

# Insight Reflections 2015

17<sup>th</sup> November 2015

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# What this presentation covers

- What the survey is telling us
- Ways to improve it
- Benchmarking/Metrics

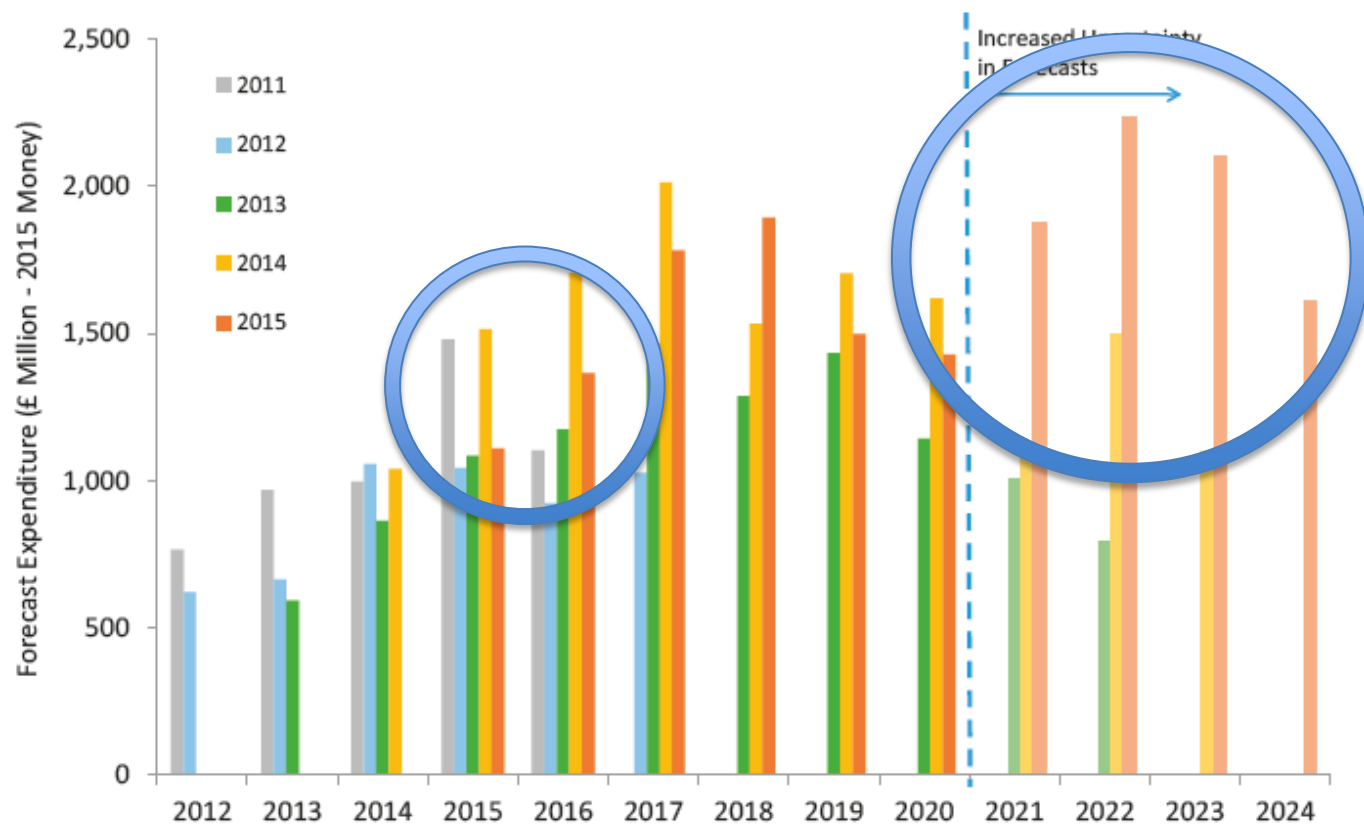
# What this survey is telling us

- The environment is changing due to oil price
- The industry is responding
- But so much is still the same

