Standardised Supply Chain Behaviour

Annual report – 2021

Norsk olje&gass

Norsk Industri

“The year 2021 shows that it remains important to concentrate clear and distinct attention on standardised behaviour in the petroleum industry in order to maintain a high level of safety, improve competitiveness and reduce emissions on the Norwegian continental shelf.

We believe the increased use of standardised solutions, earlier involvement of supplier expertise, enhanced knowledge, and improved coordination among those involved will provide greater predictability and strengthen the industry’s ability to change.

A considerable potential exists to make significant cost reductions while simultaneously maintaining and strengthening the ability to innovate and the high level of safety on the Norwegian continental shelf.”

Hildegunn T. Blindheim
Director general
The Norwegian Oil and Gas Association

Stein Lier-Hansen
Director general
The Federation of Norwegian Industries

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Introduction

Background: The Joint Industry guideline* recommend four main areas for improvement:

Increase use of industry STANDARD DELIVERY

Better and earlier use of SUPPLIER EXPERTISE

ALIGN DRIVERS across the supply chain

Change operator and contractor CULTURE

The purpose with this report:

- **Measure the industry's ability to change**
- Be the basis for an **improvement agenda** on industry level

Input is provided from:

- **Operators, Contractors and Supplier Companies** (projects, engineering, procurement and sales)
- Commercial effect measurements is gathered from **Rystad Energy, The Shelf 2021** by **The Norwegian Petroleum Directorate** and **The Investment Analysis** by **The Norwegian Oil and Gass Association**

Report methodology: 2021 report is mainly based on feedback from quantitative survey and in-depth interviews

Annual survey to follow the development from 2019 and 2020

In-depth interviews to increase understanding

Building the basis for the **Annual report**

We wish to thank all respondents and other involved parties

This report is based on interpretations from feedback provided

*The Joint Industry best practice guideline, launched in 2019
** The Joint Industry best practice guideline is focusing on topside modification projects

