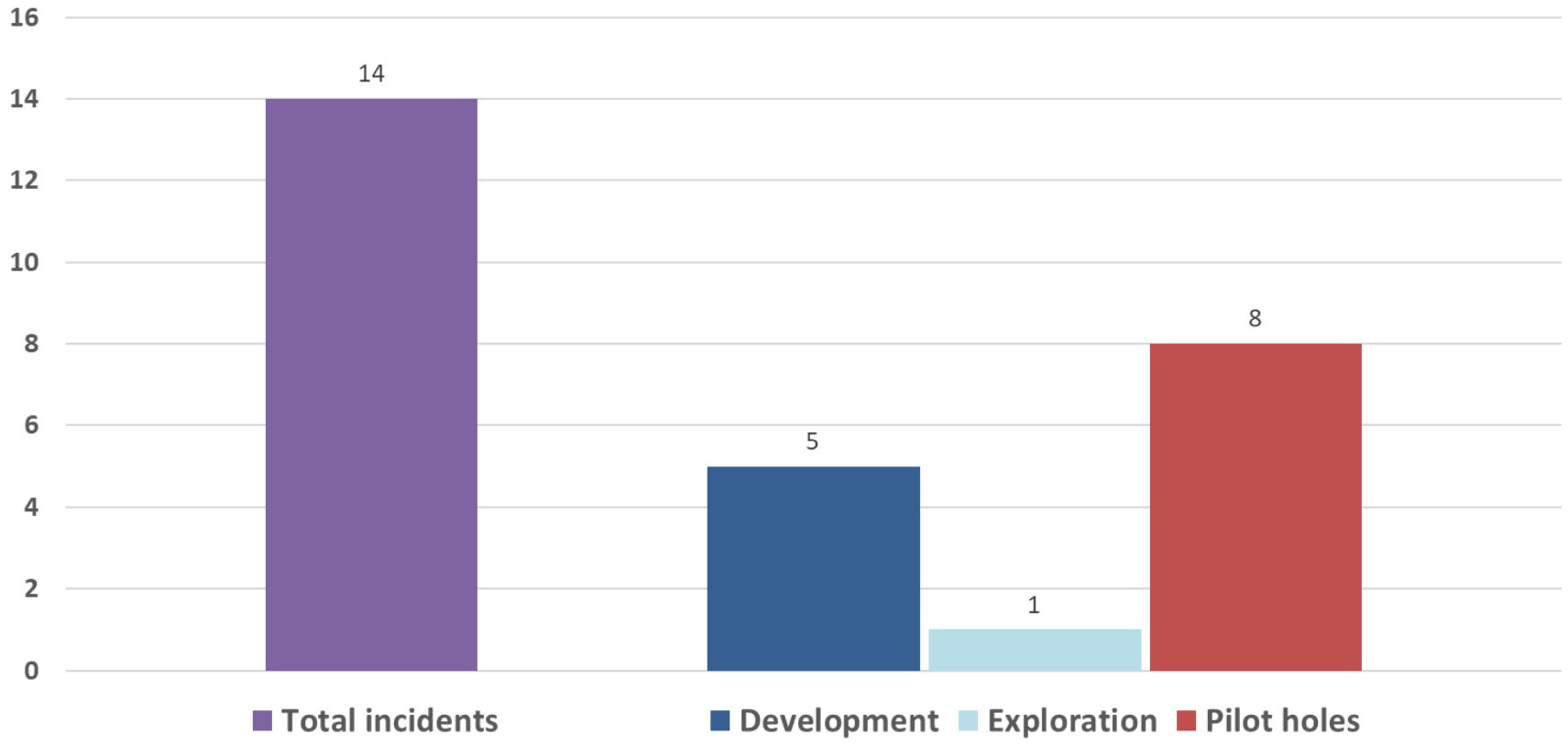
Well control incidents in 2024



Only classified well control incidents

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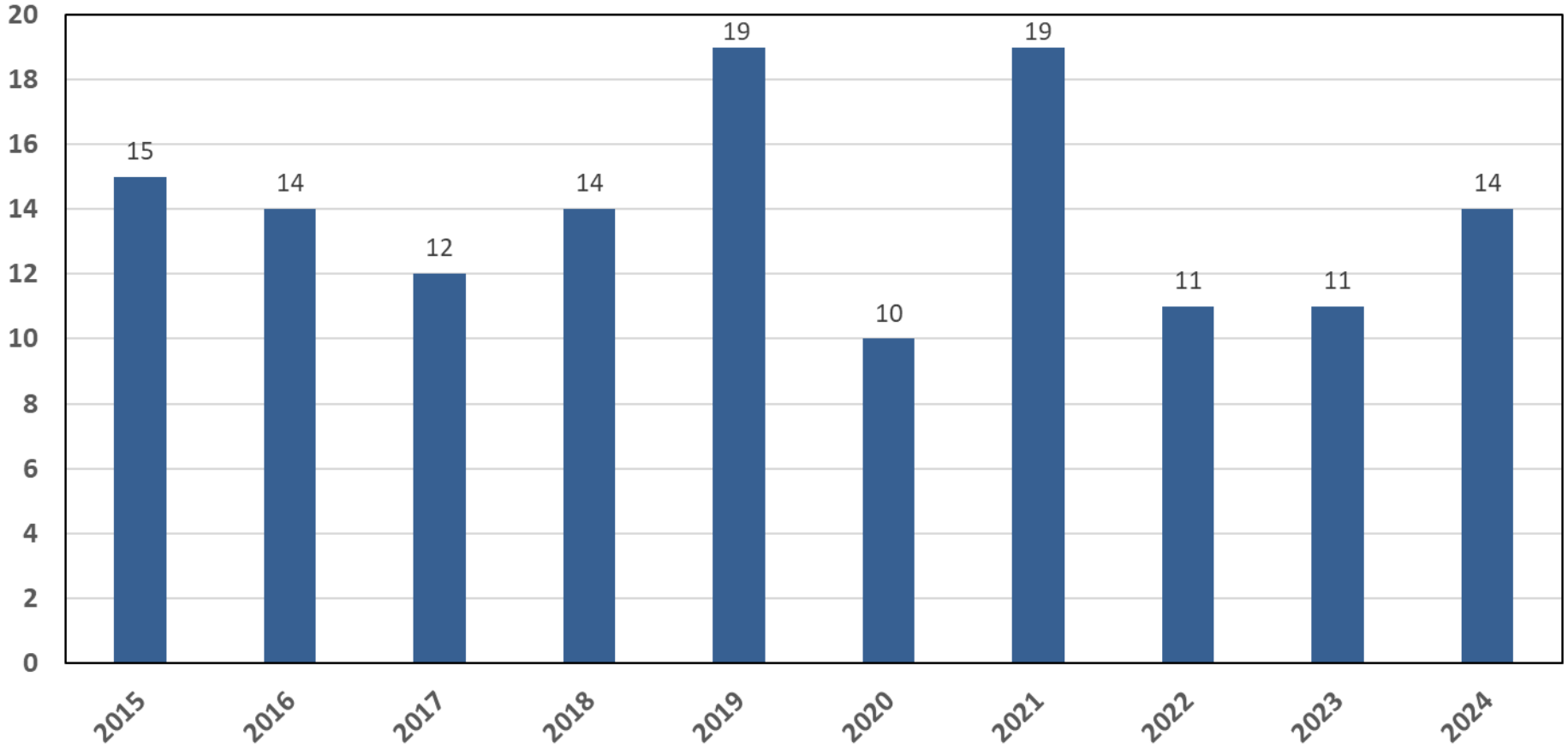
Well control incidents - 2015-2024