# Total Expenditure

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**Figure 2: Comparison of the Annual Forecast Decommissioning Expenditure**



Source: Oil & Gas UK

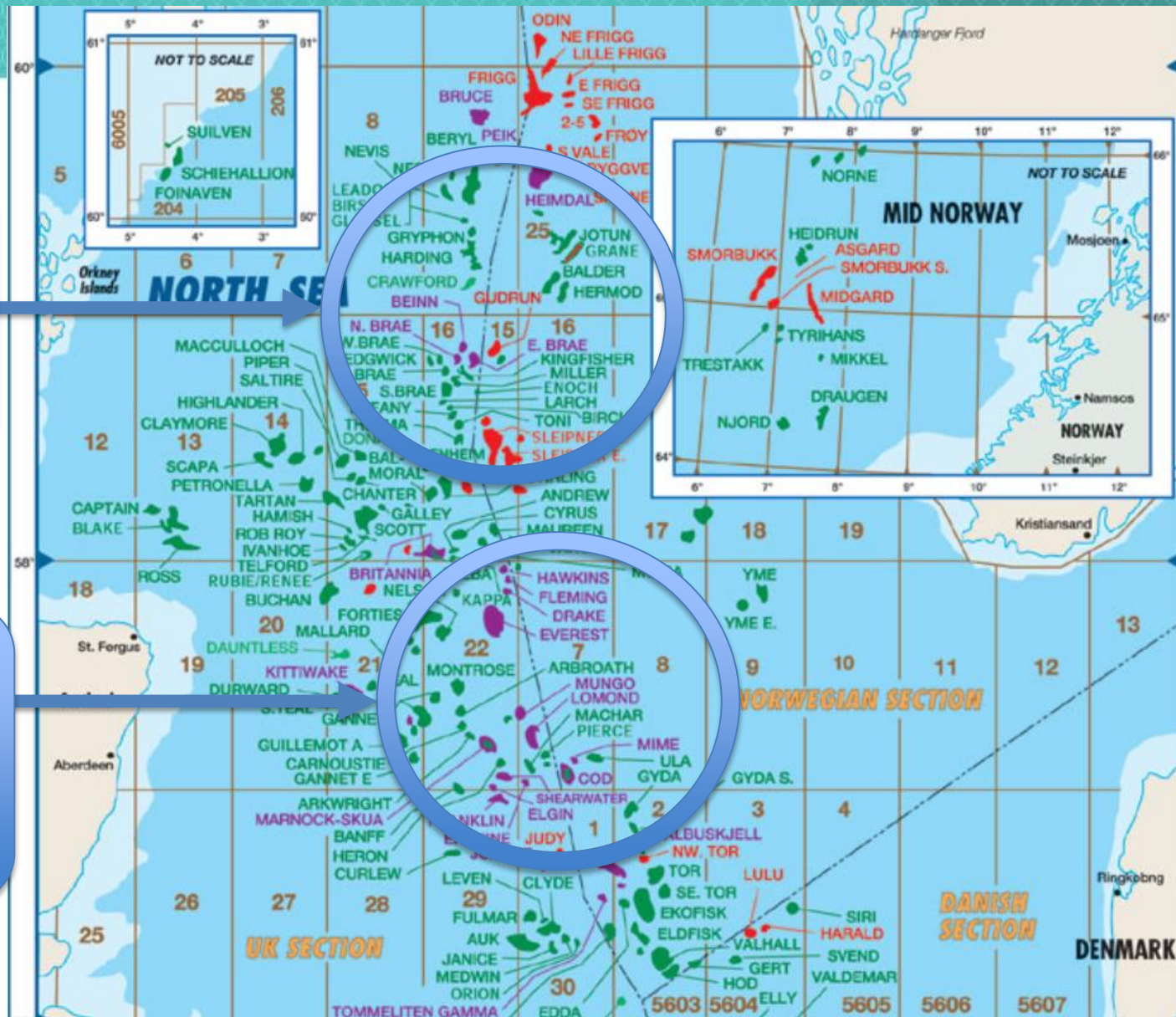
# What this survey is telling us?