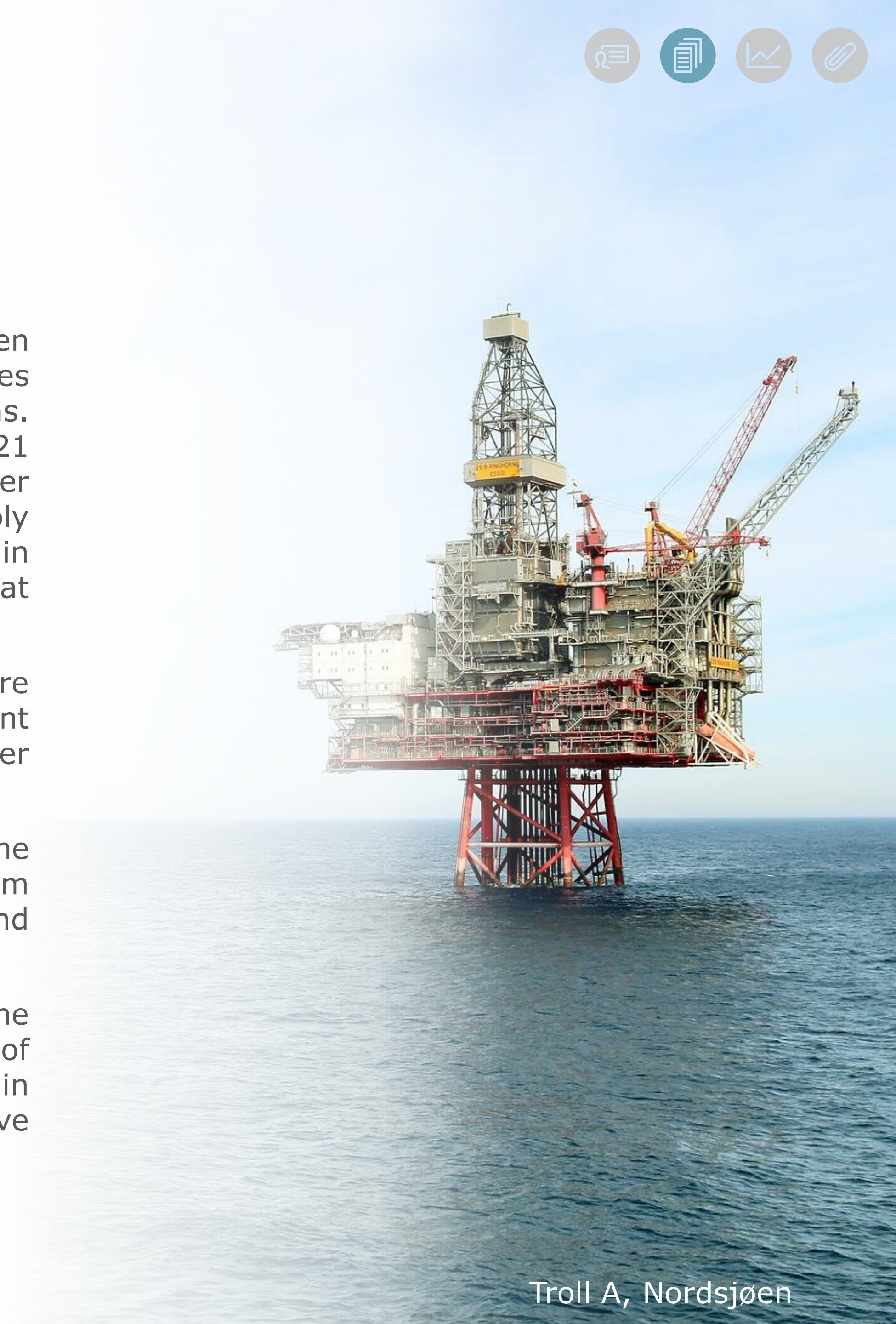
Executive summary

Since the Joint Industry Guideline was published in 2019, various measures have been initiated to enhance the implementation. The annual report is one of the initiated measures to follow up and ensure development within the areas of the guideline recommendations. Despite the initiated measures, the shared experiences of the contractors from 2021 indicates that the industry have not yet succeeded in extracting the full potential of better and early involvement of suppliers expertise, as well as to align drivers across the supply chain. As a contradiction to the contractors, the operators are reporting a positive trend in the areas of the guideline recommendations. This may indicate that the focus and work at the areas have started, but the implementation process is complex and takes time.

Therefore, to increase the focus and implementation of the Joint Industry Guideline, there have been initiated a variation of projects and activities throughout 2021. The Improvement Agenda and the following Action list describes the focus areas of 2022 for further implementation.

Further, the annual report of 2021 indicates that increased use of standard delivery is the guideline recommendation that the industry have had most success of implementing. From the annual report of 2020, the Improvement agenda enhanced focus on EqHub, READI and Magnet JQS, which may be a contributing factor to this positive development.

Despite of Covid-19, The shelf 2021 by The Norwegian Petroleum Directorate, as well as The Investment Analysis by The Norwegian Oil and Gas Association, reports a high level of activity at the Norwegian continental shelf for the upcoming years. Standardised supply chain behaviour therefore continues to be an important focus area to keep reducing costs, improve competitiveness and extend life time of assets.



Troll A, Nordsjøen

Improvement agenda 2022
Key focus areas based on learnings from industry feedback

	IMPROVEMENT AGENDA (owned by Joint Industry Improvement arena)
Increase use of industry STANDARD DELIVERY	• *Focus on the potential of increased use of standard documentation* • *Standard solutions should be the starting point and tailored solutions should be treated as a deviation* • *Invest time in searching for standard solution opportunities when beneficial*
Better and earlier use of SUPPLIER EXPERTISE	• *Enforced effort to utilize supplier expertise at an early phase (study/FEED) to recommend better use of standard solutions* • *Consider the use of new technology when presented to become a new standard solution*
ALIGN DRIVERS across the supply chain	• *Involve all parties for establishment of collaborative incentive models*
Change operator and contractor CULTURE	• *Focus on experience sharing internally and across companies* • *A joint project team can be beneficial with complex projects* • *Get early focus on guideline recommendations in new development projects* • *Increase the communication around the guideline* • *Utilise top management in communication*

Improvement agenda 2022
Action list

	ACTIONS
Increase use of industry STANDARD DELIVERY	• *Check if there are, or suggest, an establishment of procedures for handling deviation between industry standards and company specific requirements*
	• *Stimulate implementation of EqHub as an enabler to streamline the flow of standard information*
	• *Identify showcase for demonstration: The burden of proof of need for customization should be moved from contractor to operator - technical integrity (Total cost of ownership approach)*
Better and earlier use of SUPPLIER EXPERTISE	• *Conduct a workshop to identify "what is early enough" in terms of early involvement*
	• *Identify showcase for demonstration: Get focus on involving suppliers at Study/FEED phase at new projects*
ALIGN DRIVERS across the supply chain	• *Conduct a workshop to brainstorm on contractual drivers to support SSCB as a foundation for the workgroup below*
	• *Establish a workgroup to recommend compensation mechanisms to align drivers for early involvement of supplier's expertise and increased use of standard delivery prior to purchase order*
Change operator and contractor CULTURE	• *Conduct experience sharing workshops across companies*
	• *Ensure and follow-up guideline implementation* - *Q1: Revitalise implementation network, and clarify implementation plans at operators and contractors, with defined responsibility* - *Q2-Q4: Check-ins and follow-ups of implementation plans*
	• *Hold webinars to create awareness of the guideline down in the organisations*
	• *Share annual report to implementation network (++)*
	• *Identify potential conferences for guideline promotion*
	• *Ensure "Recommended best practices" as check points at early phase of projects – issued checklist*