Average number of well control incidents per year for 2015-2024: 13,9

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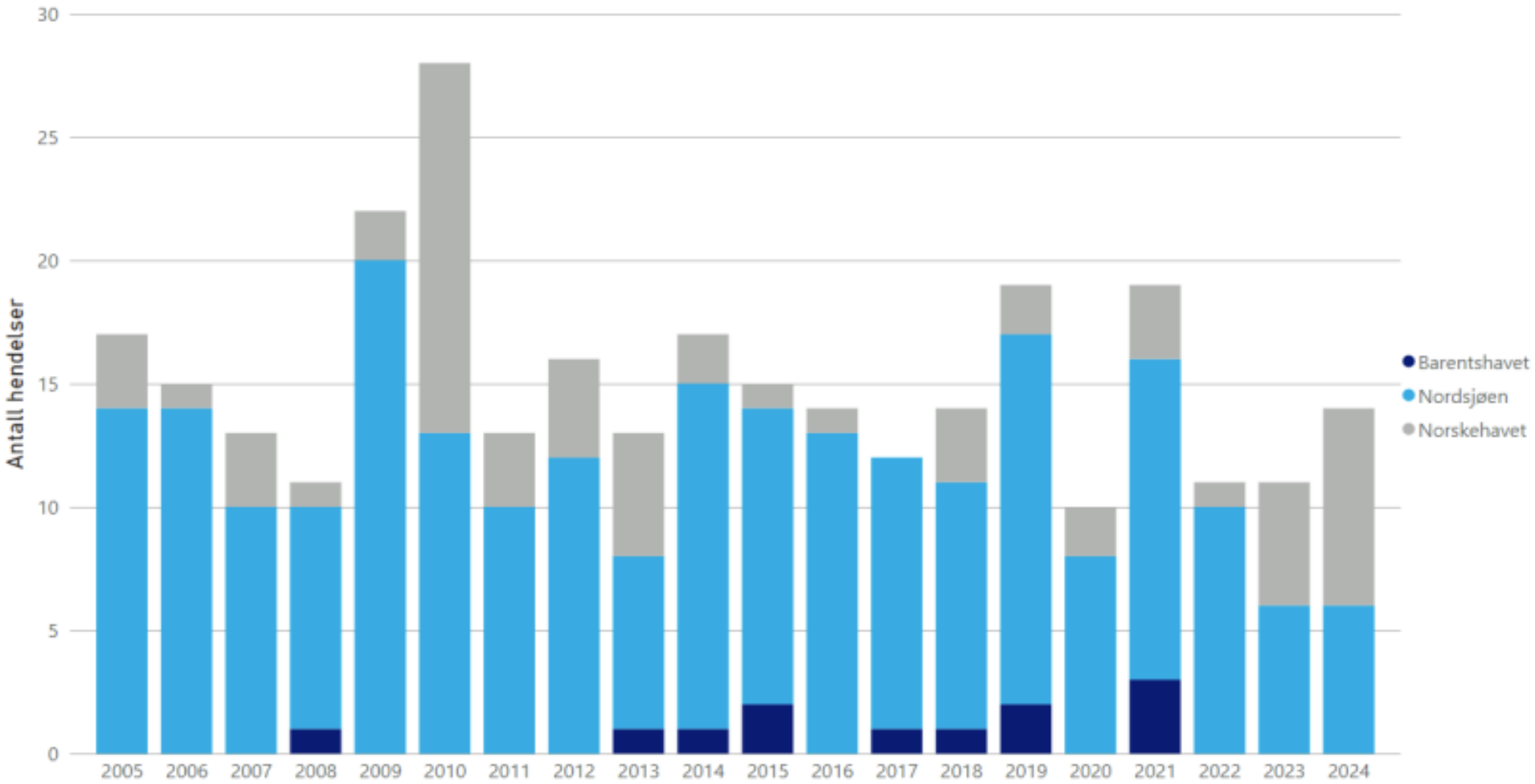
Distribution of well controll incidents pr. area on NCS