- Operators have significant reduction in cash flow
- Some projects deferred: 21
  - (14 in CNS/NNS)
- Some being brought forward: 47
  - (41 in CNS/NNS)

# Central North Sea

100+ mtrs Water  
 25,000 tonnes  
 Topsides  
 20000 tonnes  
 jacket

80 mtrs Water  
 10,000 tonnes  
 Topsides  
 5000 tonnes jacket

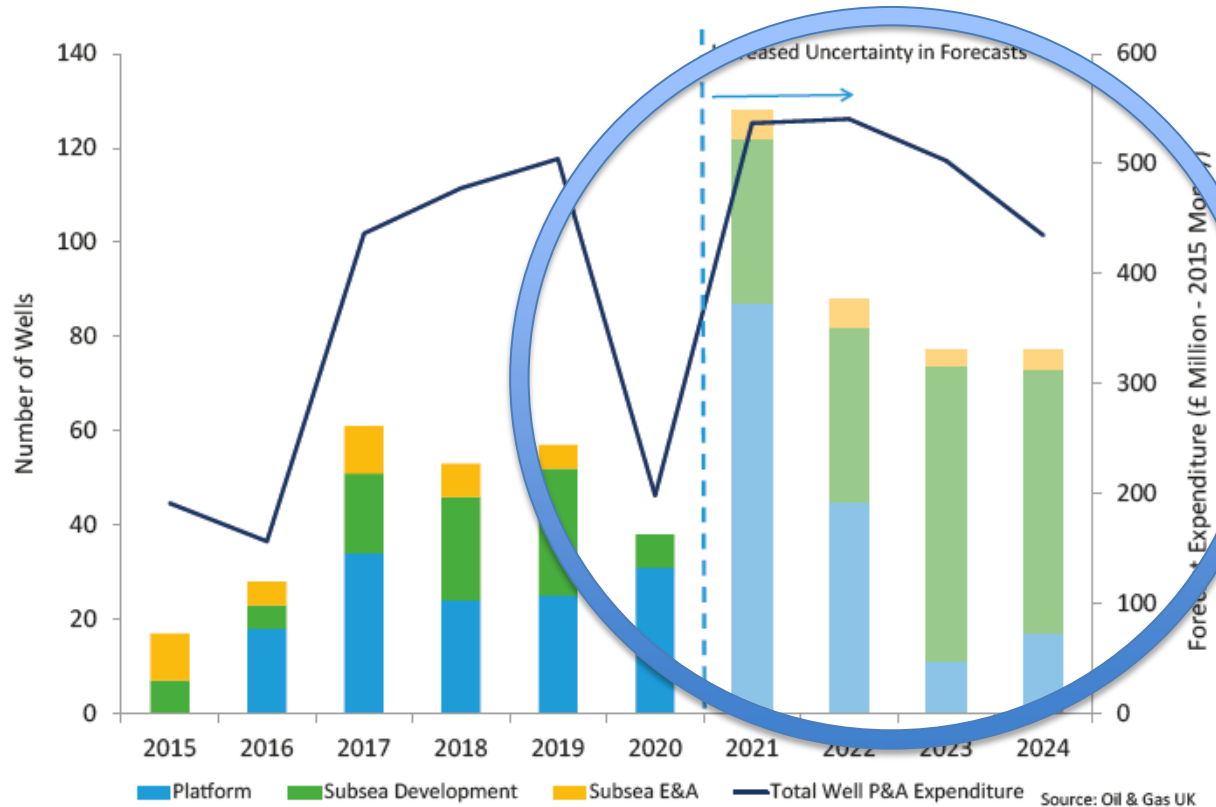


# CNS Wells

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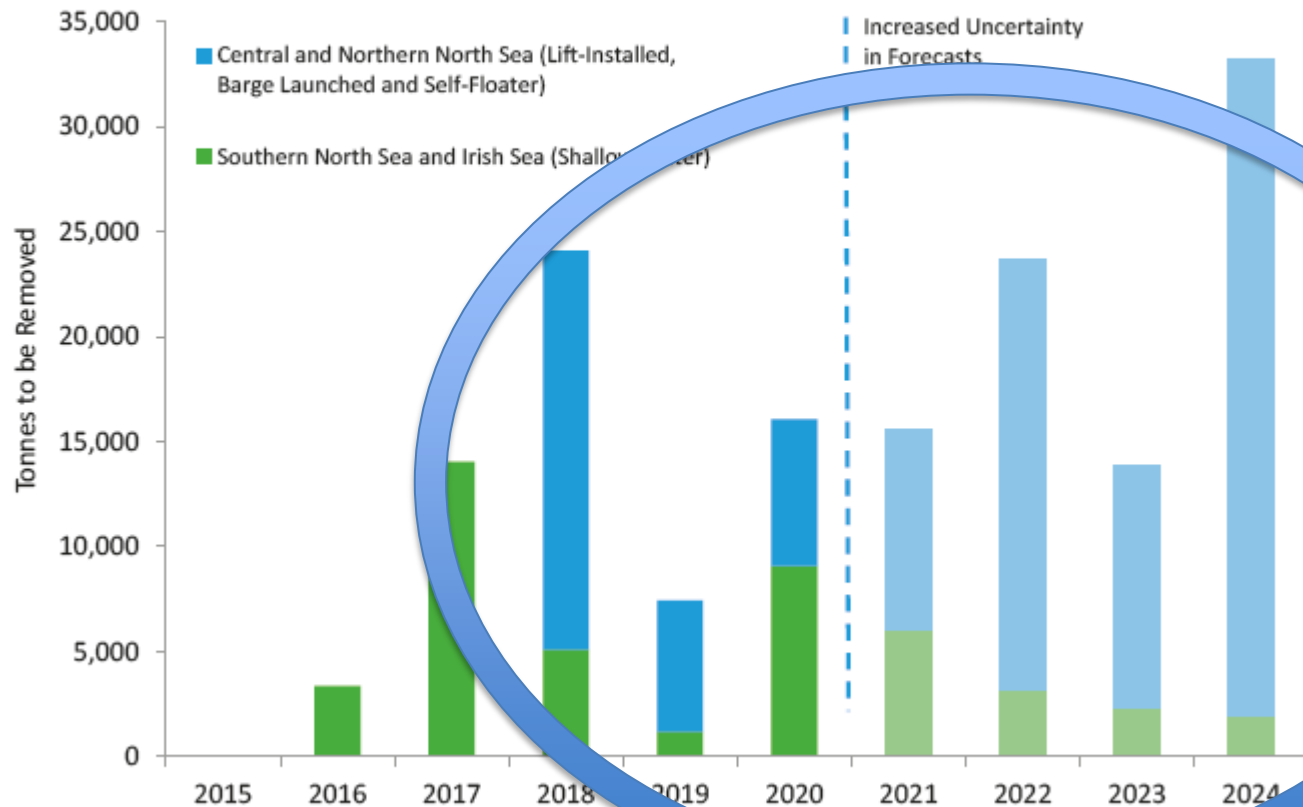
**Figure 7: Number of Wells Forecast to be Plugged and Abandoned by Type and Annual Expenditure**