Feedback from respondent groups
Based on survey and conducted interviews

OPERATORS

- Operators are the most positive respondent to the progress of the guideline implementation
- Operators are also the group with the largest positive development in their feedback from 2019
- Low variation in feedback between different questions (operators are on average moderately positive to all topics)

CONTRACTORS

- Contractors are reporting lack of progress in the guideline implementation
- Contractors report a slightly positive development in use of standard delivery, whereas they see the largest improvement potential for early involvement of suppliers' expertise
- Contractors survey feedback has a negative trend from 2019
- As last year, technical requirements and lack of incentives are highlighted as obstacles for increased use of supplier expertise and standard solutions

SUPPLIERS

- Suppliers survey feedback has a positive trend in guideline implementation from 2020
- Alignment of incentives, as well as better and early involvement of supplier's expertise are highlighted as the most potent improvement areas
- Lack of early involvement of suppliers, as well as comprehensive product specifications are highlighted as obstacles for both increased use of standard solutions and new alternative technology

Key takeaways
Based on survey and conducted interviews

The search and approval of standard solutions is time consuming, but when successfully implemented, it often results in significant cost reductions

Involvement of suppliers expertise pre-FEED will utilize their competence without cost and schedule consequences later in the project

The incentives should be supported through the contracts

Not using standard solutions and equipment should be treated as a deviation

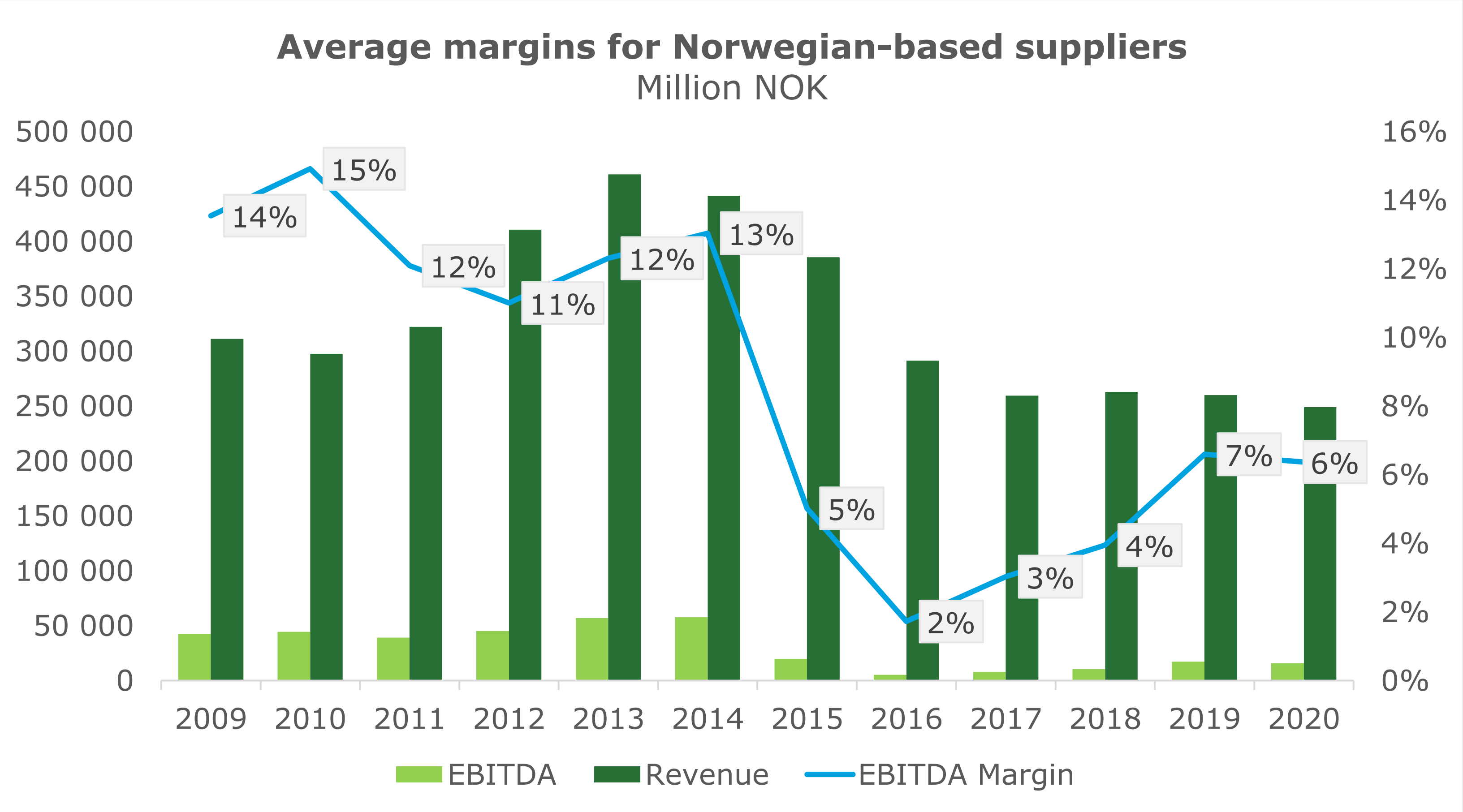
High potential for improvements in contracts & requirements - stimulate simplification and standardisation (limited flexibility of technical requirements for contractors)