Figur 6-16 Fordeling av brønnkontrollhendelser på havområder, 2005-2024

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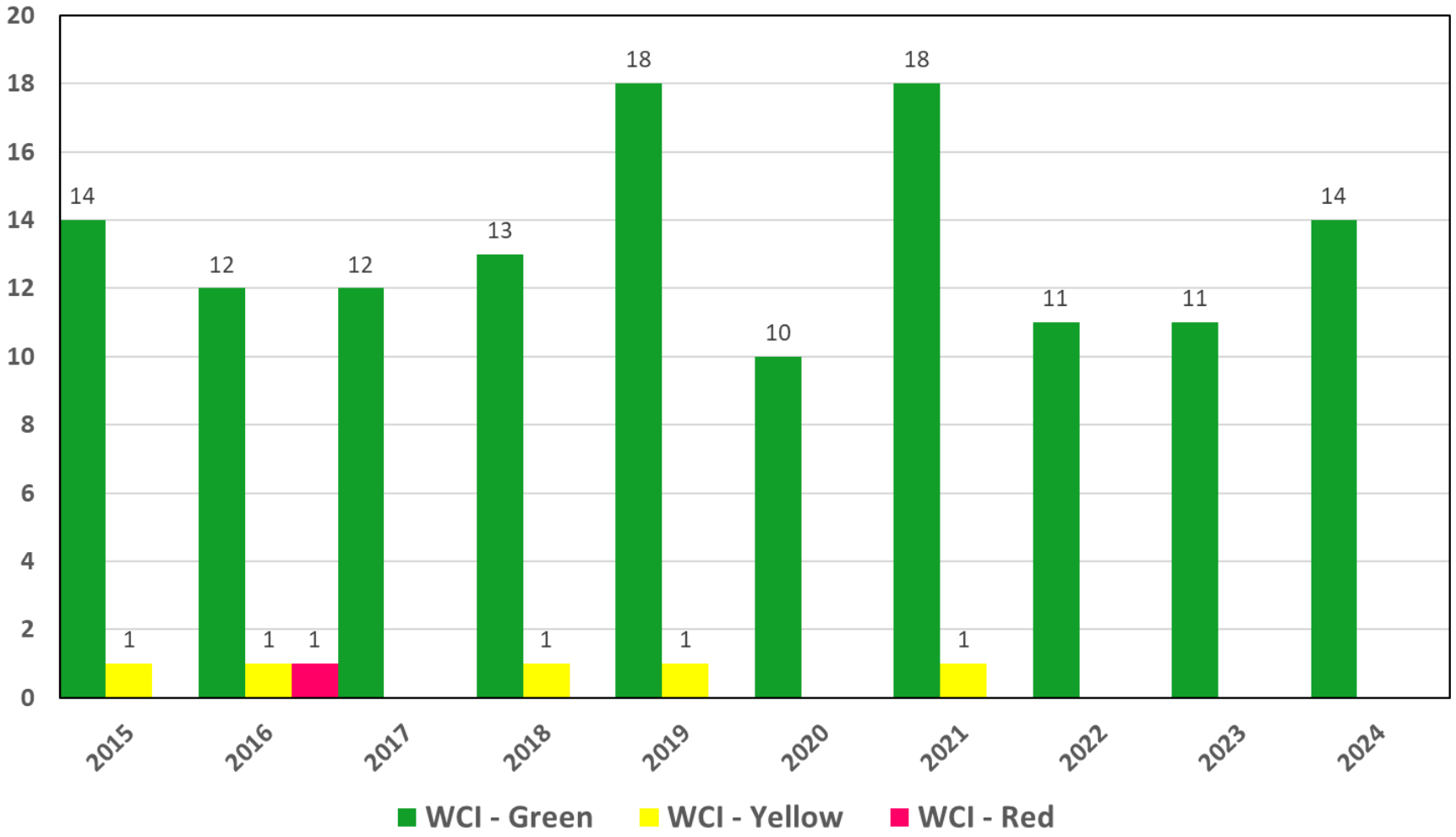
Categorization of well control incidents -2015-2024