## Central North Sea



# Jacket Removals

**Figure 19: Forecast for Substructure (Jacket) Weight Removal**



Source: OGA, UK



# How accurate are the costs?

ESTIMATE CLASS	Primary Characteristic	Secondary Characteristic			
	LEVEL OF PROJECT DEFINITION Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]
Class 5	0% to 2%	Concept Screening	Capacity Factors, Parametric Models, Judgment, or Analogy	L: -20% to -50% H: +30% to +100%	1
Class 4	1% to 15%	Study or Feasibility	Equipment Factored or Parametric Models	L: -15% to -30% H: +20% to +50%	2 to 4
Class 3	10% to 40%	Budget, Authorization, or Control	Semi-Detailed Unit Costs with Assembly Level Line Items	L: -10% to -20% H: +10% to +20%	3 to 10
Class 2	30% to 70%	Control or Bid/Tender	Detailed Unit Cost with Forced Detailed Take-Off	L: -5% to -15% H: +5% to +20%	4 to 20
Class 1	50% to 100%	Check Estimate or Bid/Tender	Detailed Unit Cost with Detailed Take-Off	L: -3% to -10% H: +3% to +15%	5 to 100

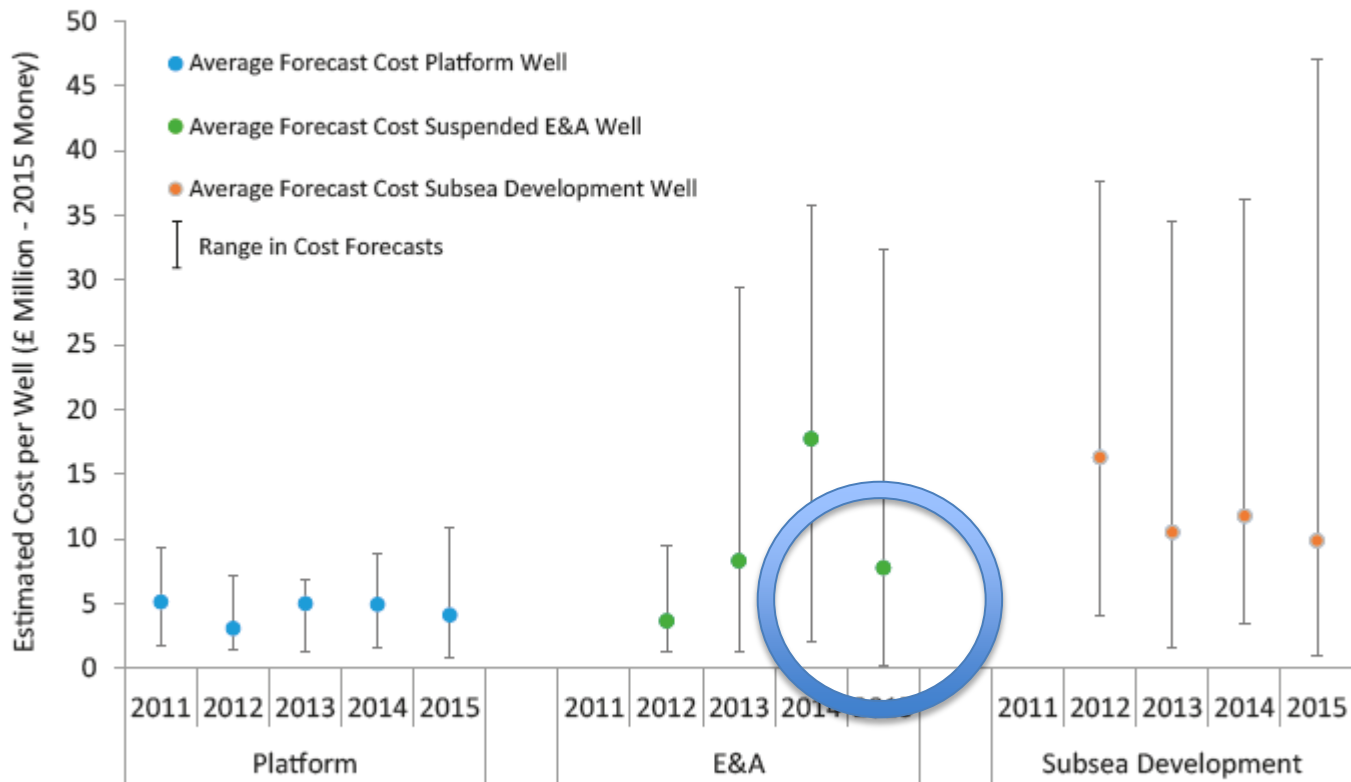
- Notes: [a] The state of process technology and availability of applicable reference cost data affect the range markedly. The +/- value represents typical percentage variation of actual costs from the cost estimate after application of contingency (typically at a 50% level of confidence) for given scope.
- [b] If the range index value of "1" represents 0.005% of project costs, then an index value of 100 represents 0.5%. Estimate preparation effort is highly dependent upon the size of the project and the quality of estimating data and tools.

