Oil & Gas Authority

OGA Overview 2016

Contents

Front cover: Shetland Gas Plant – Total E&P UK

Buzzard – Nexen

Introduction from the Chief Executive

Our oil and gas industry provides a great number of jobs, delivers secure energy for our homes and businesses, and generates significant value for our economy every year, at home and through exports overseas.

The decline in oil prices has magnified the issues that companies operating on the UK Continental Shelf (UKCS) have been grappling with for a number of years, highlighting the need for operational and behavioural transformation.

Rapid progress has been made to establish the Oil and Gas Authority (OGA) as an independent authority and to build its capacity and capability to help maximise economic recovery of the UK's oil and gas resources (MER UK) – our principal objective.

We are focused on delivering a high-quality service and value-for-money to industry. We seek to be a progressive and highly effective authority, working with government and industry to attract investment, retain valuable skills and address the immediate impact of the low price, while delivering further priorities that help bridge to the future.

The aim of this document is to provide a high level overview of the OGA. Further details can be found in other documents, in particular our Corporate Plan and on our website, references to which can be found later in the Overview.

Dr Andy Samuel
Chief Executive

Progress to date

Highlights include

Successfully and safely completed the 2015 £20 million UK Government funded seismic programme in the Rockall and Mid-North Sea High and released data in Q1 2016 – 12 months from project announcement to data release

7

Led work, across a number of Government Departments and other bodies to rationalise and integrate key fora. Seven MER UK boards now report into the MER UK Forum – integrating PILOT and the Oil and Gas Industry Council

Successfully delivered and communicated the 14th onshore and 28th offshore licensing rounds

Worked with Operational Gas Group to facilitate the sharing of fuel gas amongst operators in the Northern North Sea which reduced costs and improved efficiency

Sanctioned several projects including the Culzean ultra high-temperature high-pressure Field Development Plan

HM Treasury introduced £1.3 billion package of measures in 2015 and £1 billion package in 2016 following tripartite work

The Prime Minister announced a further package of measures to support the sector in Q1 2016 – including £180 million for technology and £20 million for a further seismic campaign. Funding for the creation of a 3D visualisation centre, post-doctoral appointments and an exploration licence competition was also announced

OGA established and senior leadership and governance structures put in place

OGA established low oil price contingency team

c.30

More than 30 successful facilitation/intervention cases by the OGA – new discoveries, extensions of fields, unblocking of commercial issues, cost savings and improved plant operations

OGA background

The need for the OGA

Urgent need for enhanced stewardship across UKCS

Review of sector in 2014 recommended independent authority

Over-zealous commercial behaviours a problem

Lack of industry-wide collaboration leading to inefficiencies

Creating the OGA

New independent authority – created April 2015 – building on existing strengths

Effective stewardship of resources

New powers, better resourced and funded

Catalyst for change and facilitator of action

Encouraging collaboration

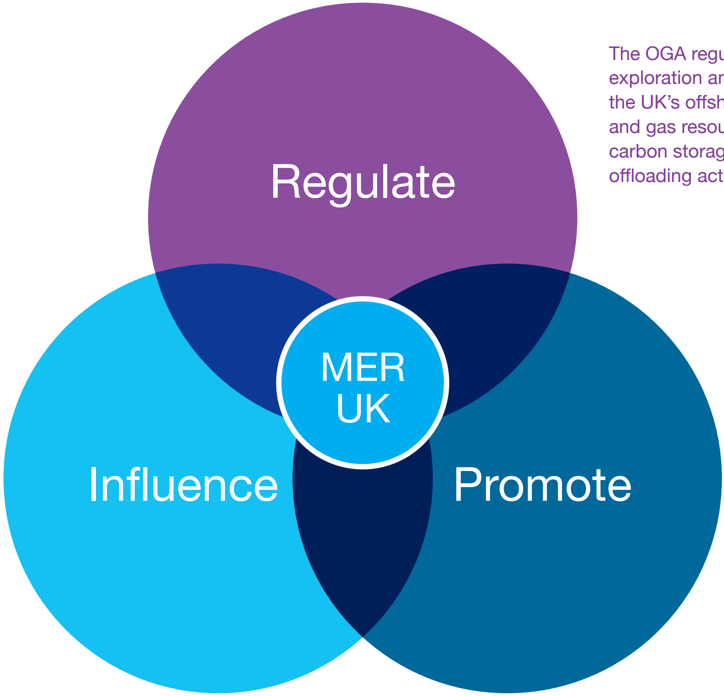
Focused on delivering a high-quality service and value-for-money to industry

Provide expertise and evidence to HM Treasury

OGA is driving actions to maximise economic recovery from the UKCS

About the OGA

Role of the OGA



The OGA regulates the exploration and development of the UK's offshore and onshore oil and gas resources and the UK's carbon storage, gas storage and offloading activities

The OGA has a critical role to influence and encourage a culture of greater collaboration on the UKCS, improve commercial behaviours, and the creation of a more efficient industry

