



Oil & Gas  
Authority

# SPE Aberdeen Technical Programme 2015/16

**Building the  
Oil & Gas  
Authority**

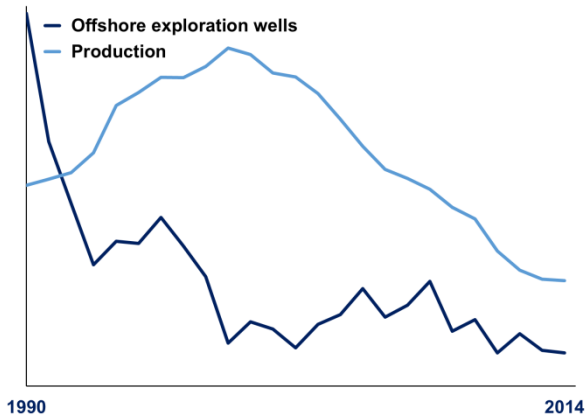
**Brenda Wyllie**

**September 2015**



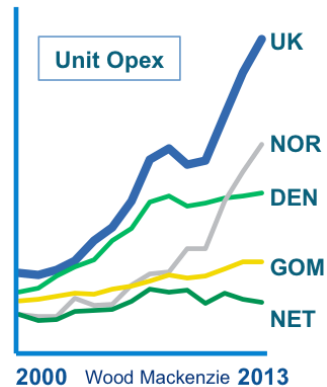
# UKCS challenges

## E&P decline



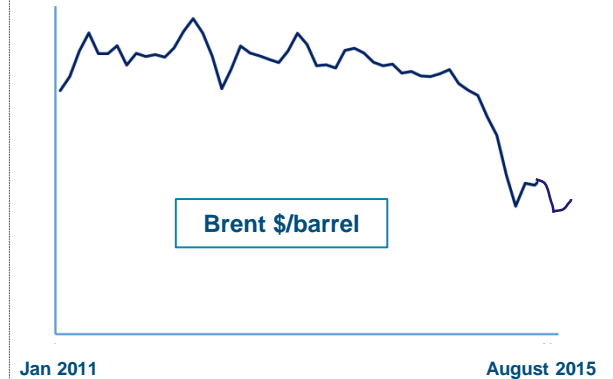
All-time low for exploration and appraisal

## Increased costs



Existential crisis on costs, efficiency and margins

## Sharp drop in price



Slow down in investment; pressure on profitability

**Economic challenges intensified since the Wood Review**

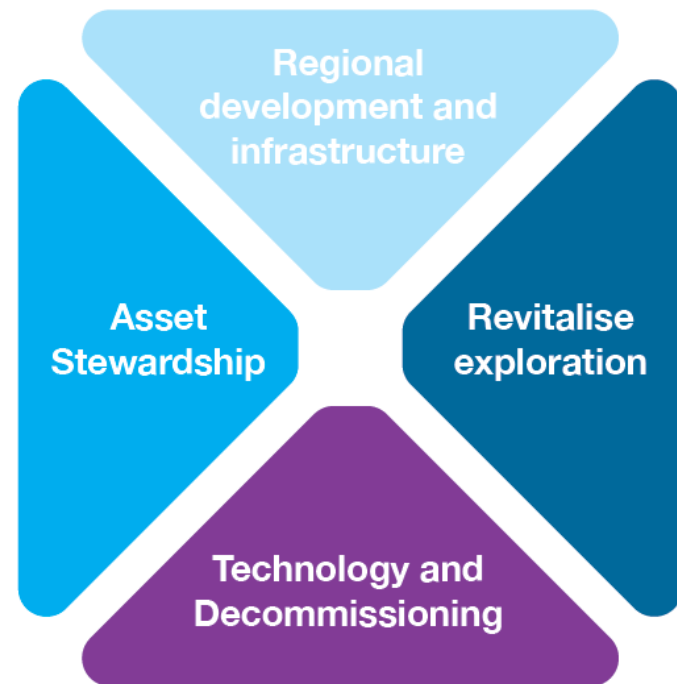


# 2014 Wood Review

## Key recommendations

- Urgent need for **enhanced stewardship**
- New **Maximising Economic Recovery** strategy (MER UK)
- Commitment from **industry to collaborate**
- **Stronger tripartite relationship** between industry, government and regulator
- New independent regulator with **additional powers and resources**

## Sector strategies



**Prize of additional 3-4 billion barrels**

**375,000 industry jobs to protect**



# About the OGA

## Creating the OGA

- New independent regulator
- Effective stewardship resources
- New powers, better resourced and funded
- Catalyst for change and facilitator of action
- Encouraging collaboration