Predictability, collaboration and trust over time are key enablers

Commercial effect

Edvard Grieg, Nordsjøen

Margin picture
Feedback from interviews shows significantly lower margins in the service industry

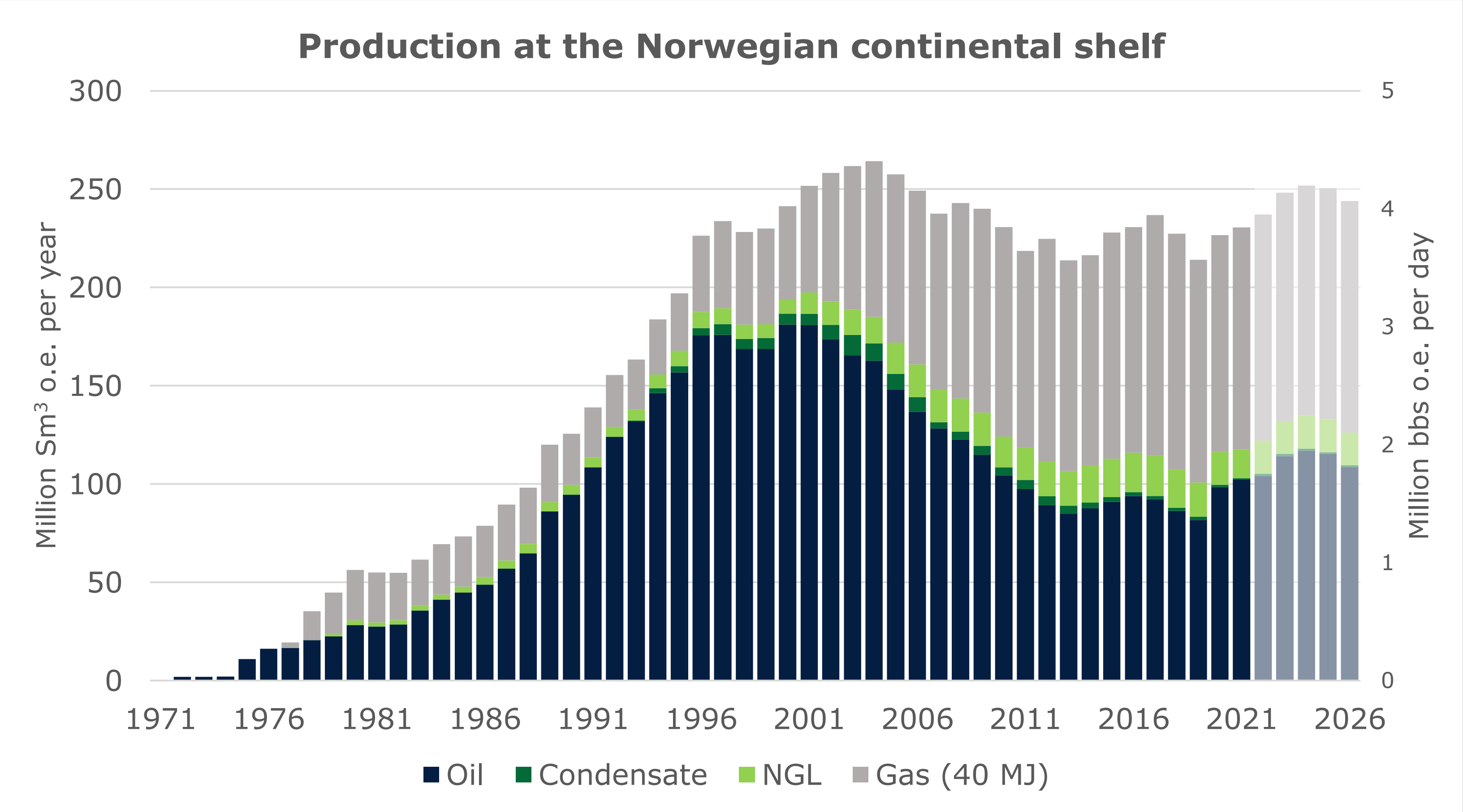


Comments

- Significantly lower turnover today than in 2014 for the supplier industry.
- EBITDA at low levels.
- Despite an increased level of activity in the industry in 2021 and 2022, the margins are expected to stay stable and low due to inflation and increased costs in the supply chain, which can be difficult to compensate or to price upwards in the value chain.
- Numbers are representative for the NCS (including maritime).
- Rystad Energy have obtained all numbers from Brønnøysund.