# What the Survey is saying to us

- **Are costs increasing?**
  - **Some well costs appear to be increasing**
  - **Facilities removal costs are about the same**

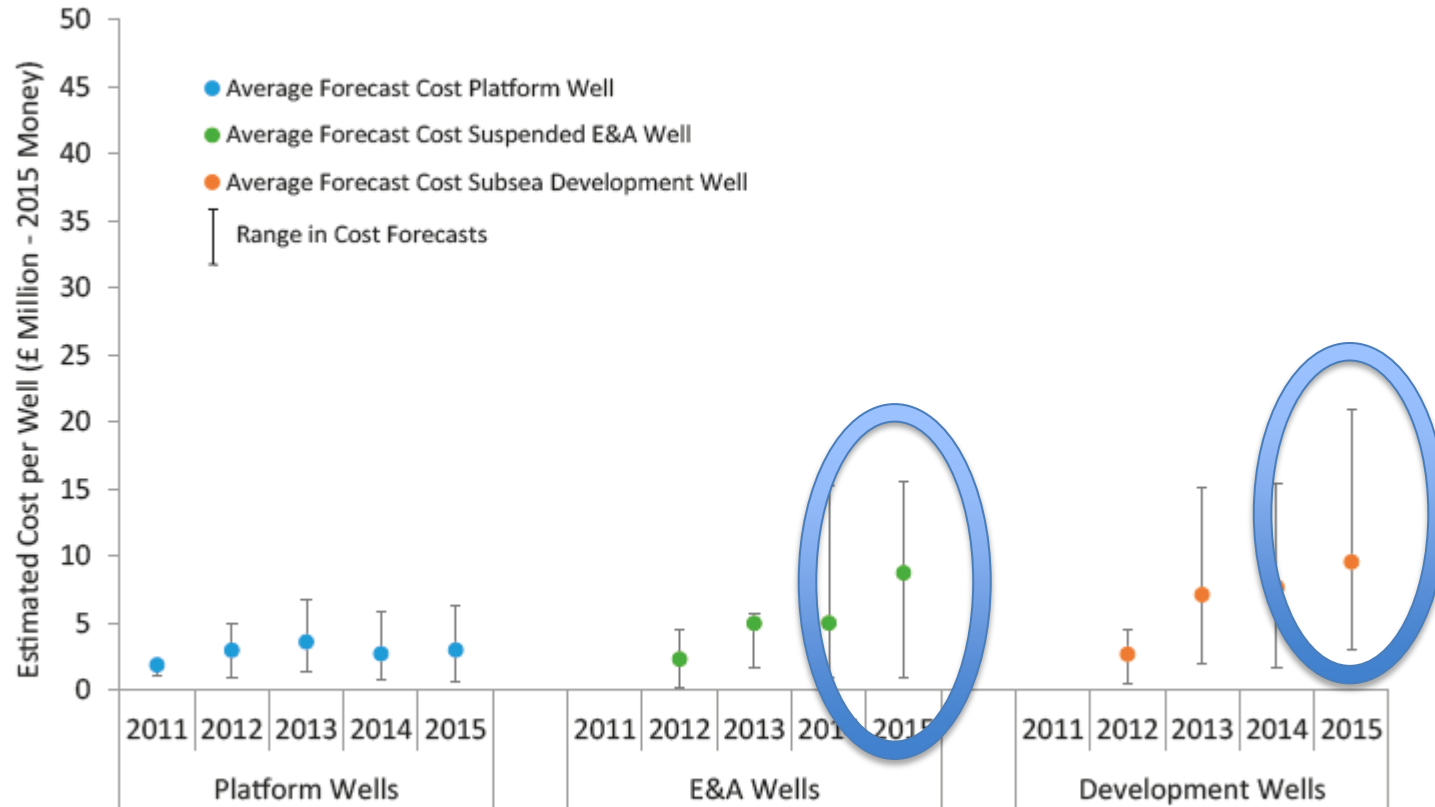
# Well P&A: CNS/NNS/WOS

**Figure 8: Historical Variation in Well Plugging and Abandonment Cost Forecasts in the Central and Northern North Sea/West of Shetland**



# SNS Wells

**Figure 10: Historical Variation in Well Plugging and Abandonment Cost Forecasts in the Southern North Sea and Irish Sea**