The OGA has an important role to promote investment in the UKCS, value creation in the UK and through exports, and the overall development and prosperity of the industry including wider supply chain

OGA way forward

Why	**Ambition**	To be a world-leading authority setting the framework for a sustainable and competitive UK oil and gas industry					
	Purpose	To maximise the economic recovery of oil and gas					
What	**Role**	**Regulate** • Licence and steward offshore oil and gas E&P • Licence and steward onshore oil and gas E&P • Licence carbon storage and gas offloading		**Influence** • Industry operating costs and efficiency • Greater industry collaboration • Industry culture and behaviours		**Promote** • Investment in the UKCS • Value creation in the UK and through exports • Industry, supply chain and technology development	
	Priorities	**Revitalise exploration**	**Improve asset stewardship**	**Drive regional development and protect critical infrastructure**	**Improve decommissioning efficiency**	**Leverage technology and data**	**Create the right conditions**
	This means	Implementing a licensing regime that encourages high levels of exploration, using data, analysis and insights to proactively influence and help incentivise exploration on the UKCS and improve success rates	Stewarding the development of UK oil and gas resources and working with industry to optimise efficiency while maintaining high standards of safety and environmental management	Seeing the big picture and maximising the sum of the parts, making sure that barriers to regional development are removed and that critical infrastructure and production hubs are protected	Achieving the maximum extension of field life and ensuring that decommissioning is executed in a safe, environmentally sound and cost effective manner and that the UK gains a competitive industrial capability	Ensuring that existing technologies are deployed to their full effect, relevant new technologies are developed and that the collection, analysis and sharing of data is used to maximise economic recovery	Engaging with industry, government and others to create an operating environment and supply chain that supports MER UK, sustaining high levels of skilled employment, economic value and energy security for the UK

What	**Priorities**	**Develop people, processes and systems**
	This means	Creating a diverse, high-performing team and a great place to work, where employees are supported to develop their capability, in an organisation with simple processes and systems

How	**Values**	Accountable	Fair	Robust	Considerate
	Behaviours	One team – proactive, efficient, delivery-focused, respected and trusted – a catalyst for change			

OGA expectations of industry

Creating the right behaviours

- Over-zealous commercial behaviours still an issue
- Create the culture necessary to deliver MER UK
- Cross-industry engagement
- Identifying behavioural barriers
- Industry Behaviours Charter

Expectations of industry

- Protect critical infrastructure
- Support Oil and Gas Day and associated MER UK Forum and Boards
- Do everything possible to retain people and skills – support retraining and facilitate redeployment as required
- Continue to deliver improvements in asset stewardship
- Significantly modify commercial behaviours to align with MER UK
- Reinvigorate and intensify efforts to improve efficiency

MER UK Strategy

The Strategy sets out the high-level principles of MER UK; clarifies the obligations and expectations on all parties; and defines and guides the work OGA has been established to do. The Strategy, which is legally binding, provides safeguards for industry and investment. It also enables the OGA to produce plans which set out its view of how any of the obligations in the Strategy may be met.

MER UK central obligation

Take the steps necessary to secure that the maximum value of economically recoverable petroleum is recovered from the strata beneath relevant UK waters

Supporting obligations & required actions

The Strategy also sets out:

Supporting obligations in key fields such as exploration, development, asset stewardship, technology, decommissioning, and OGA plans

Required behaviours on timing, collaboration, cost reduction, and the actions where a party decides not to pursue MER UK

Key Wood Review deliverable – came into force 18 March 2016

Striking the right balance

Sanctions

- Licence revocation
- Fines up to £1m
- Improvement notices

Rewards

- Greater value via cooperation
- Transparency and better data access
- Timely, effective decision making
- MER UK benefits all

The Energy Bill will, subject to the will of Parliament, give OGA a range of new powers including:-

- Ability to attend certain meetings
- Introduce a range of sanctions including enforcement notices and fines of up to £1 million
- Dispute resolution
- Ability to request information and samples

Combining new regulatory powers with a more proactive approach

Experienced leadership

Chief Executive
Andy Samuel

Exploration and Production
Gunther Newcombe

Licensing and Legal
Simon Toole

Technology, Decommissioning and Supply Chain
Angela Seeney

Policy, Performance and Economics
Hedvig Ljungerud

HR and Change
Stuart Payne

Interim Chief Financial Officer
Philip Lloyd

Robust governance

Chairman

Sir Patrick Brown

Accountable to DECC Secretary of State

Chief Executive

Andy Samuel

DECC Director

Stephen Speed

Interim Chief Financial Officer

Philip Lloyd

Non-Executive Director

Robert Armour

Non-Executive Director

Frances Morris-Jones

Non-Executive Director

Mary Hardy

Broad experience

Oil & Gas day

Oil & Gas Tripartite Dinner

OGA lead

Purpose

Direct, open and transparent dialogue between Ministers, industry and the OGA

Reflect on current operating environment – the risks and opportunities

Outcomes

Build and maintain strong tripartite relationships

High levels of awareness and understanding between all parties

Oil & Gas Fiscal Forum

HM Treasury lead

Purpose

Collective action on fiscal priorities in Driving Investment Plan: Exploration, infrastructure access and barriers to new entrants for late-life assets