Source: Rystad Energy Research and Analysis

Production levels

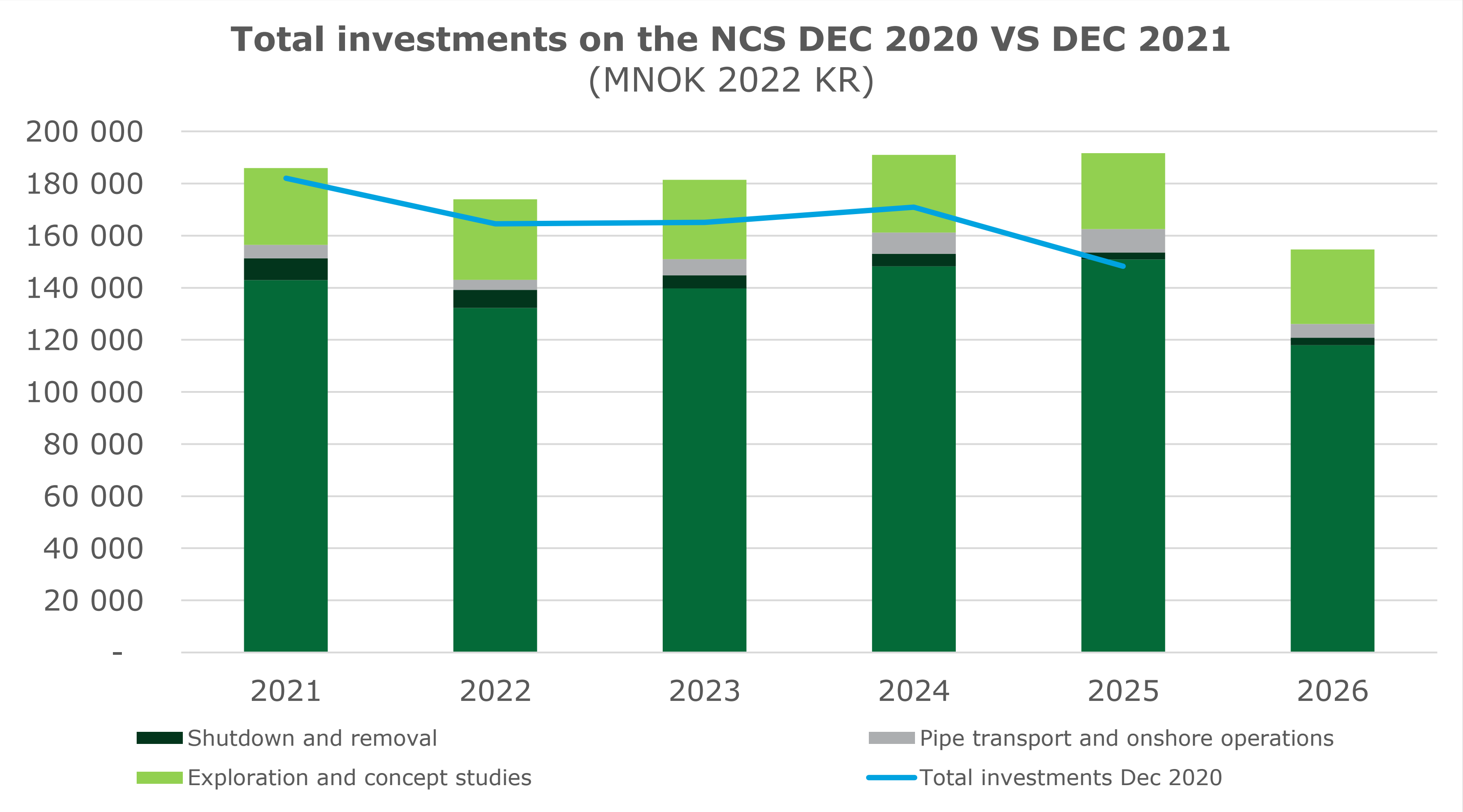


Comments

- Per 2021 there are 94 producing fields at the Norwegian continental shelf.
- The production is expected to continue to increase towards 2024.
- Whilst the production is increasing, the CO_2 emissions are decreasing.

Source: The Shelf 2021, Norwegian Petroleum Directorate

Level of investment on the Norwegian continental shelf
Based on industry feedback



Comments

- There is estimated a 6% decline in investments from 2021 to 2022. This is a positive evolvement compared to last years estimations.
- The investments of 2023 is expected to increase due to sanctions on projects.
- Cost reductions at modification projects makes it possible to keep a higher level of investments. This is evidence that the guideline recommendations continues to be important for the upcoming years.