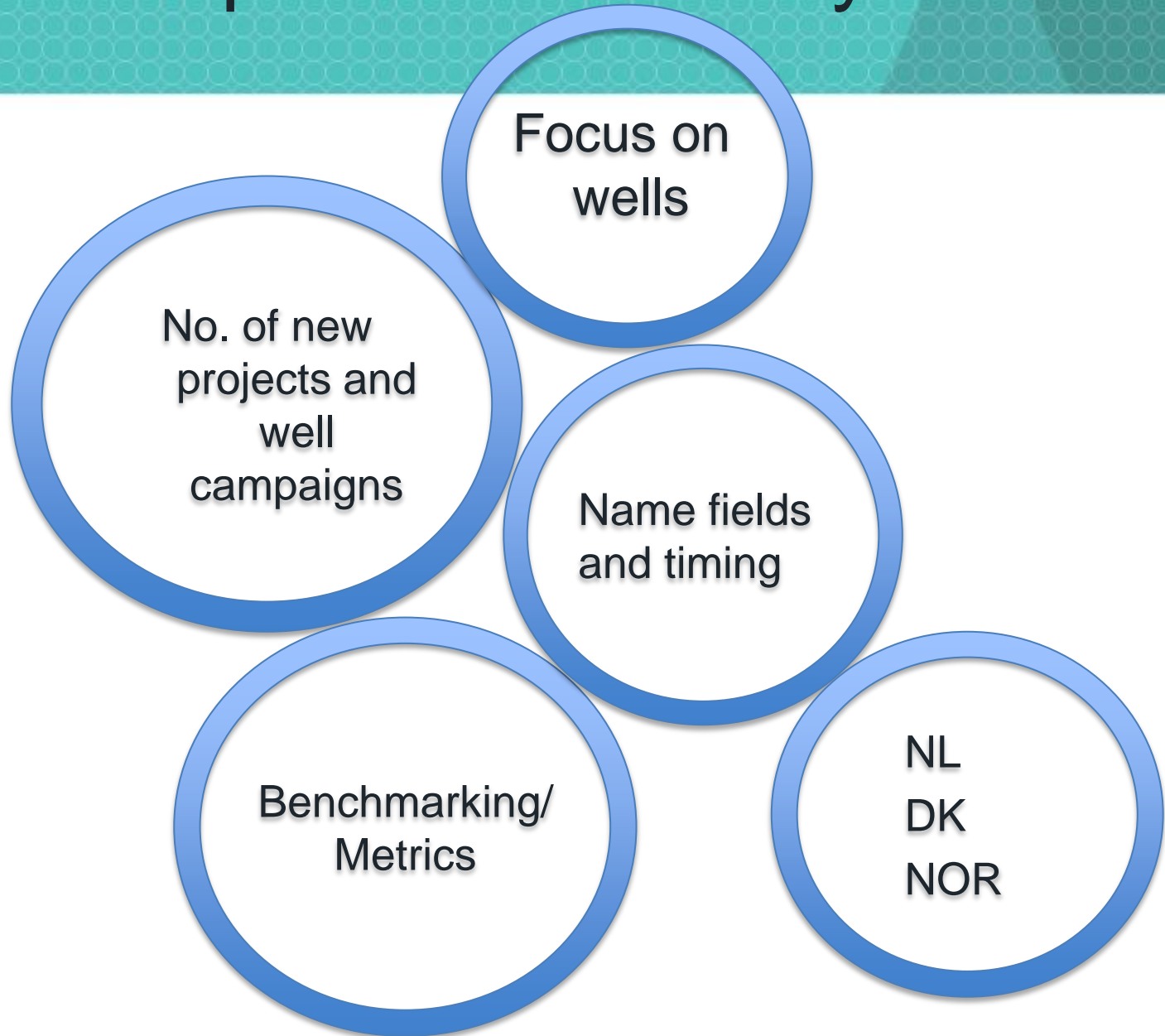


Source: Oil & Gas UK

# Conclusions

- The impact of the market may not be fully reflected in the numbers
  - Lift vessels, rigs, DSVs, CSVs
- The impact of the OGA is not yet reflected in timing and approaches
- The number of projects being brought forward will probably increase
- The level of granularity is improving

# Ways to improve the survey



# Benchmarking/Metrics

- Why do it?
- What to do?
- How to do it?
- What are the barriers?

# Benchmarking: Wikipedia

## Benchmarking

Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other companies.

Dimensions typically measured are quality, time and cost.

## Performance Metrics

In project management, performance metrics are used to assess the health of the project and consist of the measuring of seven criteria: safety, time, cost, resources, scope, quality, and actions



# Why Metrics are important?

- Ensuring more consistency
- Ensuring realism to more estimates
- Better understanding of uncertainty
- More certainty for asset sales/ transfers
- More confidence in valuations for securities
- Support the transfer of liabilities
- Provide baseline for improvements

# What Metrics should we gather?

- Safety
- Facilities Removal
- Jacket Removal
- Well P&A
- Could be other areas such as:
  - Planning and Preparation
  - Facilities Cleaning
  - Pipeline Cleaning
  - Onshore processing

# What type of Metrics?

## Duration (and/or manhours) versus Cost

- Cost
  - Pros