Outcomes

Evidence-based approach embraced by HMT, OGA and industry

Strong engagement on proposed fiscal measures

Oil & Gas MER UK Forum

OGA lead

Purpose

Drive tripartite action in support of MER UK and maximise UK value from the oil and gas industry as a whole

Outcomes

Alignment, accountability and action on key priorities

Tangible results

Continued participation from government Ministers throughout

Oil & Gas MER UK Forum

Formerly PILOT

Purpose	Drive tripartite action in support of MER UK and maximise UK value from the oil and gas industry as a whole
Objectives	1. Promote dialogue between government, industry and OGA 2. Provide strategic direction, oversight and support 3. Drive alignment, accountability, action and delivery on key priorities
Core work areas	1 Exploration 2 Asset Stewardship 3 Regional development and infrastructure 4 Cost and efficiency 5 Technology 6 Decommissioning 7 Supply chain, exports and skills
Strategy and Plans	**Principles** 1. Each core work area has executive-level leadership from industry and OGA, via a board 2. Each core work area has a five year plan via a board 3. Each core work area has a maximum of three key priorities each year 4. The Oil & Gas MER UK Forum will therefore drive no more than 21 key priorities each year 5. Each key priority completed before moving to next
Reporting	The Oil & Gas MER UK Forum will produce an annual progress report
Frequency	3 x 2-hour meetings pa
Secretariat	OGA external affairs team

Integration of PILOT and Oil and Gas Industry Council

Previously Oil and Gas Industry Council

MER UK Boards

Purpose	Deliver tangible benefits in support of MER UK and maximise UK value from the oil and gas industry as a whole
Objectives	1. Develop a clear strategy, priorities and plans 2. Create leadership alignment and leverage tripartite action – forum for consultation 3. Deliver tangible and quantifiable results

MER UK Boards

Board	Industry Lead	Support Lead	Origin
1 Exploration	**Phil Kirk** Chrysaor	**Gunther Newcombe**	Previously Exploration Task Force
2 Asset stewardship	**Ray Riddoch** Nexen	**Gunther Newcombe**	Building on Production Efficiency Task Force
3 Regional development and infrastructure	**Paul Goodfellow** Shell	**Gunther Newcombe**	Newly created to build on rejuvenated groups
4 Cost and efficiency	**John Pearson** AMEC FW	**Stephen Marcos-Jones**	Oil & Gas UK Efficiency Task Force
5 Technology	**Paul White** GE	**Angela Seeney**	Technology Leadership Board
6 Decommissioning	**Colette Cohen** Centrica	**Angela Seeney**	Previously Decom Task Force
7 Supply chain, exports and skills	**Neil Sims** Expro Group	**Angela Seeney**	Previously Oil and Gas Industry Council

Frequency	Quarterly	**Support**	OGA/Oil & Gas UK

Industry Lead   Support Lead

MER UK Boards’ immediate priorities

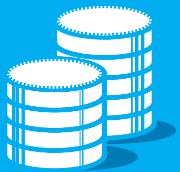
MER UK Boards

Immediate priorities	Exploration	Asset stewardship	Regional development and infrastructure	Cost and efficiency	Decommissioning	Technology	Supply chain, exports and skills
1 Immediate action and develop regional plans	Technical understanding		●	Business process	Supply chain		Retain skills
2 Increase exploration drilling	●		Infrastructure access	Standardisation		Reduce well costs	
3 Develop existing discoveries	Revitalise exploration		Undeveloped resources			● Small pools	
4 Reduce costs and improve efficiency	Revitalise exploration	Asset management and integrity	Regional plans	●	Cost reduction	Reduce well costs	Transformation
5 Enable asset transfers			Regional plans		●		

MER UK Board priorities key: ● Leading ● Supporting

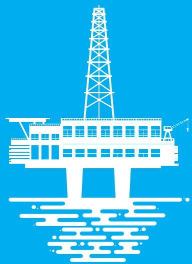
Fiscal Measures

£1.3 billion package of measures introduced in 2015 and £1 billion in 2016

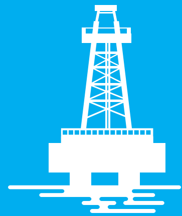


Supplementary Charge reduced from 30% to 10%

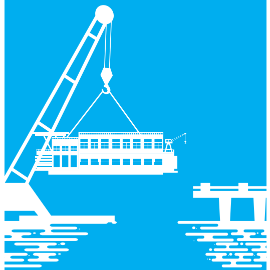
Petroleum revenue tax reduced from 50% to 0%