Degree of seriousness

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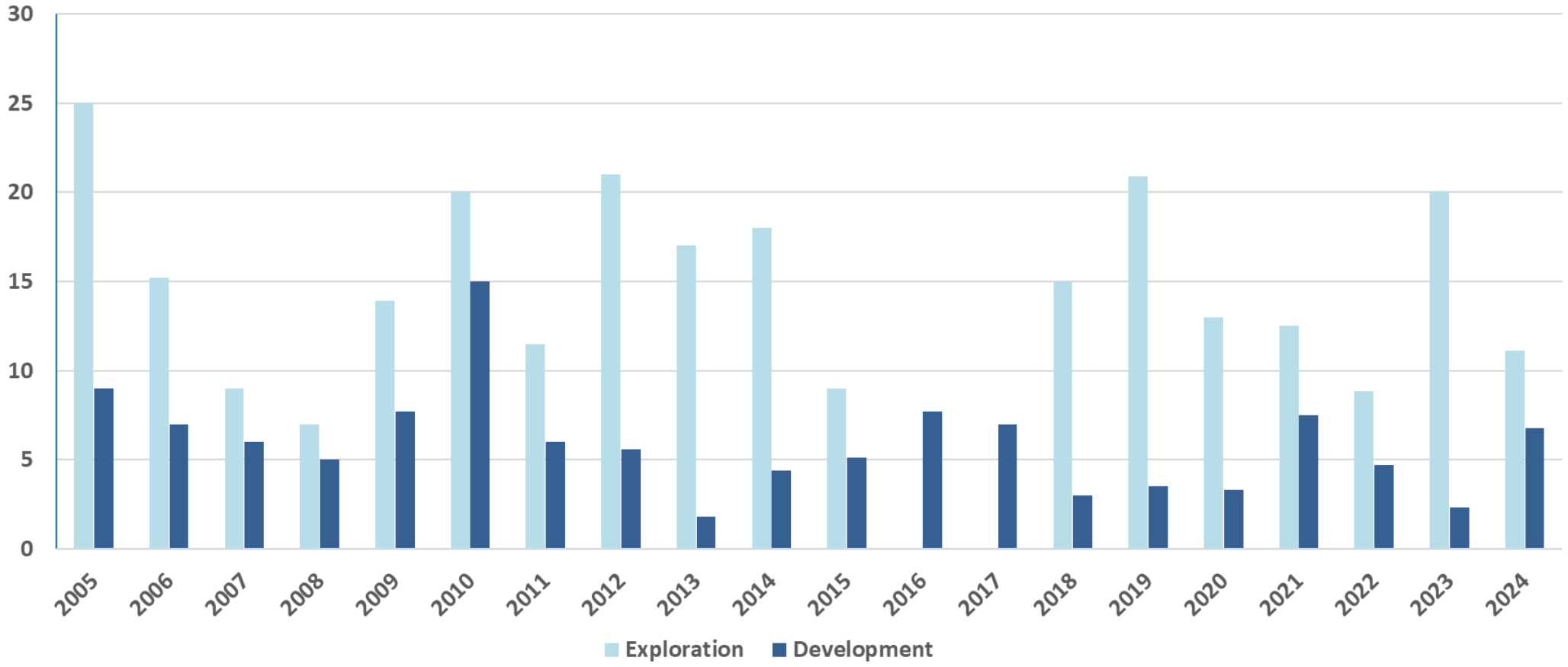
Incidents per 100 wells - 2005-2024