## Priorities

Leadership, Culture & behaviour

Wood  
Actions

Rapidly  
implement

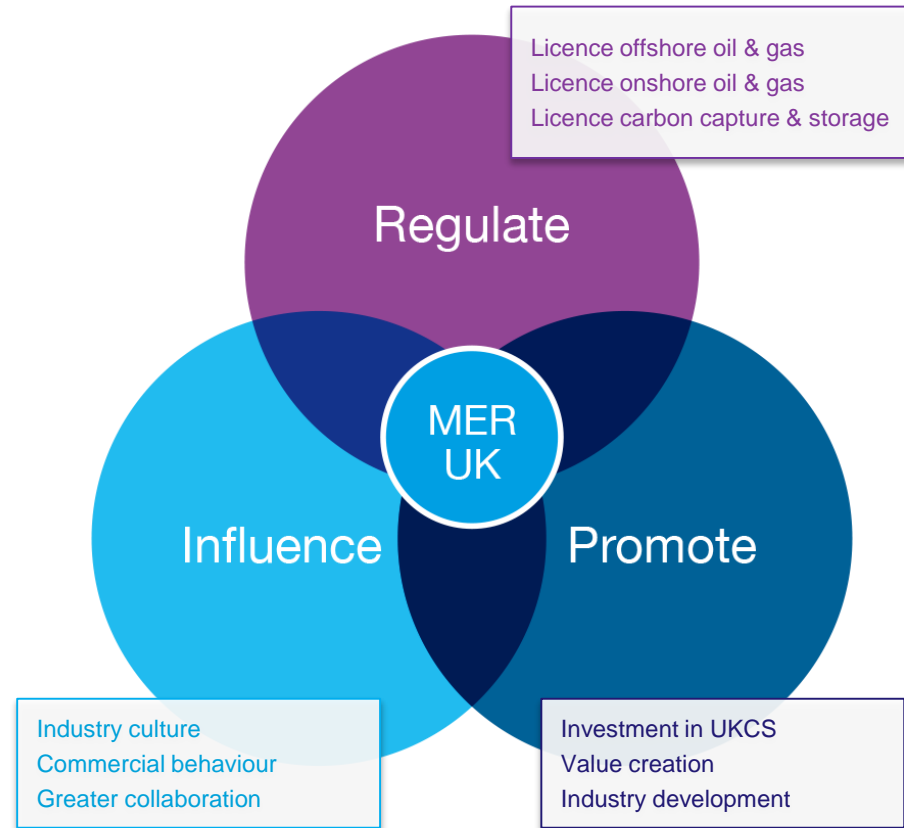
Cost &  
Efficiency

Industry to  
urgently take  
action

Fiscal  
Reform

Trusted advisor  
to Treasury

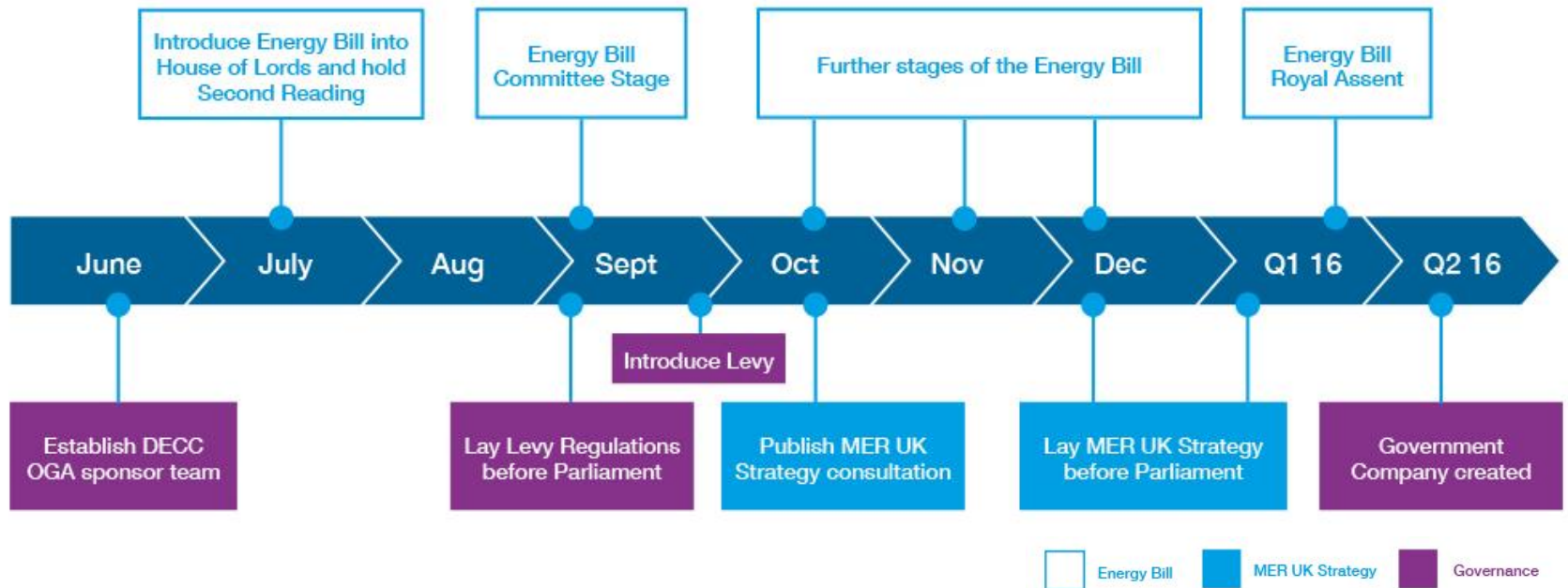
## Role of the OGA



The OGA has a key role to play in driving action



# Building the OGA



**Rapid progress on all fronts**



# Who does what

## Exploration & production including:

Onshore, offshore & CCS licensing	OGA
Field development plan consents	OGA
Cessation of production approvals	OGA
Pipeline works authorisation	OGA
Infrastructure	OGA
Commercial matters & changes of control	OGA
Flaring & venting consents	OGA
Metering & allocation	OGA
Production outages	OGA
Decom efficiency, costs, technology	OGA
Decom programme approval, execution & monitoring	DECC - OGED
Environmental management and inspection	DECC - OGED
Health & Safety management	HSE

## Oil and gas policy including:

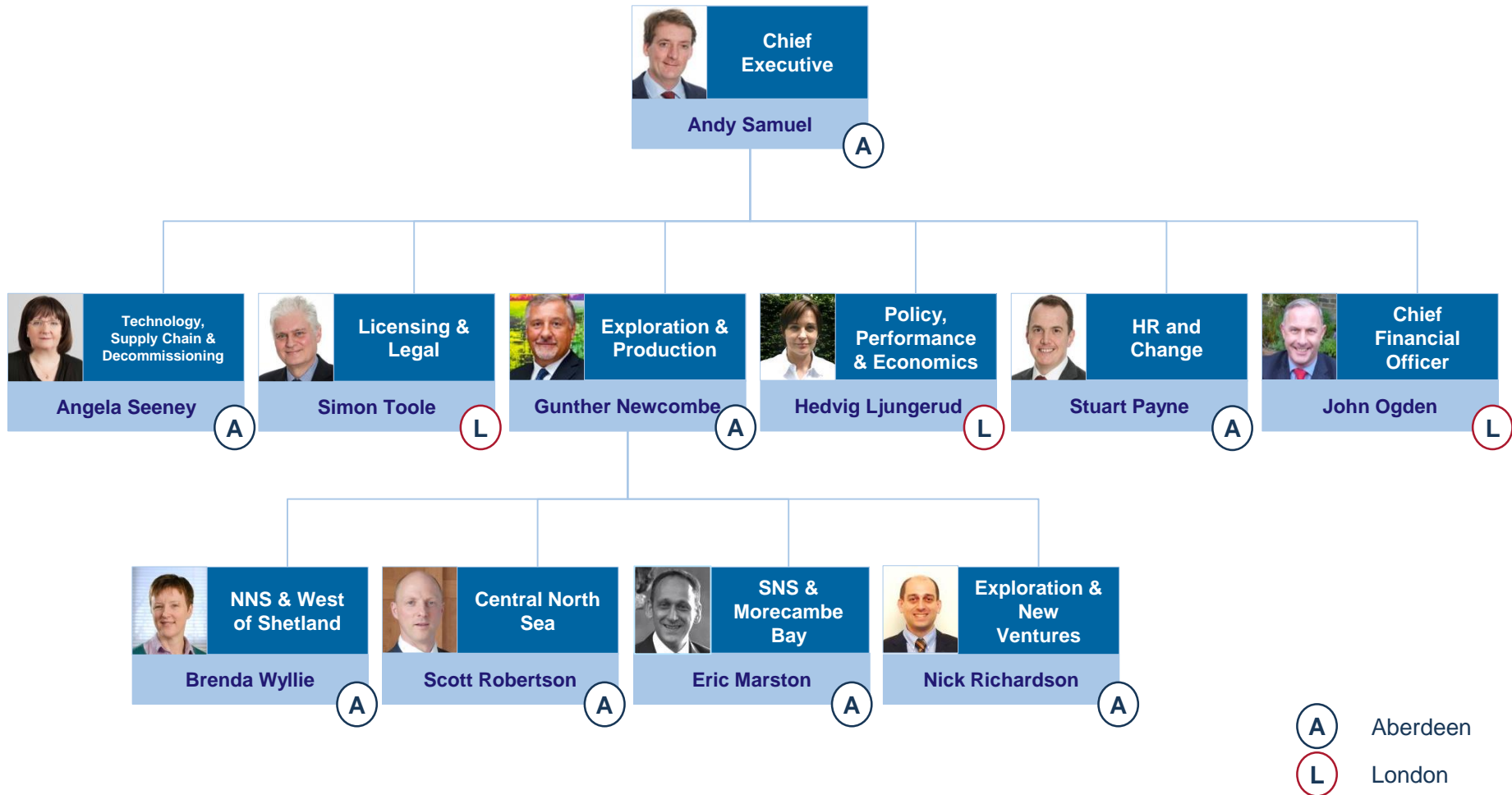
Overall oil & gas policy	DECC
Legislation including the Energy Bill	DECC – WRIT
Oil & gas parliamentary processes	DECC – OGA sponsor team
Decommissioning	DECC - OGED, OGA, HMT
Fiscal and taxation	HMT & OGA trusted advisor
Supply chain and business impact	BIS & OGA
Environment	DECC - OGED
International relations	DECC, OGA, FCO