Confirmation of new basin-wide investment allowance

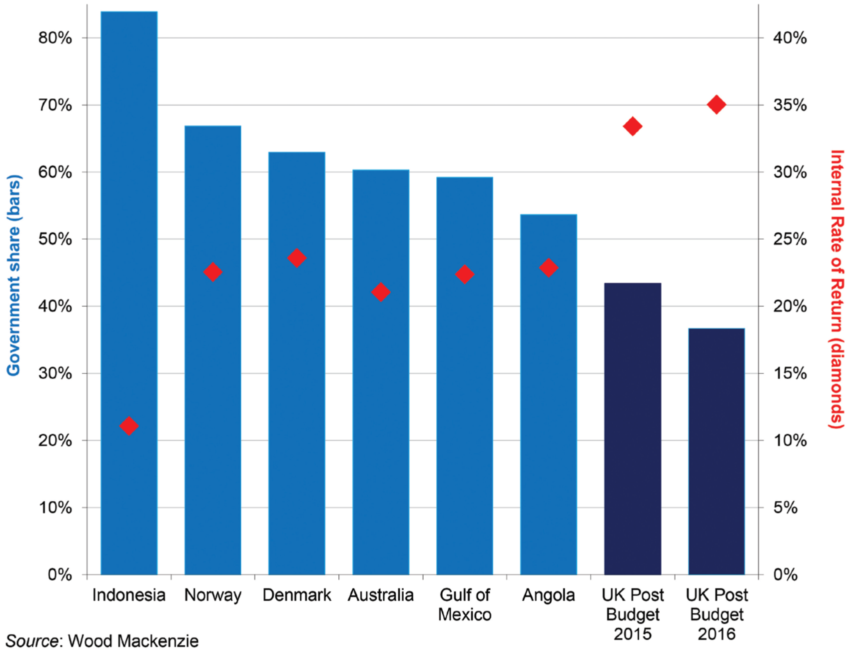


2 x £20 million for new geophysical surveys



Clarifying tax treatment of decommissioning costs

Fiscally Competitive



Source: Wood Mackenzie

Adding certainty

Strong commitment from Government

Positive fiscal reform

Politically stable

OGA provide expertise and evidence to HM Treasury

The blue bars in the chart show rates of taxation (using a 0% discount rate) for a 20 million barrel of oil equivalent high cost ($21.6/bbl capex, $12.3/bbl opex) model oil field before and after the Budget changes with light blue bars for rates of tax for the same project in other countries

Projects are evaluated at a long-term Brent oil price assumption of $70/bbl (real, 2016 terms). The red diamonds show project post-tax internal rates of return (IRR)

UK was already fiscally competitive – made more so by Budget measures

Revitalise exploration

43bn boe recovered from UKCS to date – up to 20bn boe remaining

> 300 discoveries with 4bn boe potential

Potential of up to 9bn boe yet to find in mature areas

Target of 50 E+A wells per year by 2021

UK Government funded seismic

40,000km new and legacy data in 2015 – Rockall Trough and Mid-North Sea High – Data freely available* from Q1 2016

OGA competition to define potential of frontier areas

29th 'Frontier' Licensing Round in 2016**

29th

Further £20million seismic funding from UK Government in 2016 and funding for post-doctorates and for 3D visualisation suite

*From www.UKOilandGasData.com

**Subject to Strategic Environmental Assessment

Significant opportunities

- 29th Licensing Round Areas
- 2015 OGA 2D Seismic Lines
- 2016 OGA 2D Seismic Lines
- UKCS Designated Area

29th Licensing Round and 2016 seismic study areas are proposed and subject to further approvals including Strategic Environmental Assessment

Well reviews and analysis

- Rigorous analysis of failed wells and sharing of lessons learnt (98 wells over a 10 year period)
- Undertaking subsurface technical assurance reviews to improve technical standards
- Introduce OGA risk and resource process
- 21st Century Exploration Road Map

Improve data quality

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

Future licensing rounds

- New, flexible, licensing strategy – new Innovate Licence created
- 29th Round 2016 – under-explored frontier blocks
- 30th Round 2017 – mature parts of the basin
- Time to evaluate existing work commitments and relinquishments

We work with operators to 'high-grade' prospect inventories

Onshore exploration and development

OGA currently performs a number of onshore regulatory functions and will continue to work with industry and other regulators to ensure regulatory controls and guidance are in place.