Source: The investment analysis for the Norwegian continental shelf 2022 – 2026, The Norwegian Oil and Gass Association

Ability to change

Troll A, Nordsjøen

Increase use of industry Standard Delivery
Feedback from industry

Questions and responses

	Operator	Contractor	Supplier
To what extent are industry standard equipment solutions normally utilised?	🟢 ⬆	🟡 ⬆	🟢 ⬆
To what extent is standard equipment treated as standard equipment in the project? (including documentation and follow-up)*	🟢 ⬆	🔴 ⬇	🟢 ⬆
To what extent are industry standard requirements utilised?	🟢 ⬆	🔴 ⬆	🟢 ⬆
To what extent are standard documentation, and pre-defined follow-up of documentation normally utilised?	🟢 ⬆		🟢 ⬆
To what extent do you perceive the documentation requirements as efficient and fit for purpose?*		🔴 ⬇	🟢 ⬆
To what extent do buyers over-specify their request?[1]			🔴 ⬇

Limits: 2,8 3,2

⬆ Positive trend ⬇ Negative trend ➡ Flat trend

*New questions in 2020 survey

1. Opposite high/low score interpretation

Comments

- Operators and suppliers reports a **positive trend** in use of Standard Delivery since 2019, whereas contractors' gives an overall more **negative** feedback.
- However, there is significant **improvement potential** regarding request specifications and standard documentation.
- Increased use of standard delivery will **reduce cost and lead times.**
- It is **easier to select standard solutions for greenfield projects than brownfield modification projects** due to the extent of tailored solutions and interfaces.
- **Commercial awareness** will increase the focus of choosing standard solutions when beneficial.
- The search of standard solutions is often seen as time consuming. Therefore, previously used demands and solutions are often used.

Better and earlier use of supplier expertise
Feedback from industry

Questions and responses

	Operator	Contractor	Supplier
Has key supplier(s) been identified, selected and informed (prior to optimisation and freeze of scope)?	🟢⬆	🟡⬆	🟡⬆
Has key supplier(s) expertise and technology been utilised pre-PO and contributed to optimisation and smart integration?	🟢⬆	🔴⬇	🟡⬆
To what extent is the lead time in engineering efficient pre PO-issue?	🟢⬆	🔴⬇	🟡⬆

Limits: 2,8 3,2

⬆ Positive trend ⬇ Negative trend ➡ Flat trend

Comments

- Operators and suppliers reports an overall **positive development** regarding better and earlier use of supplier expertise.
- Contractors see **unrealised potential** regarding early involvement of suppliers expertise and existing technology.
- There are reason to believe **pre purchase order collaboration** would be time and cost efficient, for all parties involved.
- Utilisation of suppliers' expertise at **Study/FEED phase**. It is costly and time consuming to make changes after the FEED is finalized.
- **Experience sharing at an early stage** decreases the possibility of mistakes, as well as increases the opportunity of improved, and possibly standard solutions.
- Contractors need **incentives for early involvement** of suppliers.

Align drivers across the supply chain
Feedback from industry

Questions and responses

	Operator	Contractor	Supplier
To what extent does the contracts support common drivers across the supply chain to remove unnecessary work, stimulate collaboration and contribute to fit for purpose delivery?	🟢⬆	🔴⬇	🔴⬆
To what extent are drivers aligned, communicated and understood by all parties?	🟡⬆	🔴⬆	🔴⬇

Comments

- Development related to alignment of drivers is, on average, **positive** compared to 2019.
- Contractors and suppliers have a more **negative** perception of the current incentive models.
- Contractors experience **lack of support for incentives models in the contracts.**

Limits: 2,8 3,2

⬆ Positive trend ⬇ Negative trend ➡ Flat trend

Change operator and contractor culture
Feedback from industry

Questions and responses

	Operator	Contractor	Supplier
To what extent do you experience positive change in behaviour related to the guideline recommendations?*	● ⬇	● ⬆	● ⬆
Based on previous questions: How efficient and predictable are the project clients (operator and/or contractor) compared to similar clients in other relevant industries (e.g maritime oil and gas clients)?			● ⬇

Limits: 2,8 3,2

⬆ Positive trend ⬇ Negative trend ➡ Flat trend

*New questions in 2020 survey

Comments

- The interviewees experience **lack of focus** on the cultural change that is needed for implementation of the guideline recommendations.
- Operators experience **the will to change** but there is limited capacity for it.
- **Lack of time** and **resources** may be a barrier for change.
- The **management need to push** for the cultural change and guideline implementation.
- **KPIs should support the guideline recommendations.**
- **Experience sharing** and **success stories** based on the elements from the guideline is likely to increase the focus and improve implementation.
- **Openness and trust is key** to follow the guideline principals.