### Key

**OGA:** Oil and Gas Authority  
**OGED:** Offshore Environment & Decommissioning Unit  
**WRIT:** Wood Review Implementation Team  
**HMT:** Her Majesty's Treasury  
**FCO:** Foreign and Commonwealth Office  
**BIS:** Department for Business, Innovation & Skills



# Rapid recruitment



Layer light structure with clear accountabilities – 179 max headcount



# Exploration Roadmap

Share dry-hole review with industry

2015

Licensing strategy for frontier & mature acreage

2015

Work with HMT & Industry to enhance exploration

2015

Provide high quality geophysical data Rockall & MNSH

1Q 2016

Undertake rigorous pre & post-drill evaluation

2016

High-grade operator PI to stimulate drilling

2016

Manage release of geophysical & well data

2016

Produce high quality geological maps

2018

Provide industry with regional prospectivity & YTF

2018

**Measures to revitalise exploration in UKCS**





# Revitalise exploration

## Well reviews and analysis

- Rigorous analysis of failed wells
- Fundamental technical work must improve
- Introduce OGA quality assurance process

## Improve data quality

- OGA will coordinate data quality and sharing
- In-depth evaluation of regional prospectivity
- Provide high-quality digital geological maps

## Future licensing rounds

- R29 2016 – under-explored frontier blocks
- R30 2017 – mature parts of the basin
- Time to evaluate existing work commitments

## UK Government-funded seismic

- >40,000 km of new and legacy data
- Rockall Trough, Outer Hebrides
- Mid-North Sea High
- Total area 220,000 km<sup>2</sup>
- Data available early 2016



WesternGeco Vespucci

**We will work with operators to ‘high-grade’ prospect inventories**



# Geophysical Programme



## Rockall Trough

- The Rockall Trough area is under-explored with just 12 exploration wells since 1980
- A proven working petroleum system with Benbecula discovery in 2000
- Most of the seismic data are pre-1998

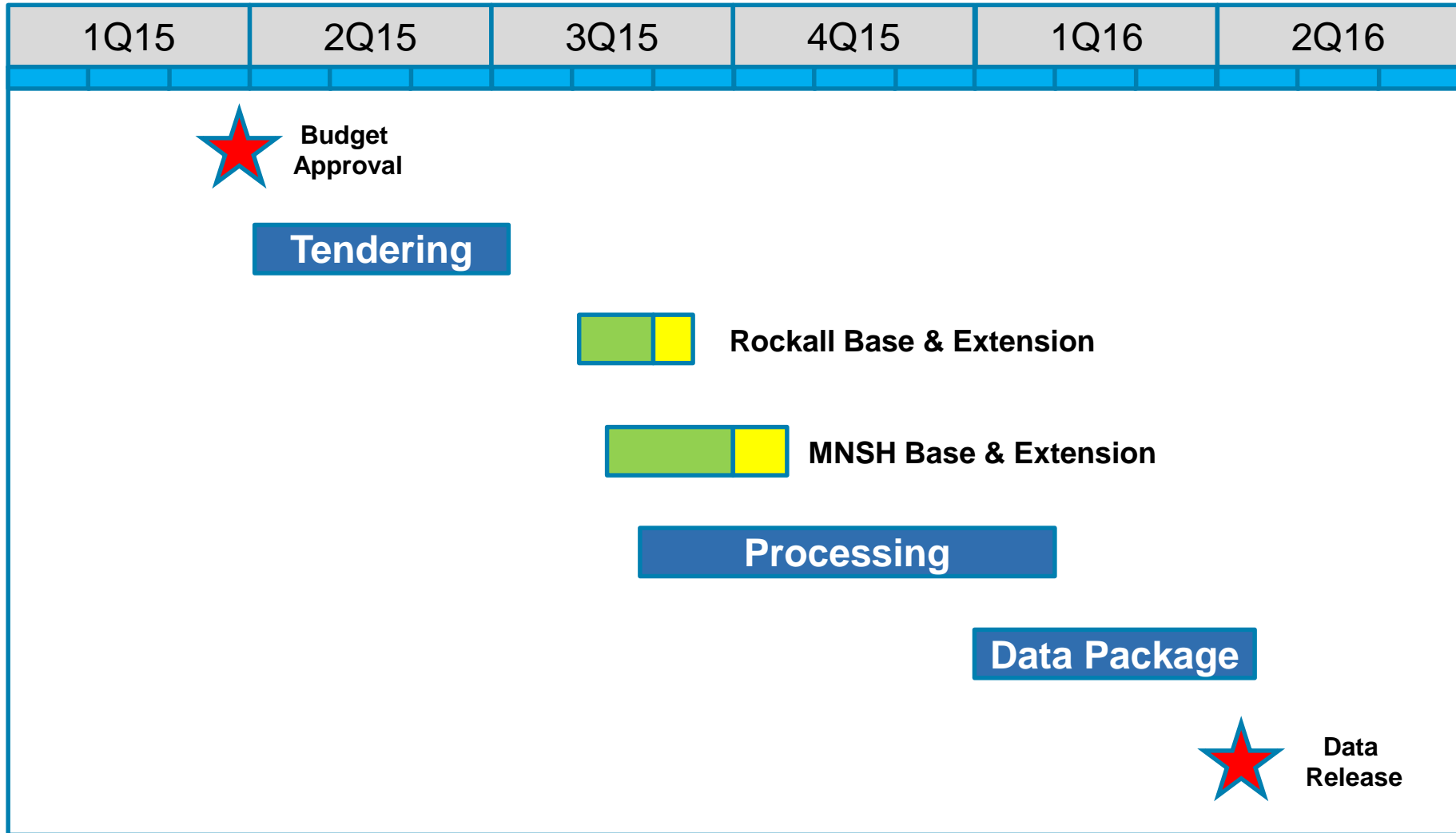
## Mid-North Sea High

- New advances in seismic acquisition broadband technology, longer streamer length and advances in processing technology can now improve deeper imaging
- Plan to also acquire data close to shore to transfer critical onshore knowledge