OGA

- Onshore licensing
- Drilling consents
- Work with British Geological Survey (BGS) to publish assessments of shale potential
- Collect and publish shale-related geotechnical data
- Approval of Hydraulic Fracture Plans
- Regulation of induced seismicity

Others

- Shale Policy – Government (DECC)
- Planning permission – Mineral Planning Authority
- Environmental permits – Environment Agency (England), Natural Resources Wales (Wales), Scottish Environment Protection Agency (Scotland)
- Scrutiny of well design – Health & Safety Executive
- Onshore regulatory functions are being devolved through the Scotland Act 2015 and the Government intends to devolve regulatory functions to Wales and introduce legislation in 2016.
- Issue of Hydraulic Fracturing Consents – Government (DECC)

Production efficiency

In 2015 OGA brought together all East of Shetland operators to discuss planned shutdowns in 2016 – the first time these operators have got together to coordinate planned shutdowns in this way

Production efficiency (PE) on the UKCS is a significant factor in total production levels – PE increased by circa 10% between 2012 (c.60%) and 2015

10%

Production increased in 2015 for the first time in 15 years – by 10 per cent

Enhanced stewardship

- Enhanced asset stewardship framework agreed
- Senior leadership commitment by OGA and industry
- Stewardship plan expectations in development
- OGA enhanced oil recovery strategy to facilitate up to 250 mmboe of additional reserves

Data-driven approach

- Tiered stewardship reviews including operator scorecards
- Benchmarking of key parameters
- Rationalisation of OGA industry surveys
- Support operators to understand key cost drivers to develop industry wide solutions to safely reduce OPEX by 30%

Managing late-life assets

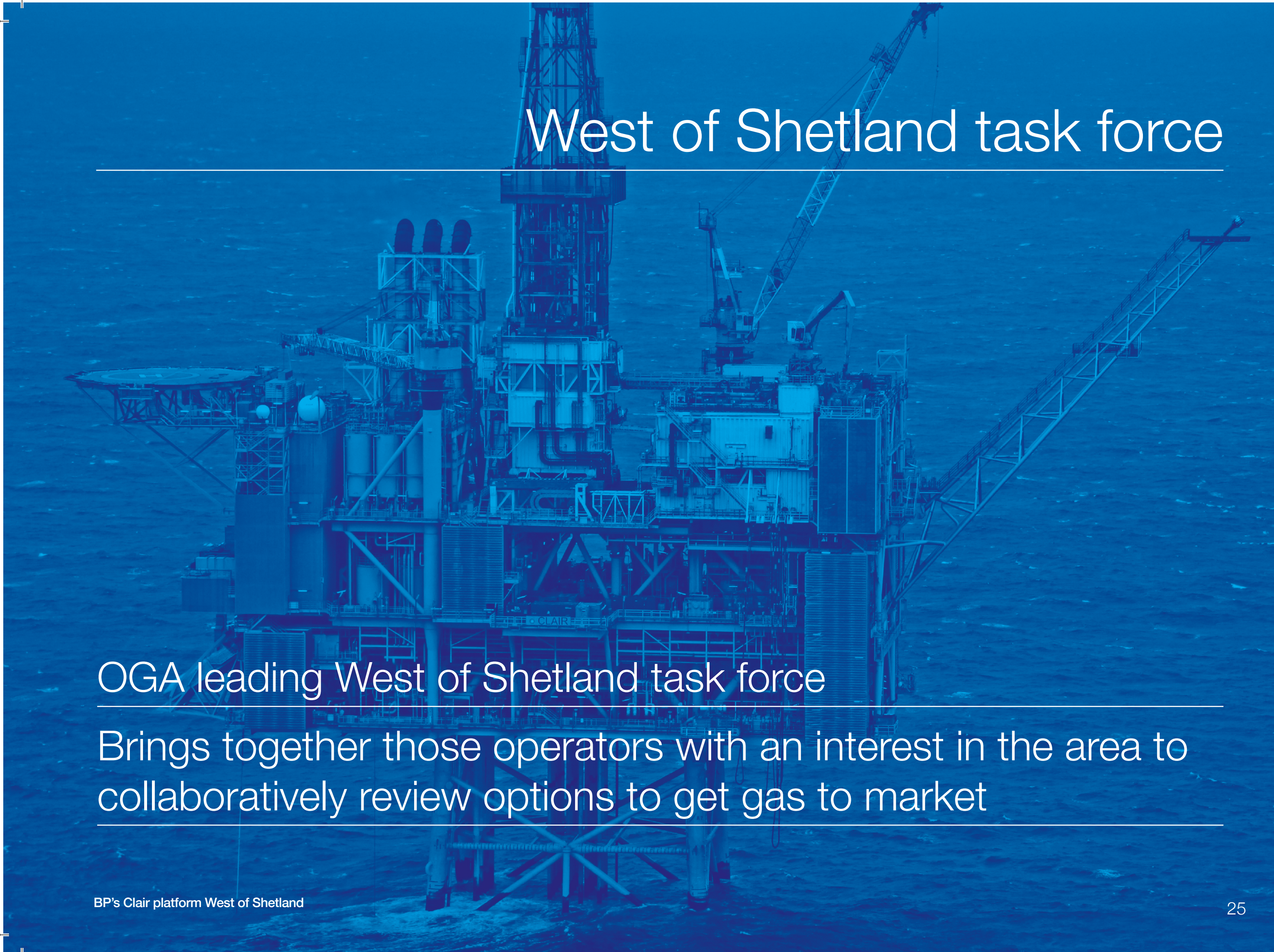
- MER UK approach to upstream and midstream
- Future use of infrastructure is considered fully prior to Cessation of Production
- Right assets; right hands