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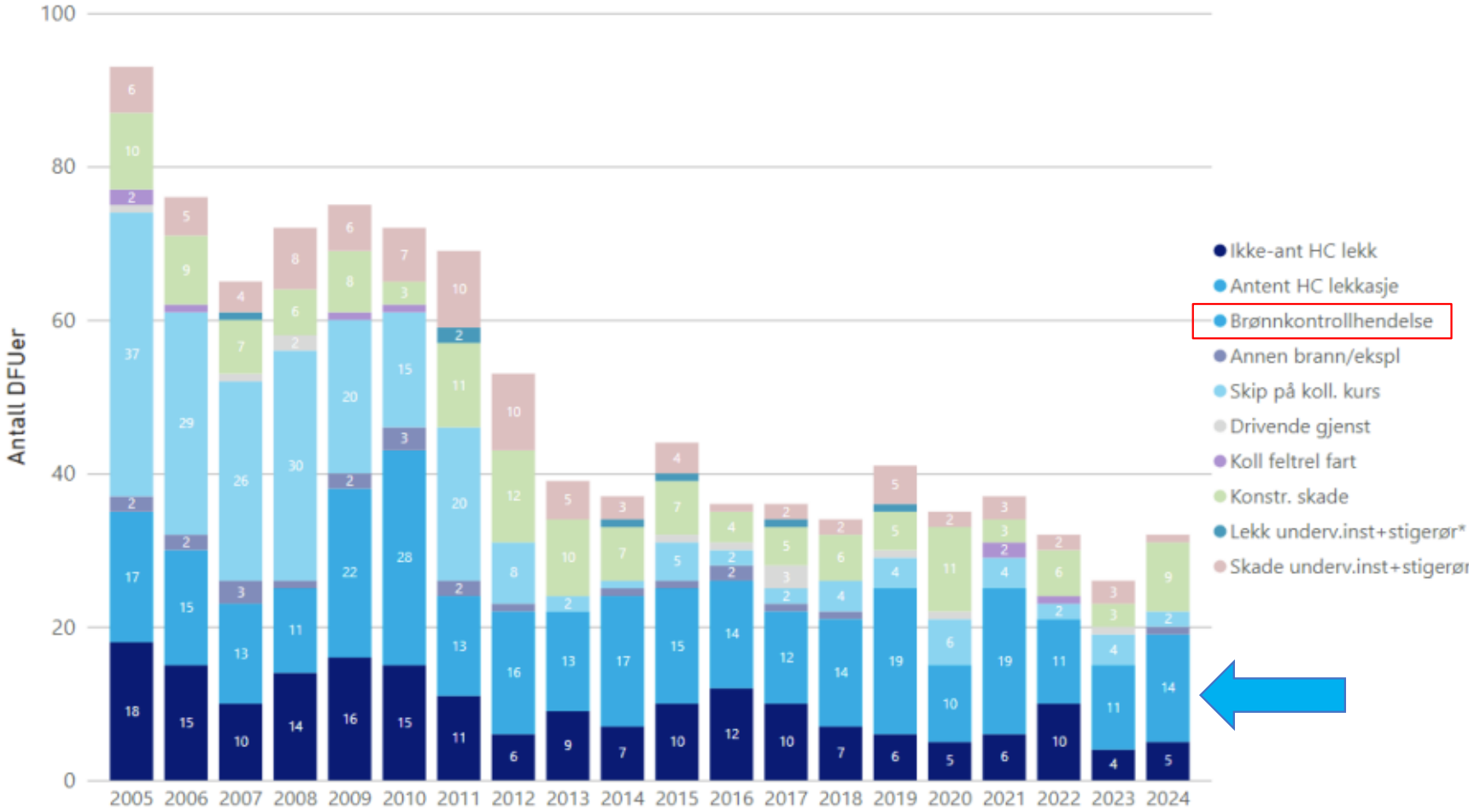
Well Control incident status – NCS

No significant reduction in the number of well control incidents on the NCS over the last decade.

