



Oil & Gas
Authority

MER UK Forum

May 2016



Oil & Gas
Authority

MER UK Forum OGA Update

Andy Samuel
Chief Executive

May 2016



Government support since last Forum

Prime Minister's visit to Aberdeen in January 2016



- Involvement Prime Minister and First Minister
- UK Inter-Ministerial Group established
- OGA contingency planning team in place
- Immediate action and bridge to the future
- Help retain and redeploy people and skills

Globally competitive fiscal regime



Supplementary charge down 30% to 10%



Petroleum revenue tax down 50% to 0%



New basin-wide investment allowance



Clarifying tax treatment of decom costs



Two £20m packages for geophysical surveys

Aberdeen City Region Deal

£250m

£180m

Westminster and Holyrood funding

New Oil & Gas Technology Centre

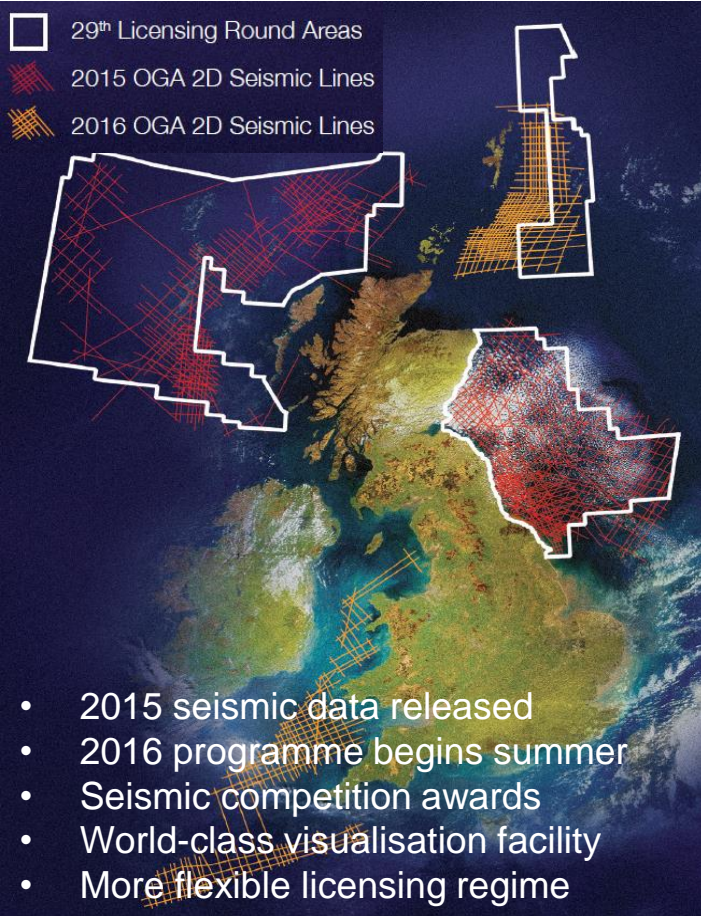
OGTC Board established and search underway for Chief Executive

Strong engagement and support



OGA progress since last Forum

Revitalising exploration



MER UK Strategy
January 2016

OGA Corporate Plan
published

Engagements with banks and investors

Low oil price
contingency team

30+ successful
interventions eg,
discoveries, field
extensions and
improved operations

Asset stewardship
scorecard meetings

Protecting critical
infrastructure
continued facilitation

14th Onshore Round
Licenses offered

**Commercial
behaviours**

Delivering on our priorities and plans



Alignment of priorities

Immediate priorities	Key deliverables	2016 outcomes
<p>1</p> <p>Develop regional plans</p>	<ul style="list-style-type: none"> • Complete WOS, Fulmar & infrastructure studies (RD&I) • Deliver SVT, TGT & Brent By Pass solutions (OGA) 	<ul style="list-style-type: none"> • Regional plans in place for key areas of the UKCS
<p>2</p> <p>Increase exploration drilling</p>	<ul style="list-style-type: none"> • Deliver 2016 frontier seismic programme (OGA) 	<ul style="list-style-type: none"> • Significant increase in confidence of E&A potential and value • On track to double drilling by end 2020 (ie, 50 wells)
<p>3</p> <p>Develop existing discoveries</p>	<ul style="list-style-type: none"> • Improve well, asset integrity & subsea solutions (OGA/TLB) • Technology strategy, plan and funding proposal (OGA) 	<ul style="list-style-type: none"> • 3-year technology programme defined and funding aligned with OGTC • Plan to maximise recovery of discovered resources of 4.3bn barrels
<p>4</p> <p>Reduce costs and improve efficiency</p>	<ul style="list-style-type: none"> • Engage workforce with cost and efficiency programmes coupled with cultural change (ETF) 	<ul style="list-style-type: none"> • Achieve average \$15/boe unit operating costs • Achieve 80% production efficiency
<p>5</p> <p>Enable asset transfers</p>	<ul style="list-style-type: none"> • Improve viability of transferring assets (OGA) • Late Life and decommissioning strategy and plan developed (OGA) 	<ul style="list-style-type: none"> • Enhanced competitiveness and value with top two barriers to transfers removed or risks mitigated in sector strategies and plans by end 2016

MER UK Boards integrating plans and working together



Oil & Gas
Authority

Asset Stewardship

Ray Riddoch (Nexen)

Gunther Newcombe (OGA)