40,000km of new and legacy data



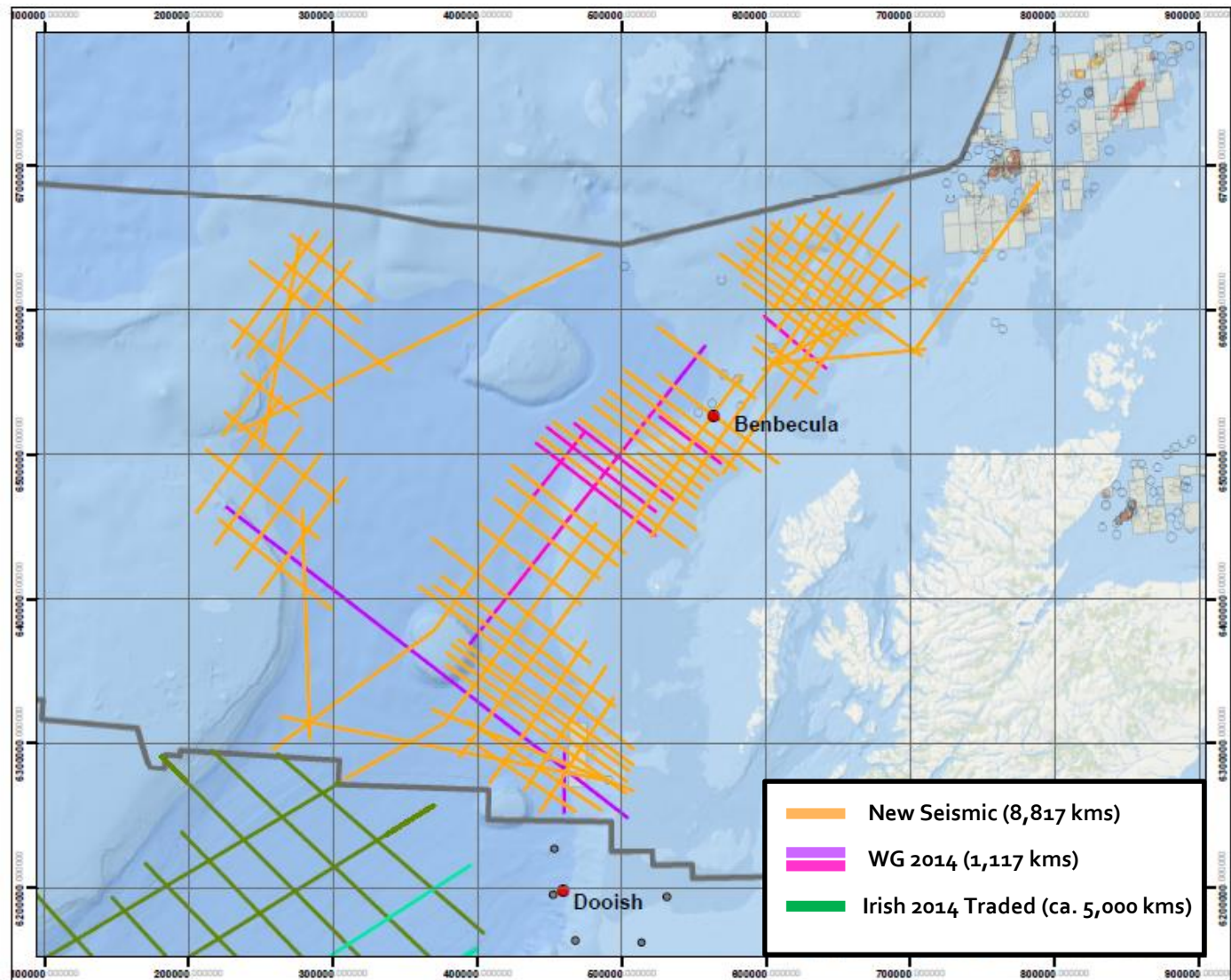
# Programme Timing



12 months from funding to data delivery



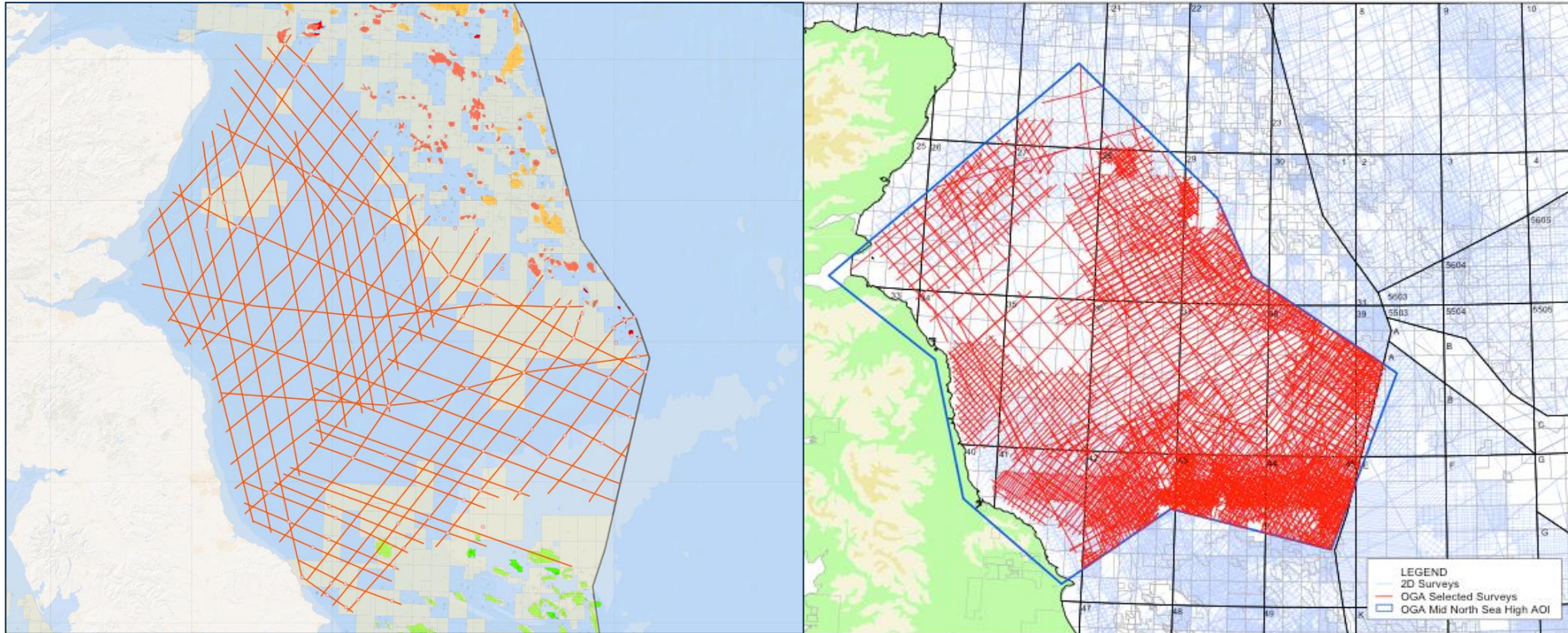
# Rockall Programme



Quality new data acquisition coupled with legacy data



# MNSH Programme



**New Seismic (ca 11,000 km)**

**Legacy Seismic (ca. 14,000 km)**

**Quality new data acquisition coupled with legacy reprocessed data**

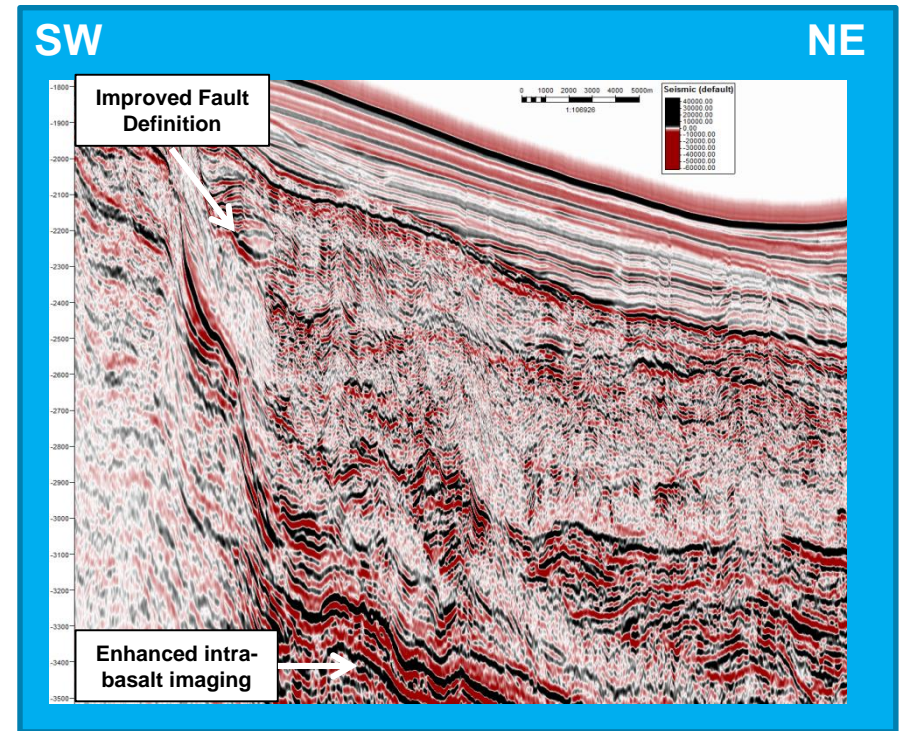
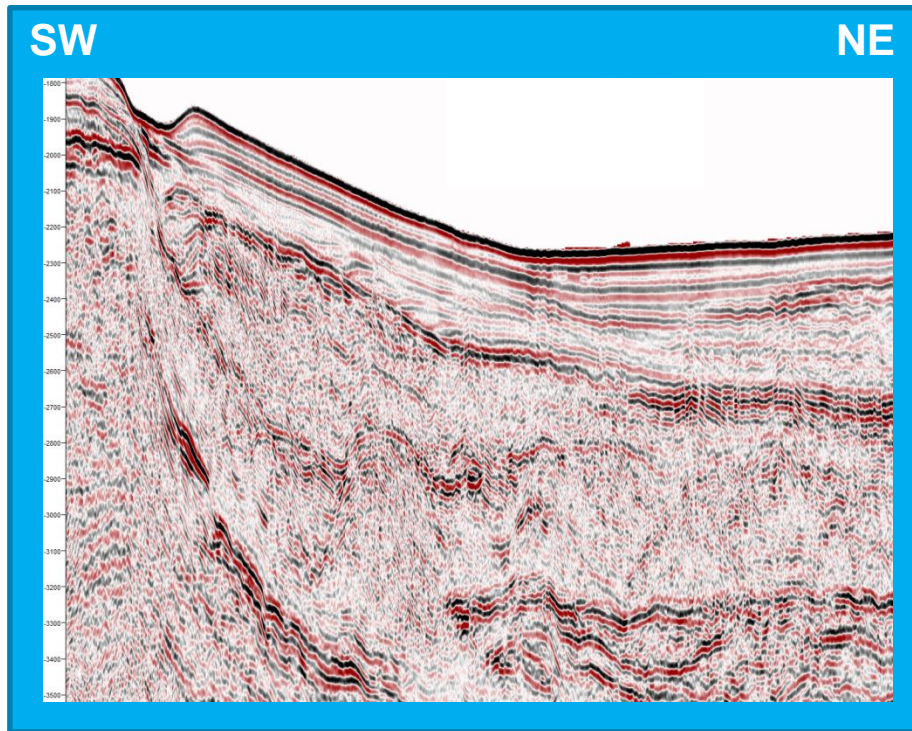


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# Imaging Improvement

1977 reprocessed 1995  
Geikie Fringe Line OH-45A