Enhanced Stewardship covers full E&P lifecycle

West of Shetland task force

OGA leading West of Shetland task force

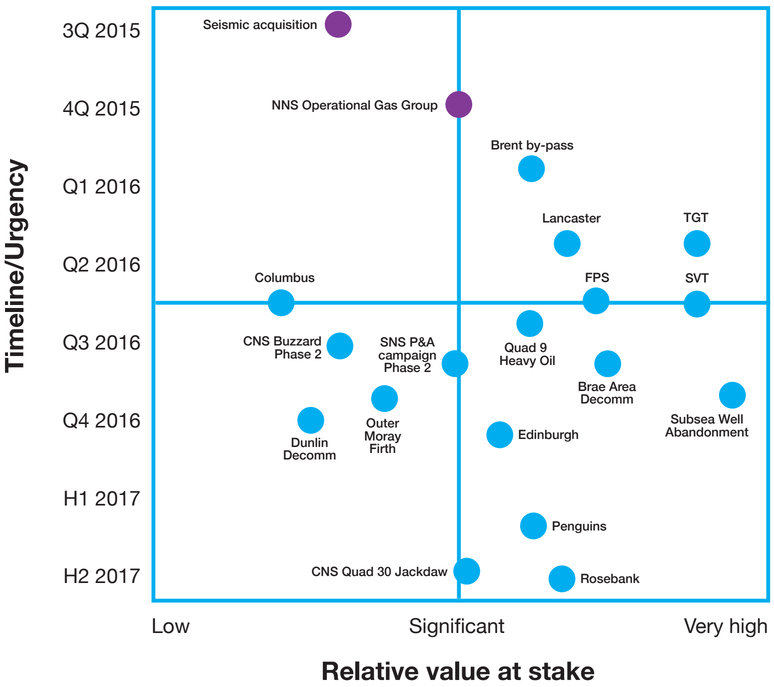
Brings together those operators with an interest in the area to collaboratively review options to get gas to market