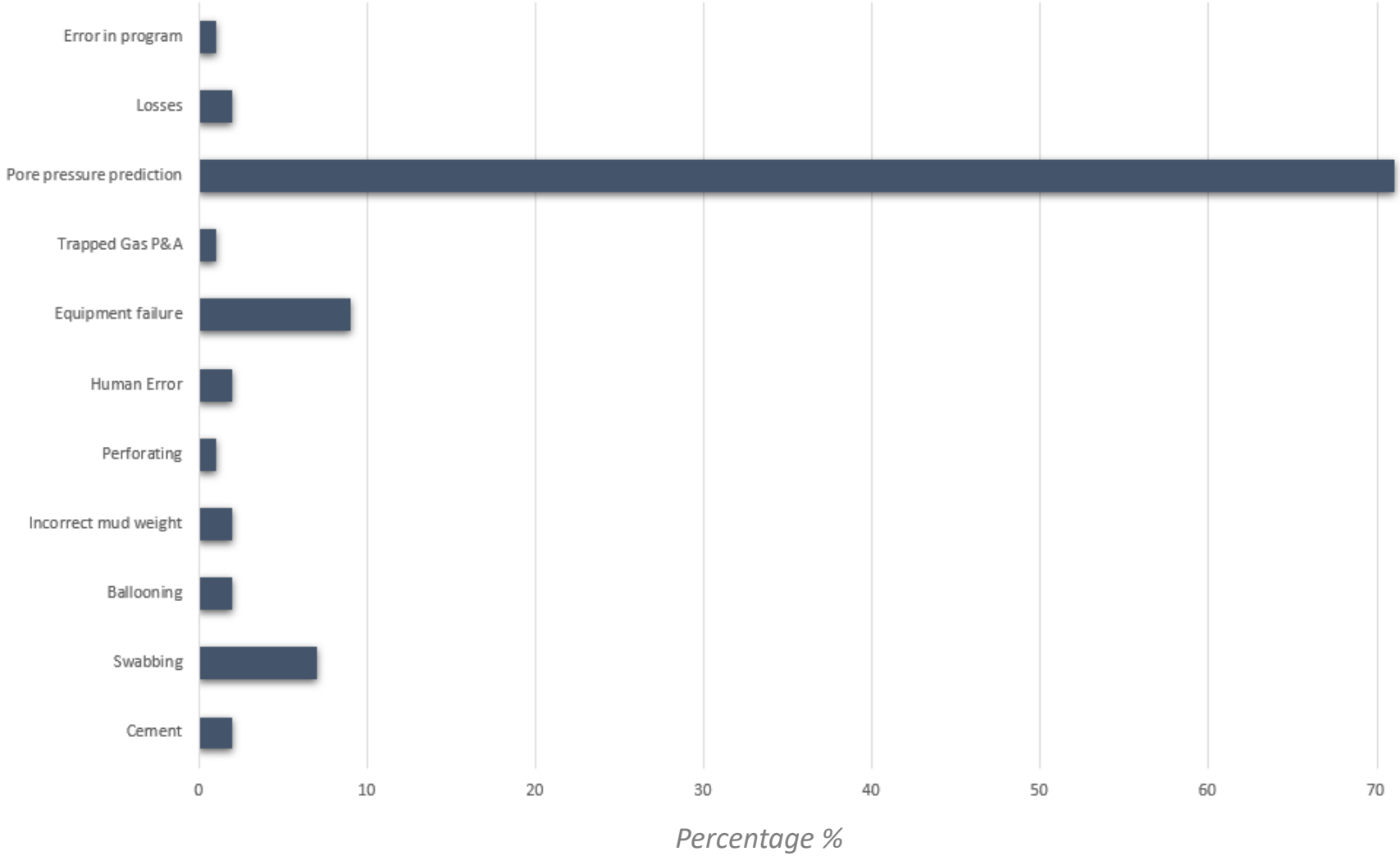
- Initiated a qualitative study to give more insight into causal factors and measures for well control incidents related to Norwegian petroleum activities.



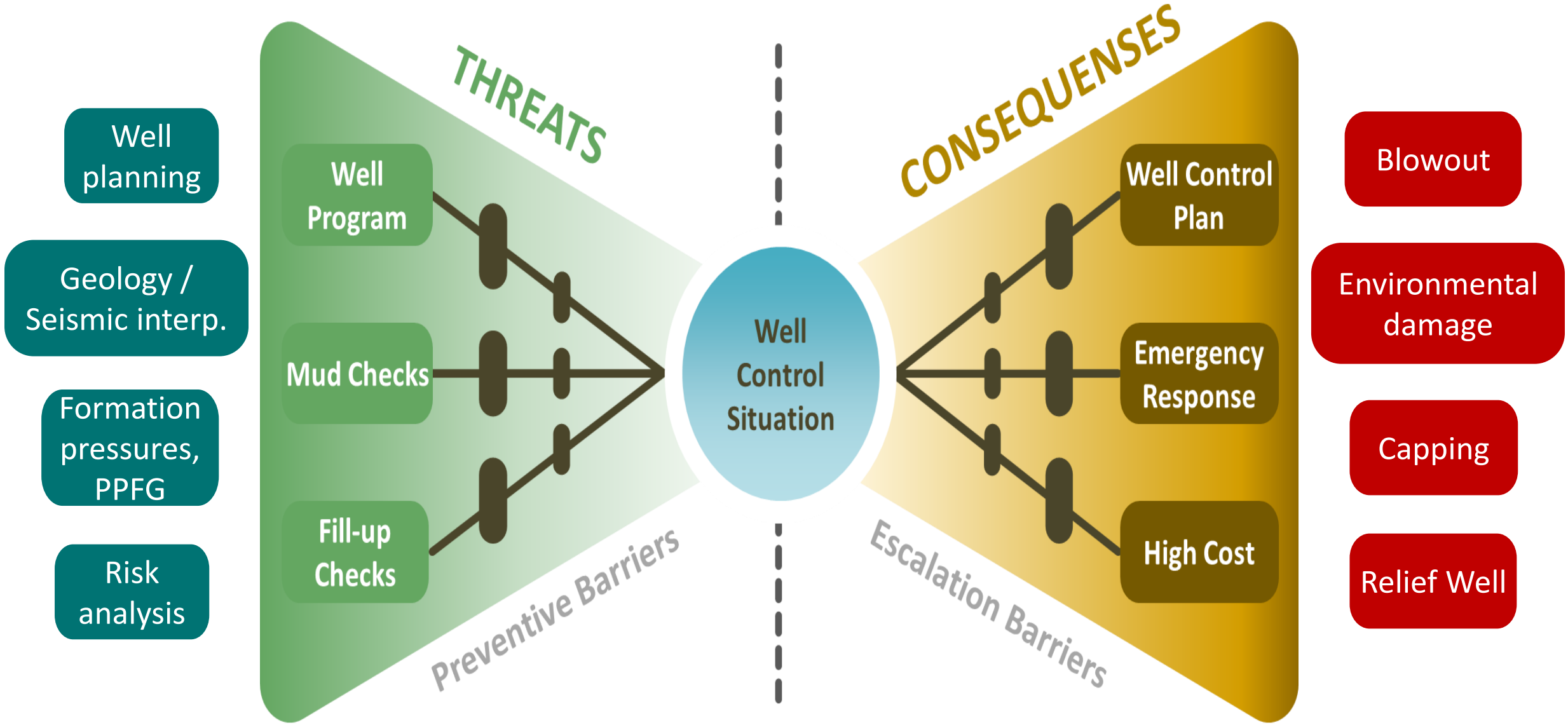
[Trends in risk level in the petroleum activity (RNNP) 2023: Summary report]