2014 Q-Marine ObliQ  
Geikie Fringe Line 8



Quality new data acquisition coupled with legacy data



# Data Package

- Processed seismic data, pre-stack time migrated, in workstation format and field tapes if requested
- Database of released well data & OGA report
- Gravity and magnetic maps
- Seismic Data:
  - New acquisition from Rockall & MNSH
  - WesternGeco legacy data
  - Reprocessed data examples from MNSH
- Provisionally 5,000km of Irish seismic data with key Irish tie wells
- BGS Palaeozoic Study for participants & purchase

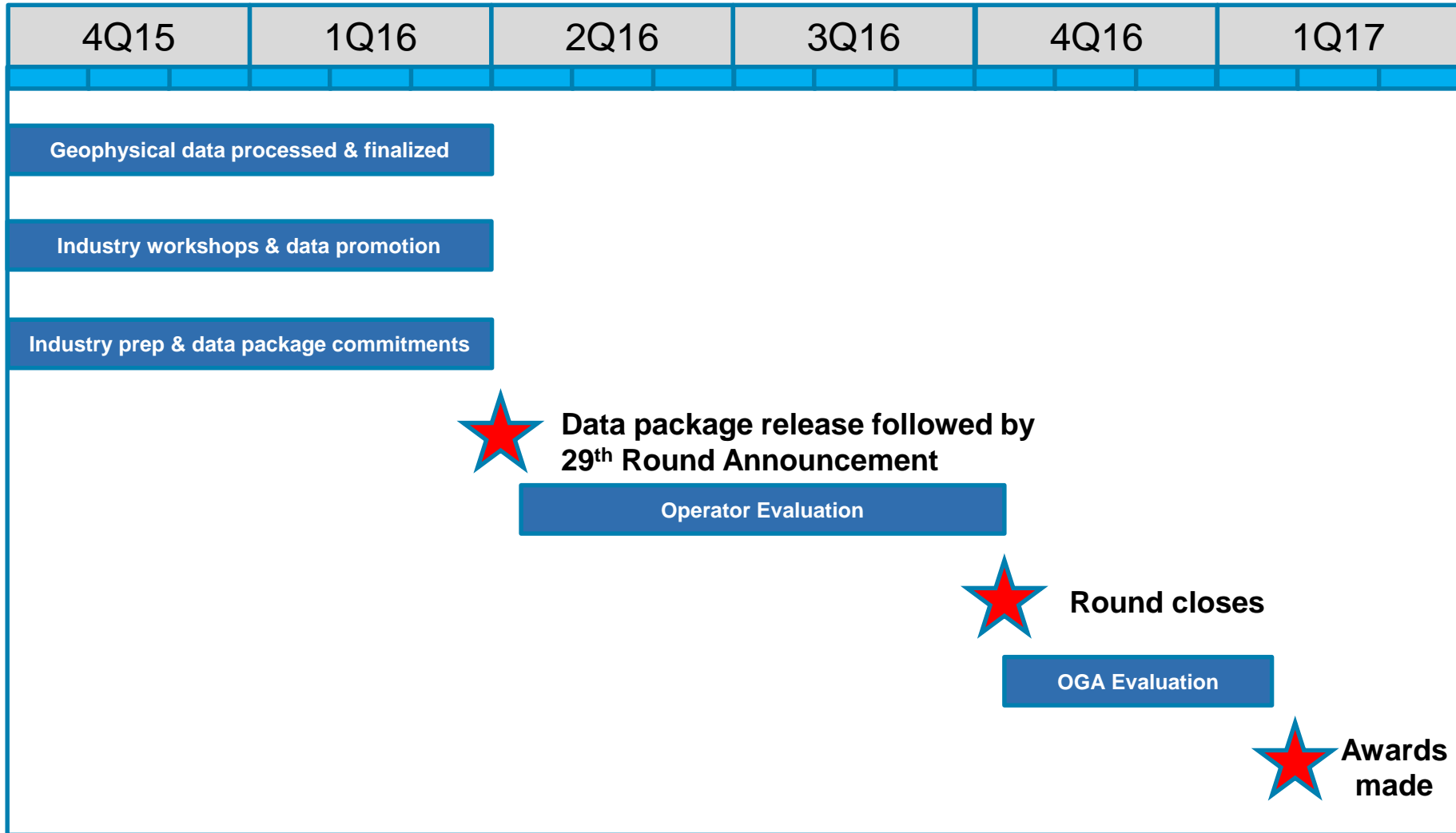
**Comprehensive high-quality data package**