BP's Clair platform West of Shetland

Focus on priorities

OGA Opportunity Matrix



Opportunity Area

- Complete
- In Progress

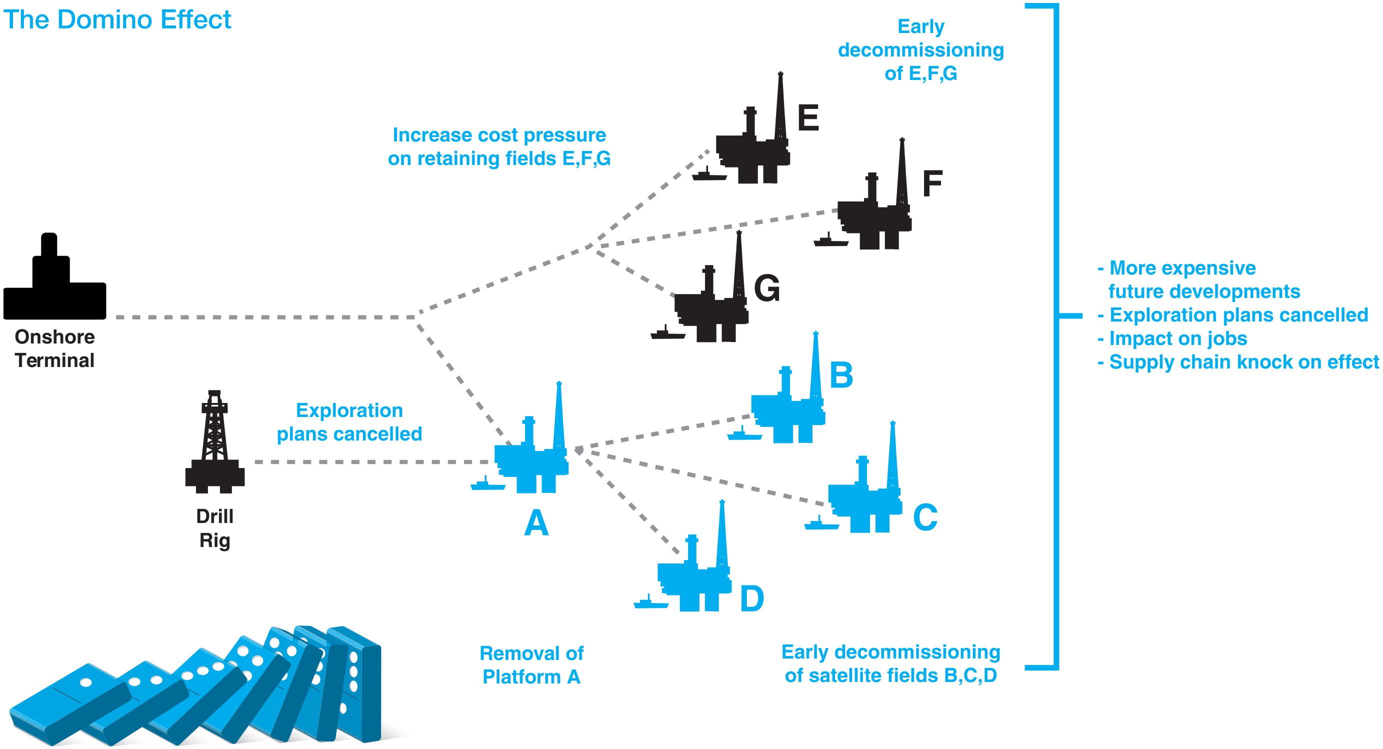
Key

NNS – Northern North Sea
CNS – Central North Sea
SNS – Southern North Sea
P&A – Plugging and abandonment
FPS – Forties Pipeline System
TGT – Theddlethorpe Gas Terminal
SVT – Sullom Voe Terminal

Tackling immediate risks and seizing opportunities

Protect critical infrastructure

The Domino Effect



Immediate action

- Facilitation of Key MER UK misalignments
- Extend life of key hubs including:-
  - Sullom Voe Terminal
  - Theddlethorpe Gas Terminal
- Undertaking a regional assessment of West of Shetland gas export options
- Greater Fulmar Area Task Force creating area plan

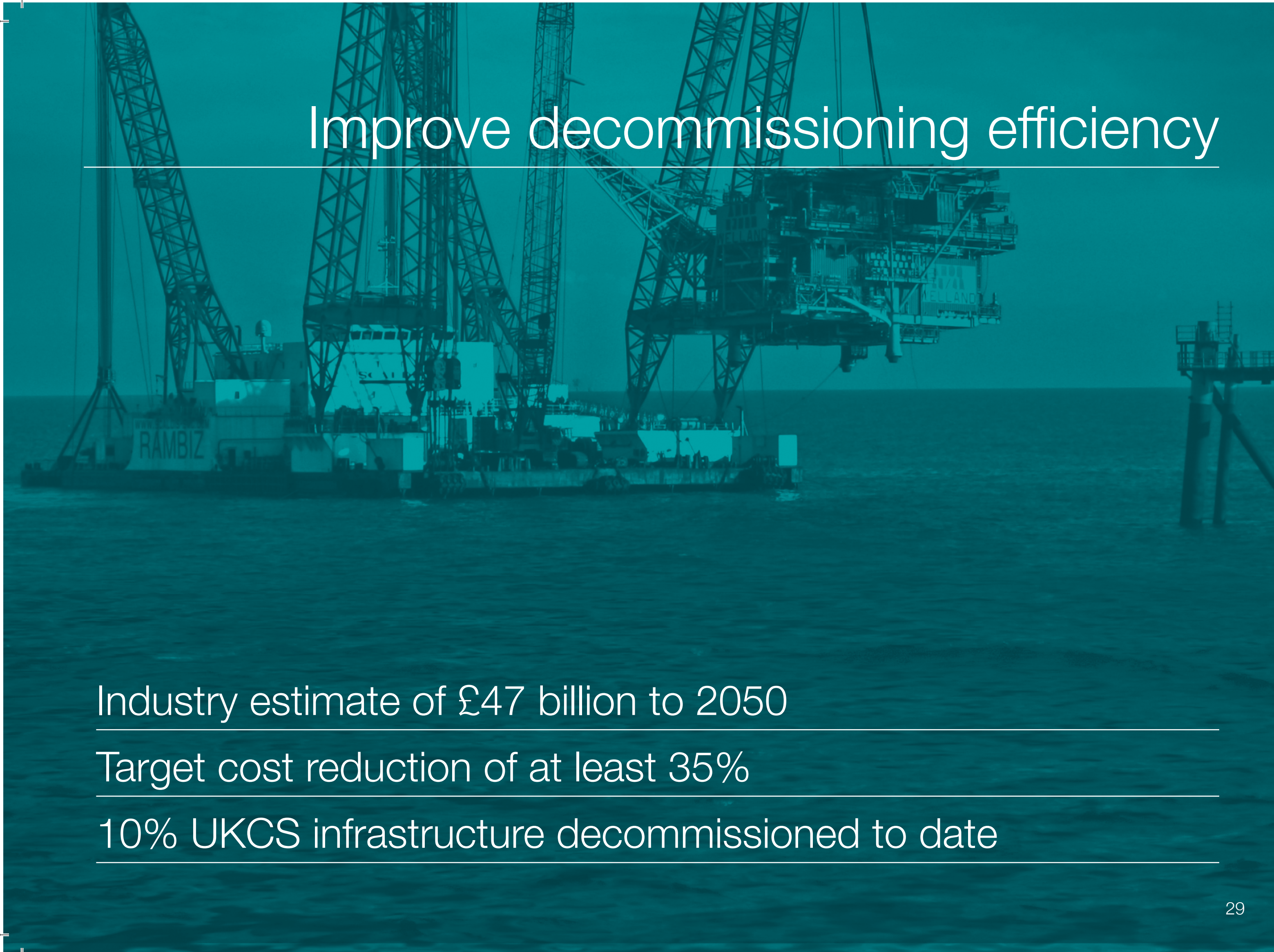
Economic assessments

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

Regional plans

- Develop hub strategies
- Optimise infrastructure
- Develop a business plan and strategy for key regions
- Integrated MER UK approach