Qualitative RNNP Study 2013-2022 - Results

Main contributing factors of the 121 well control incidents reported, 2013 - 2022



Illustrating a Risk Picture in Well Control (Drilling)



Well Control key initiatives 2024/25

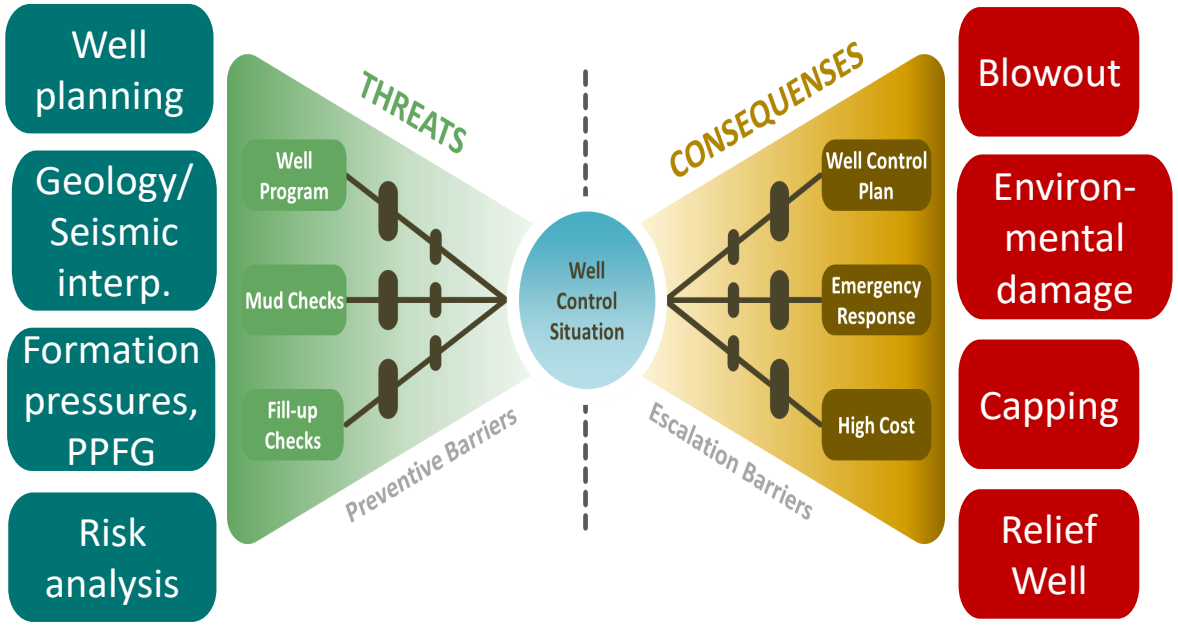
Ensuring Well Control Competence for each role
- Such as 024, NORSOK D-010 and IOGP guideline 476

Learning, experience transfer and training
- Such as IOGP guidelines 628, 501 & 502

Risk Management
- Using suitable methodologies in identification of Well Control risks in wells- and operational planning
- Report on CO2 Blowout Considerations
- Report on CO2 Well Control Simulation Software
- Report on Shallow Hazards - Challenges & Opportunities
- IOGP guideline 608 on Pore Pressure and Fracture Gradient analysis

Change Management
- Change in drilling plans must include Well Control risk assessments