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# 29<sup>th</sup> Frontier Round

\* Subject to SEA Approval

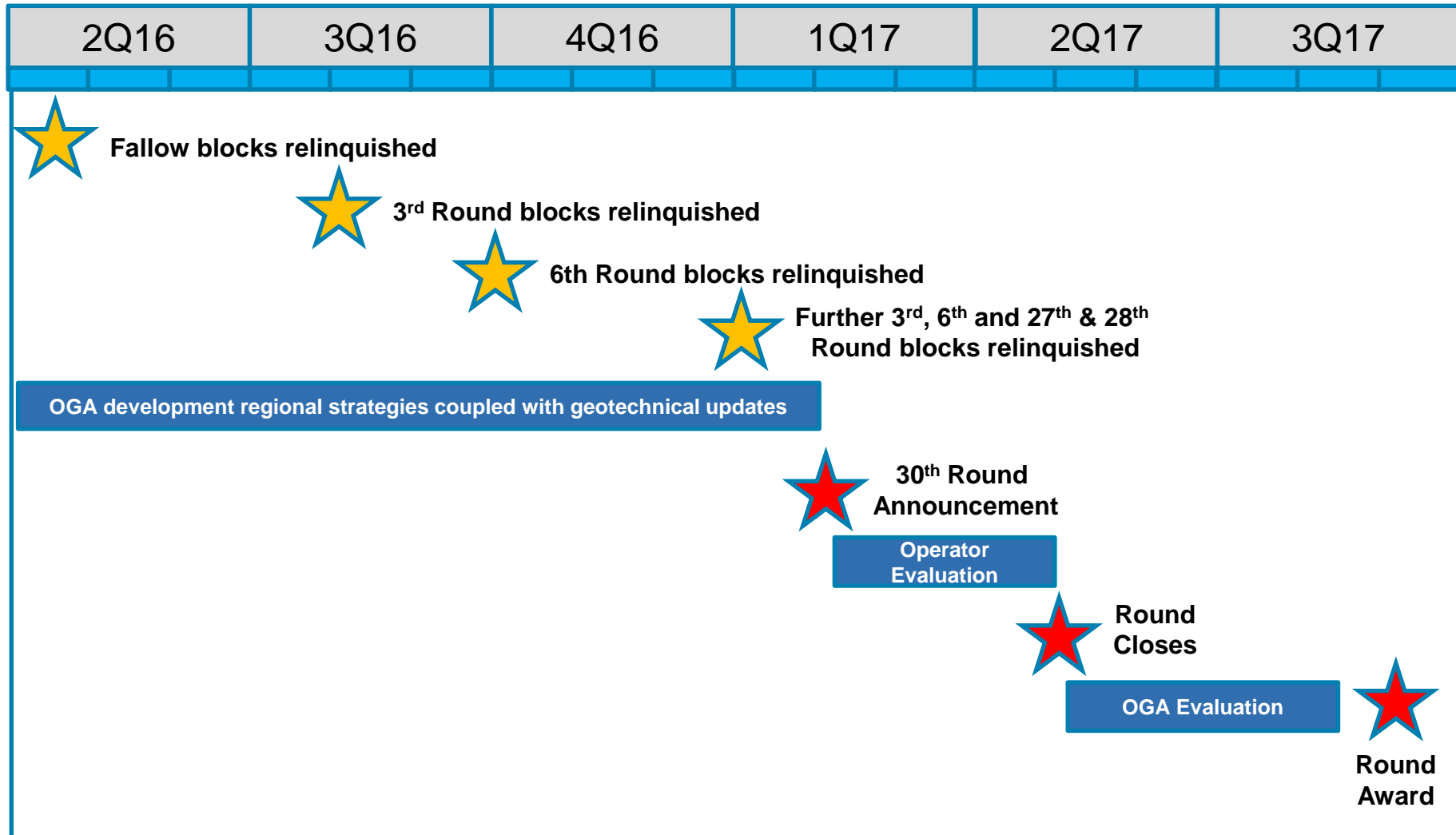


**29<sup>th</sup> Round - Rockall & MNSH acreage & nominations from industry**





# 30<sup>th</sup> Mature Round



30<sup>th</sup> Round - Focus on infrastructure-led exploration



# Dry Holes Lessons Learnt

## Geology

- Develop a better regional understanding using GDE & Play Fairway maps
- Improve quality and expand scope of well data in CDA e.g. biostratigraphic & geochemical
- Understanding trap integrity/fault and top seal key issue; prospects being under-risked

## Geophysical

- Data quality of seismic for prospect generation can be poor
- Reprocessing together with data scaling and conditioning
- Improved depth conversion required, more sophisticated velocity modelling
- Potential seismic anomalies e.g. bright and flat spots, need to be carefully analysed

## Approach

- Prospects evaluation needs integrated - technical input from geophysicists, geologists and engineers
- Prospect evaluation teams need to ensure there is good linkage with field teams
- Staff movement and turnover can lead to disconnects in prospect generation and post well analysis



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# Stewardship Framework

Maximise  
Value  
(MERUK)

Exploration

Decommissioning

*Enhanced Asset Stewardship*

Licence,  
Consent, FDP,  
CAP obligations

OGA  
Operator  
Scorecard

Stewardship  
Expectations

Licence & Legal  
Exploration & Appraisal  
Major Projects &  
Developments  
Reservoir Management  
Base Management  
Decommissioning  
Commercial  
Technology Strategy

Streamlined  
Data surveys

**Asset stewardship covers whole life cycle of asset**

# Asset Stewardship

OGA Operator Internal Scorecard	3Q 2015
Robust & fair contracting process	3Q 2015
Develop enhanced asset stewardship strategy	4Q 2015
Stewardship expectations established & published	1Q 2016
Data survey reviewed and streamlined	2Q 2016
Annual review of selected FDP's	2016
Maximise value assets prior to COP	2016
Deliver focused EOR strategy & reserves	2020

**OGA will set clear expectations building on existing processes**



# Operator Scorecard

Metric	Operator Plan (Calendar year)	Operator Actual	Comment
<b>MER</b>			
Production volume (mmboc gross)	100	95	
PE (%)	75	80	
Operating costs (£mm gross)	750	760	
Capital inv (£mm gross)	500	300	
Reserves Adds (2P mmboc gross)	35	20	
Well activity (wells pa)	2	3	
Maintenance backlog (hrs)			<i>Data from HSE Inspectorate</i>
<b>Compliance</b>			
Flare consent (tne)	4000	4075	
Active ARN's	0	1	
Commercial Collaboration			<i>Subjective, qualitative metric - red, amber or green</i>

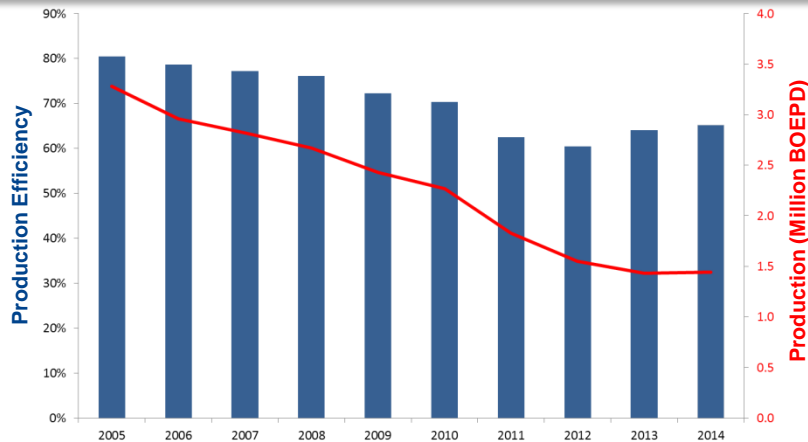
Milestones	Timing	Status	
Exploration well spud date	2Q		<i>Numerous milestone entries required if multiple wells</i>
Infill well spud date	3Q		<i>Numerous milestone entries required if multiple wells</i>
Facilities project 1st oil	1Q		
Major Project Define/ Select gate	1Q		
FDP submission	4Q		