Urgent action underway to avoid premature decommissioning



Improve decommissioning efficiency

Industry estimate of £47 billion to 2050

Target cost reduction of at least 35%

10% UKCS infrastructure decommissioned to date

Integrated Approach

Decommissioning Strategy:
- Cost efficiency and reduction
- Decommissioning delivery capability
- Policy and stakeholder management

Decommissioning Board: Leveraging membership, expertise and initiatives crucial for delivery of the Decommissioning Strategy

Industry transformation:
Required to support MER UK obligations

Technology: Help identify cost reducing opportunities for technology adoption, adaption and development

Supply chain capability: Build capable and competitive advantage to the UK on the global decommissioning stage

Who does what

OGA

Area Teams
- Cessation of production
- Regional approach
- MER UK compliant

Decom Team
- Cost efficiency
- Supply chain capability
- Policy and stakeholders

DECC

DECC Team
- Funding and security
- Decom Programme approval
- Regulatory compliance
- Environmental risk and mitigation

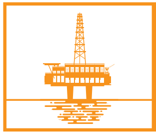
OGA Decommissioning Strategy Q2 2016

Leverage technology and data

Technology priorities

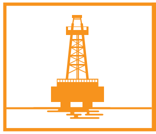
Small Pool Development

200 marginal discoveries – technology to enable development of > £1.5bn boe from pools < 15m boe could generate £40bn new investment



Asset Integrity

15-20% increase in production uptime



Well Construction

50% cost reduction targeted

Decommissioning

Technology has key role to help achieve decommissioning cost efficiencies

OGA approach

- Develop a UKCS Technology Plan
- Ensure existing technologies deployed to full effect
- Significant total value add potential
- Significant scope to improve UKCS cost efficiency and competitiveness
- Co-Chair Technology Leadership Board – work closely with industry, government and stakeholders
- Support the Oil and Gas Technology Centre and use of £180 million government funding
- Work closely with government, industry and stakeholders to develop a data management strategy and plan

UKCS becomes centre of excellence for innovation

Support the supply chain

Export growth

- World-class supply chain
- £30-40 billion annual turnover, c.40% through exports
- c.300,000 direct supply chain jobs
- Work with UKTI, BIS, Scottish Enterprise and Oil & Gas UK to promote the supply chain

Increasing efficiency

- Service companies vital role to play in delivering cost reduction
- Deliver efficiency solutions
- Increase competitiveness
- Transform the relationship between operators and service companies

OGA approach

- Promote alliances and campaigns
- Help improve project execution
- Encourage standardisation
- Work with operators to ensure contracting strategies are robust and fair
- Supporting the Scottish and New Anglia Jobs Task Forces

Promote a strong and competitive UK supply chain

Create a competitive cost base

Unit operating costs fell from $29.30/bbl (£17.80) to $20.95/bbl (£13.70) in 2015*– target of $15/bbl in 2016 – which would represent a total fall of 49% within two years

(*source OGA/Oil & Gas UK Activity Survey 2016)

Reducing operating costs

Must compete in lower oil price world

Urgent focus on immediate priorities alongside longer-term plans essential

Structural transformation required

Operational and cultural change essential

Applying best practice

Need to ensure performance is improved through effective transfer of lessons learnt

Learning from other sectors

Applying best practice in oil and gas

MER UK awards recognise positive behaviours

Oil & Gas UK Efficiency Task Force

Business process improvement

Standardisation – reduce complexity and costs

Cooperation, culture and behaviours

Industry Behaviours Charter launched December 2015

Over 50 success stories shared through the Rapid Efficiency Exchange – and online portal

Inventory rationalisation trial launched – five operators sharing 200,000 inventory items to reduce individual stock holdings and improve access to vital equipment

Good progress being made – more underway – more still to be done

Who does what in UK Government

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

Oil and gas policy including:	
Overall oil and gas policy	**DECC**
Legislation including the Energy Bill	**DECC**
Oil & gas parliamentary processes	**DECC - OGA** sponsor team
Decommissioning	**DECC - OGED, OGA, HMT**
Fiscal and taxation	**HMT** OGA provide expertise and evidence to HM Treasury
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
HMT: Her Majesty's Treasury
FCO: Foreign and Commonwealth Office
BIS: Department for Business, Innovation & Skills

Contact us at:

oga.correspondence@oga.gsi.gov.uk

OGA HQ
AB1 Buildings
48 Huntly Street
Aberdeen
AB10 1SH

OGA London
4th Floor
21 Bloomsbury Street
London
WC1B 3HF

www.linkedin.com/company/oil-and-gas-authority
twitter.com/ogauthority

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