    - Simple to understand
  - Cons
    - Commercial confidentiality
    - Price basis not known.
- Duration/Manhours
  - Pros:
    - Less commercially sensitive
    - Removes the price variable
  - Cons:
    - Users left with how to convert into cost

# How to create metrics

- Use third party compilers
  - Ensure objectivity
  - Keep information confidential
- How to Proceed
  - Develop scope and methodology
  - Establish governance process
  - Identify how to source information

# Historical, Forecasts, future actuals

- **Why not historical data?**
  - The information is not easy to obtain
  - Some information is available
- **Current forecasts**
  - Not accurate but may be a useful starting point
- **Future projects.**
  - Using agreed performance metrics

# Barriers

- Fear of sharing
  - Data misinterpreted or misused
- Operators may not see the need
  - “They have what they need”
- Effort
  - Data gathering
  - Data processing
- Do you want to see improvement?
  - “What gets measured gets done”

# Critical Success Factors

- Consent of the operating companies
- Clear scope and definitions
- Small Industry Steering Group
- Funding to sustain the effort

# Potential Way Forward

- Gain consent from the operators
- Obtain funding
- Use existing data bases as the starting point:
  - Rushmore (wells)
  - Performance Forum (Turner and Townsend)
  - Wood Mackenzie
  - Oil and Gas UK (Insight Survey)



# Questions and Comments Welcome



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