**Used internally by OGA to assess overall operator performance**

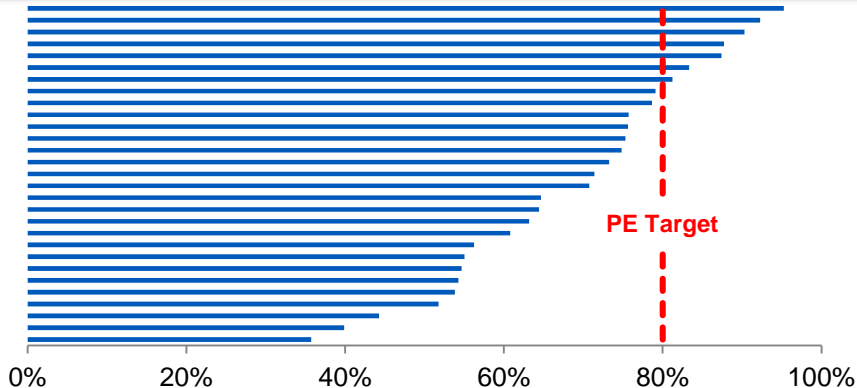


# Production Efficiency

## Historical PE Performance



## Current Top 20 PE Performance



## Leaders engaged

- Top 20 oil and gas producers 2014 performance and 2015 plans
- Constructive - high level of transparency and growing cooperation
- Moving forward with far greater transparency on data, performance and improvement plans
- OGA now leading PETF work in collaboration with industry & OGUK

**Significant opportunity for improvement in this area**



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# EOR Strategic Themes

Existing EOR Projects

Readiness for future EOR projects

Forums and JIP's

Technology Development & Innovation

Economics and cost improvements

Future miscible EOR & CO<sub>2</sub> EOR Policy

Centre of Expertise & Knowledge Capture

Add 300 mmboe reserves by 2020 through polymer & low sal

# Regional Development & Infrastructure

Undertake a facilitation role to resolve misalignment

2Q 2015

Work to understand commercial misalignments

4Q 2015

Develop regional & hub strategies

2016

Maximise development of discovered reserves

2018

Technical assurance HMG CCS & approve permits

Ongoing

**OGA will provide an evidence based, strategic overview to understand risk and opportunities in order to deliver best value option for MER UK**