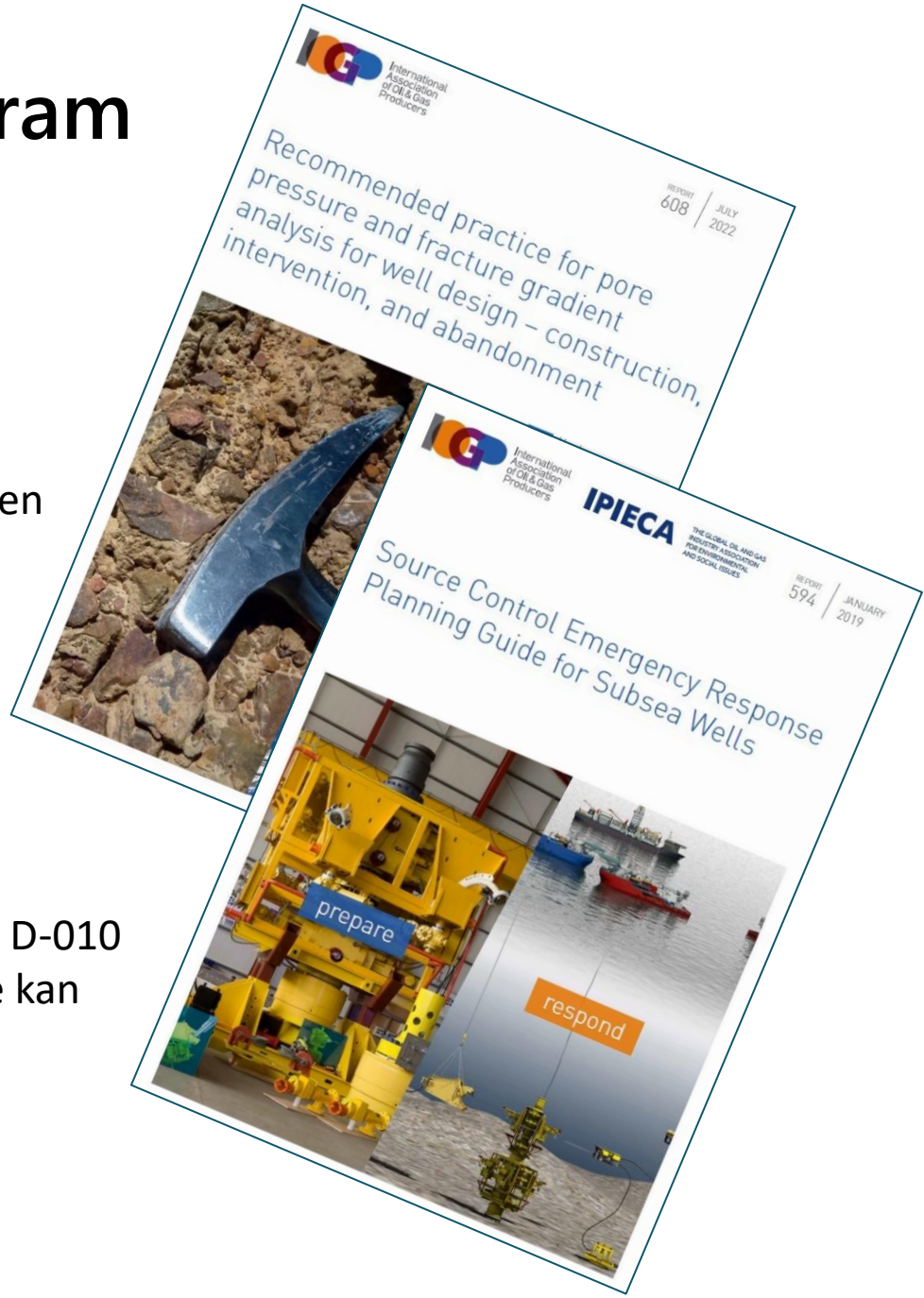
Well Control Equipment
- Maintenance and certification
- Digital possibilities, AI, and 24/7 BOP system monitoring
- New BOP technology
- IOGP guideline 594 on Source Control Emergency Response - Planning Guide for Subsea Wells



New guidelines adopted to Well Program and Well Control regulations

The guideline to Activity regulations § 81 Well programme
Second paragraph:
«For å oppfylle kravet til programmet som nevnt i første ledd, bør standarden NORSOK D-010 kapittel 5.3, 5.7, 5.11 og 10.3 brukes på området helse, arbeidsmiljø og sikkerhet. IOGPs retningslinje 608 bør legges til grunn for prinsipper for reduksjon av usikkerhet i formasjonstrykk.»

The guideline to Activity regulations § 86 Well control
Fourth paragraph:
«Ved bruk av kapslingsutstyr på havbunnsbrønner bør standarden NORSOK D-010 kapittel 5.8.3 brukes. I planlegging av mulige kapslingsoperasjoner, der slike kan være egnet, bør IOGPs retningslinje 594 brukes.»



IOGP - International Association of Oil & Gas Producers

Regulatory focus going forward

Prevention of Well Control incidents

- **Projects for 2025/26**
  1. PPFG uncertainty & communication
  2. Cemented shoe as barrier element
- **Well Control Systems & Equipment follow-up continues**
  1. BOP Maintenance and certification
  2. Digital possibilities, AI developments and 24/7 BOP system monitoring
  3. New BOP technology
  4. Technology qualification


Thank you!
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