Ivar Aasen, Nordsjøen

Annual survey 2021 results and development from 2020

		Operator	Contractor	Supplier
Increase use of industry STANDARD DELIVERY	• To what extent are industry standard equipment solutions normally utilised?	3,5 (+0,2)	3,1 (+0,2)	3,4 (+1,0)
	• To what extent is standard equipment treated as standard equipment in the project? (including documentation and follow-up)*	3,9 (+0,3)	2,7 (-0,2)	3,4 (+0,6)
	• To what extent are industry standard requirements utilised?	4,0 (+0,6)	2,8 (-0,9)	3,7 (+0,9)
	• To what extent are standard documentation, and pre-defined follow-up of documentation normally utilised?	3,8 (+0,3)		3,4 (+1,9)
	• To what extent do you perceive the documentation requirements as efficient and fit for purpose?*		2,2 (-0,5)	3,3 (+0,8)
	• To what extent do buyers over-specify their request? *(Opposite high/low score interpretation)*			3,5 (-0,4)
Better and earlier use of SUPPLIER EXPERTISE	• Has key supplier(s) been identified, selected and informed (prior to optimisation and freeze of scope)?	3,9 (+0,1)	3,0 (-0,9)	3,2 (-0,1)
	• Has key supplier(s) expertise and technology been utilised pre-PO and contributed to optimisation and smart integration?	3,9 (-)	2,3 (-0,9)	3,0 (+0,8)
	• To what extent is the lead time in engineering efficient pre PO-issue?	3,5 (-0,1)	2,4 (-0,5)	2,9 (-0,3)*
ALIGN DRIVERS across the supply chain	• To what extent does the contracts support common drivers across the supply chain to remove unnecessary work, stimulate collaboration and contribute to fit for purpose delivery?	3,4 (-0,1)	2,1 (-0,9)	2,4 (-0,3)
	• To what extent are drivers aligned, communicated and understood by all parties?	3,1 (-0,4)	2,3 (-1,4)	2,5 (-0,5)
Change operator and contractor CULTURE	• To what extent do you experience positive change in behaviour related to the guideline recommendations?*	3,1 (-0,4)	2,8 (+0,02)	2,7 (+0,2)
	• Based on previous questions: How efficient and predictable are the project clients (operator and/or contractor) compared to similar clients in other relevant industries (e.g maritime oil and gas clients)?			2,9 (+0,3)

Scoring values: 1 = Not at all 2 = To a small extent 3 = To some extent 4 = To a great extent 5 = To a very great extent

Limits: 2,8 3,2

(Development from 2020)

*New questions in 2020 survey

Annual survey results and development from 2019 to 2021 for operators

		2019	2020	2021
Increase use of industry STANDARD DELIVERY	• To what extent are industry standard equipment solutions normally utilised?	3,3	3,3 (-)	3,5 (+0,2)
	• To what extent is standard equipment treated as standard equipment in the project? (including documentation and follow-up)*		3,6	3,9 (+0,3)
	• To what extent are industry standard requirements utilised?	3,4	3,4 (-)	4,0 (+0,6)
	• To what extent are standard documentation, and pre-defined follow-up of documentation normally utilised?	3,1	3,5 (+0,4)	3,8 (+0,3)
	• To what extent do you perceive the documentation requirements as efficient and fit for purpose?*			
	• To what extent do buyers over-specify their request? *(Opposite high/low score interpretation)*			
Better and earlier use of SUPPLIER EXPERTISE	• Has key supplier(s) been identified, selected and informed (prior to optimisation and freeze of scope)?	3,3	3,8 (+0,5)	3,9 (+0,1)
	• Has key supplier(s) expertise and technology been utilised pre-PO and contributed to optimisation and smart integration?	3,3	3,9 (+0,6)	3,9 (-)
	• To what extent is the lead time in engineering efficient pre PO-issue?	3,0	3,6 (+0,6)	3,5 (-0,1)
ALIGN DRIVERS across the supply chain	• To what extent does the contracts support common drivers across the supply chain to remove unnecessary work, stimulate collaboration and contribute to fit for purpose delivery?	2,9	3,5 (+0,6)	3,4 (-0,1)
	• To what extent are drivers aligned, communicated and understood by all parties?	2,9	3,5 (+0,6)	3,1 (-0,4)
Change operator and contractor CULTURE	• To what extent do you experience positive change in behaviour related to the guideline recommendations?*		3,6	3,1 (-0,4)
	• Based on previous questions: How efficient and predictable are the project clients (operator and/or contractor) compared to similar clients in other relevant industries (e.g maritime oil and gas clients)?			