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# Regional & Hub Strategy

**PI & undeveloped discovery maturation plan**

**Base production profile**

**Major project inventory**

**OPEX profile**

**CAPEX profile**

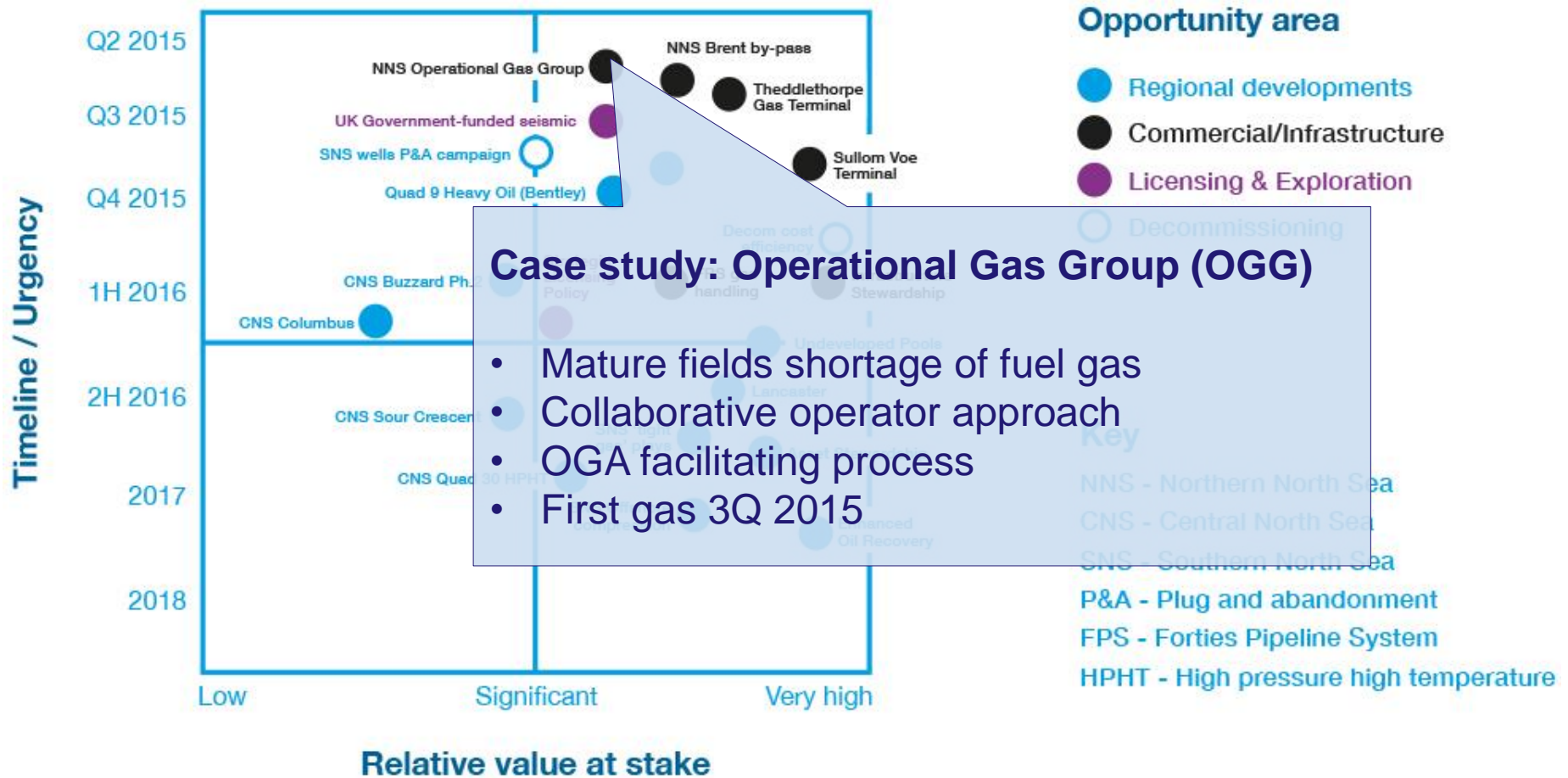
**Risks & mitigation to deliver plan**

**Decom strategy to maximize value**

**Enhanced stewardship survey returns will be used to develop regional and hub level strategies**



# Focus on priorities

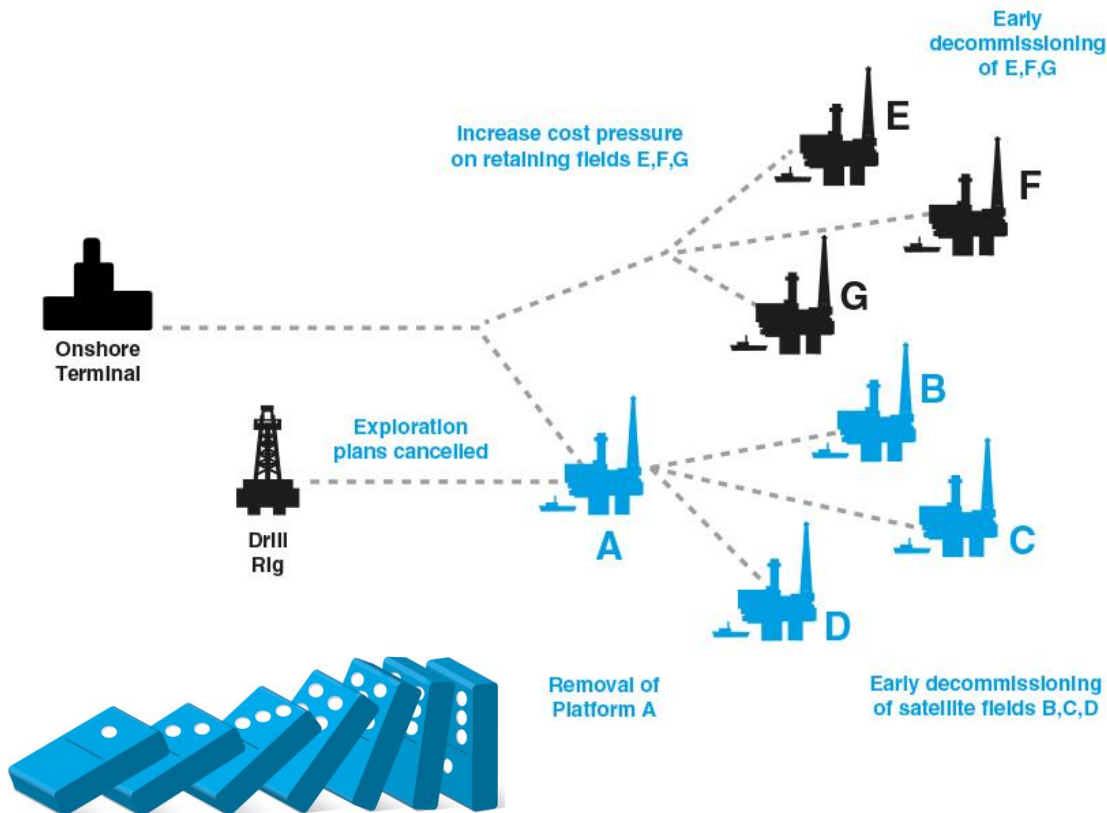


Tackling immediate risks and seizing opportunities



# Protect critical infrastructure

## The Domino Effect



## Immediate action

- Commercial facilitation
- Sullom Voe Terminal
- Theddlethorpe Gas Terminal

## Economic assessments

- Evaluate investment drivers
- Anticipate risks & opportunities
- Early stage involvement

## Regional plans

- Develop hub strategies
- Optimise infrastructure
- Integrated MER UK approach

**Urgent action underway to avoid premature decommissioning**



# Phase 1 Regional Focus

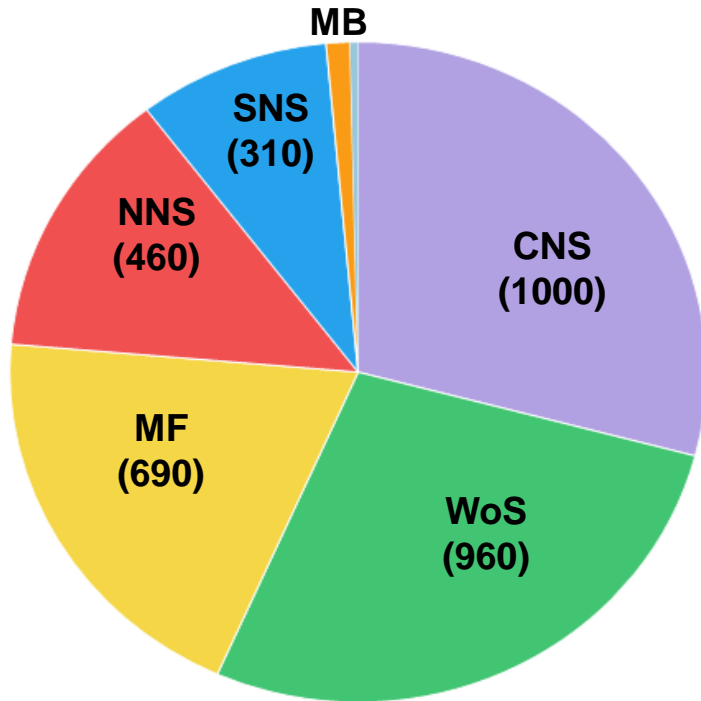
WOS	NNS	CNS	SNS
Fractured Basement	Quad 9	Quad 15 Quad 30 Sour Crescent HPHT	Carboniferous
Gas Export	Cormorant Alpha Ninian Brent Alpha SVT	Shearwater	Infrastructure rationalisation

- Exploration & Undeveloped
- Critical Infrastructure & Asset Stewardship

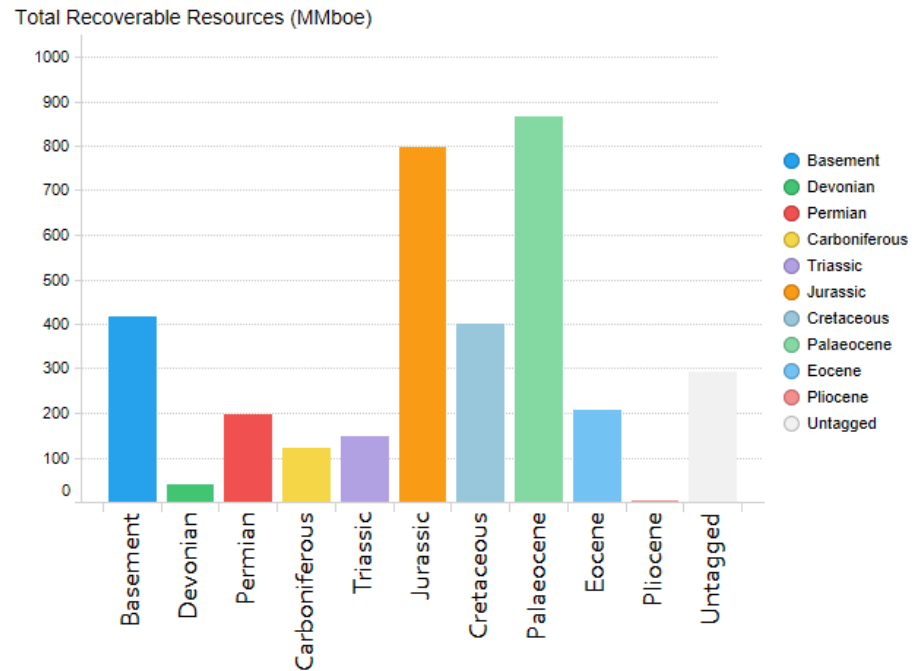
**Strategic reviews undertaken by OGA & industry will provide an understanding of risks, opportunities & options to maximise value for UKCS**



# Undeveloped Discoveries



Discovered volumes per basin (mmboe)



Discovered volumes per play (mmboe)

**Over 300 discoveries with potential of over 3.0 billion boe**