Scoring values: 1 = Not at all 2 = To a small extent 3 = To some extent 4 = To a great extent 5 = To a very great extent

Limits: 2,8 3,2

(Development from the previous year)

*New questions in 2020 survey

Annual survey results and development from 2019 to 2021 for contractors

		2019	2020	2021
Increase use of industry STANDARD DELIVERY	• To what extent are industry standard equipment solutions normally utilised?	2,8	2,9 (+0,1)	3,1 (+0,2)
	• To what extent is standard equipment treated as standard equipment in the project? (including documentation and follow-up)*		2,9	2,7 (-0,2)
	• To what extent are industry standard requirements utilised?	2,7	3,7 (+1,0)	2,8 (-0,9)
	• To what extent are standard documentation, and pre-defined follow-up of documentation normally utilised?	3,2		
	• To what extent do you perceive the documentation requirements as efficient and fit for purpose?*		2,7	2,2 (-0,5)
	• To what extent do buyers over-specify their request? *(Opposite high/low score interpretation)*			
Better and earlier use of SUPPLIER EXPERTISE	• Has key supplier(s) been identified, selected and informed (prior to optimisation and freeze of scope)?	2,8	3,9 (+1,1)	3,0 (-0,9)
	• Has key supplier(s) expertise and technology been utilised pre-PO and contributed to optimisation and smart integration?	3,0	3,2 (+0,2)	2,3 (-0,9)
	• To what extent is the lead time in engineering efficient pre PO-issue?	2,8	2,9 (+0,1)	2,4 (-0,5)
ALIGN DRIVERS across the supply chain	• To what extent does the contracts support common drivers across the supply chain to remove unnecessary work, stimulate collaboration and contribute to fit for purpose delivery?	2,3	3,0 (+0,7)	2,1 (-0,9)
	• To what extent are drivers aligned, communicated and understood by all parties?	2,1	3,7 (+1,6)	2,3 (-1,4)
Change operator and contractor CULTURE	• To what extent do you experience positive change in behaviour related to the guideline recommendations?*		2,8	2,8 (+0,02)
	• Based on previous questions: How efficient and predictable are the project clients (operator and/or contractor) compared to similar clients in other relevant industries (e.g maritime oil and gas clients)?			

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Limits: 2,8 3,2

(Development from the previous year)

*New questions in 2020 survey

Annual survey results and development from 2019 to 2021 for suppliers

		2019	2020	2021
Increase use of industry STANDARD DELIVERY	• To what extent are industry standard equipment solutions normally utilised?	3,0	2,4 (-0,6)	3,4 (+1,0)
	• To what extent is standard equipment treated as standard equipment in the project? (including documentation and follow-up)*		2,8	3,4 (+0,6)
	• To what extent are industry standard requirements utilised?	3,2	2,9 (-0,3)	3,7 (+0,9)
	• To what extent are standard documentation, and pre-defined follow-up of documentation normally utilised?	2,7	1,6 (-1,1)	3,4 (+1,9)
	• To what extent do you perceive the documentation requirements as efficient and fit for purpose?*		2,5	3,3 (+0,8)
	• To what extent do buyers over-specify their request? *(Opposite high/low score interpretation)*	3,3	4,0 (+0,7)	3,5 (-0,4)
Better and earlier use of SUPPLIER EXPERTISE	• Has key supplier(s) been identified, selected and informed (prior to optimisation and freeze of scope)?	2,9	3,2 (+0,3)	3,2 (-0,1)
	• Has key supplier(s) expertise and technology been utilised pre-PO and contributed to optimisation and smart integration?	2,8	2,2 (-0,6)	3,0 (+0,8)
	• To what extent is the lead time in engineering efficient pre PO-issue?*		3,2	2,9 (-0,3)
ALIGN DRIVERS across the supply chain	• To what extent does the contracts support common drivers across the supply chain to remove unnecessary work, stimulate collaboration and contribute to fit for purpose delivery?	2,2	2,8 (+0,6)	2,4 (-0,3)
	• To what extent are drivers aligned, communicated and understood by all parties?	2,8	2,9 (+0,1)	2,5 (-0,5)
Change operator and contractor CULTURE	• To what extent do you experience positive change in behaviour related to the guideline recommendations?*		2,4	2,7 (+0,2)
	• Based on previous questions: How efficient and predictable are the project clients (operator and/or contractor) compared to similar clients in other relevant industries (e.g maritime oil and gas clients)?	3,1	2,6 (-0,5)	2,9 (+0,3)

Scoring values: 1 = Not at all 2 = To a small extent 3 = To some extent 4 = To a great extent 5 = To a very great extent

Limits: 2,8 3,2

(Development from the previous year)

*New questions in 2020 survey

Interview guide
All questions related to Joint Industry Guideline for Standardised Supply Chain Behaviour

General	• How familiar are you with the industry guideline? • How do you see the development in the industry practice and culture over the past 1-2 years?
Topic specific	• Largest unrealised potential related to: Increased use of standard delivery • Largest unrealised potential related to: Better and earlier use of supplier expertise • Any good examples from projects with well-understood incentives that were aligned between all parties? • What do you see as the largest bottle necks/barriers to achieve change in culture and practice? • Emphasize main differences between maritime (rig owners and ship owners) and oil & gas clients (for suppliers only)
Implementation	• Do you see any low hanging fruits to take out benefits of recommended guideline best practices? • Do you have any recommendations to specific measures to increase the effect of the implementation effort?
Other	• Open: anything to add to this topic?