May 2016



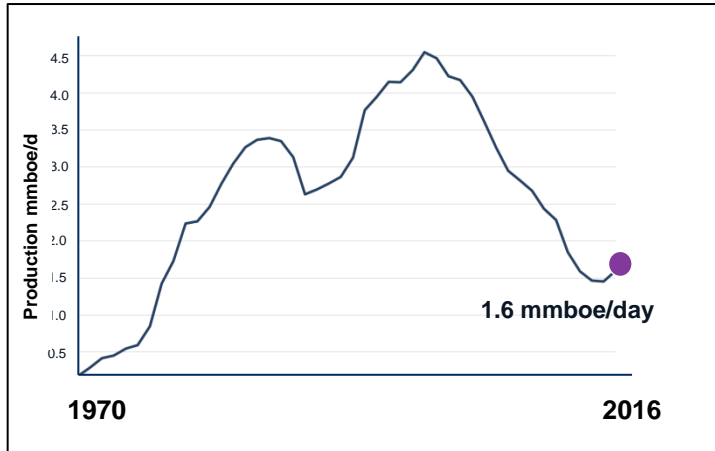
Asset Stewardship Summary

Purpose	To enhance & improve asset stewardship by maximizing value by improving safety & efficiency and reducing cost		
Priorities	<ul style="list-style-type: none"> Improving asset management and integrity, Increasing production and reducing costs Delivering projects within schedule and budget Delivering EOR reserves 		
Industry lead	Ray Riddoch (Nexen)	Support lead	Gunther Newcombe (OGA)
Members	Bruce Price (BP) Brian Cowell (EDF) Steve Gardyn (Talisman Sinopec) Eric Henderson (Maersk)	Matt Nicol (Centrica) Neil Gordon (Subsea UK) Mike Tholen (OGUK) Tim Martin (Ramboll)	Selma Hunter (Doosan Babcock) Andrew Ferguson (Petrofac) James Crawford (Wood Group) Hans-Juergen Bister (INEOS)
Key relationships	<ul style="list-style-type: none"> MERUK boards, especially RDI, TB, SC & E and Cost & efficiency HSE, STEP Change & OGUK 		
Funding and resources	<ul style="list-style-type: none"> OGA support funded from OGA Levy Members support manpower and incidental costs from own budgets 		
Progress update	<ul style="list-style-type: none"> Last board meeting 6th May, third meeting since start up in December 2015 Discussed and approved framework for EOR and Asset Stewardship Strategy Brainstormed key cost improvement initiatives with current focus on project optimization Good linkage to industry work groups such as asset integrity, production efficiency & subsea 		
Risks / interdependencies	<ul style="list-style-type: none"> Asset stewardship covers a broad spectrum from exploration through to decommissioning Close coordination required with established work groups: PETF, Subsea Stewardship and EOR Strong linkage with core work boards to ensure linkage and avoid duplication and confusion 		

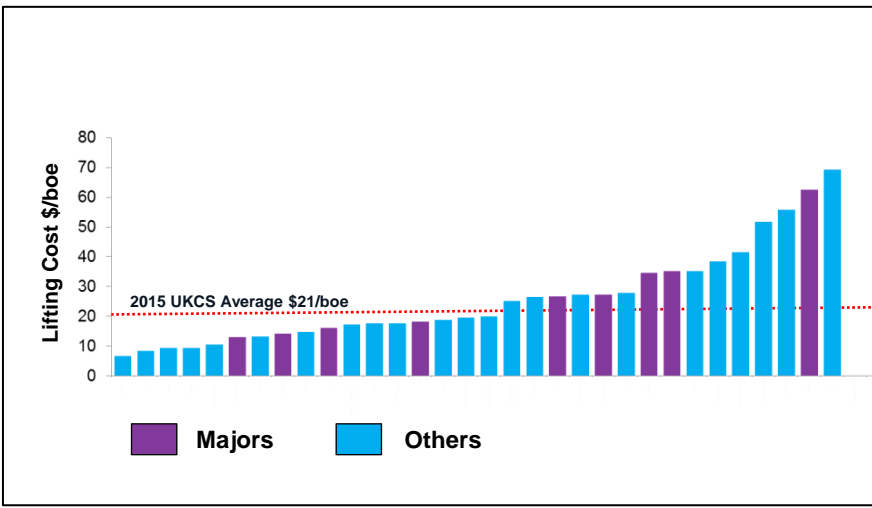
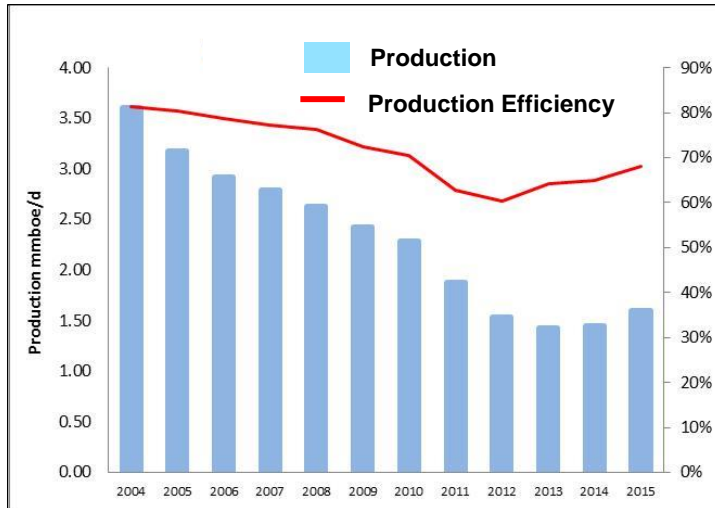
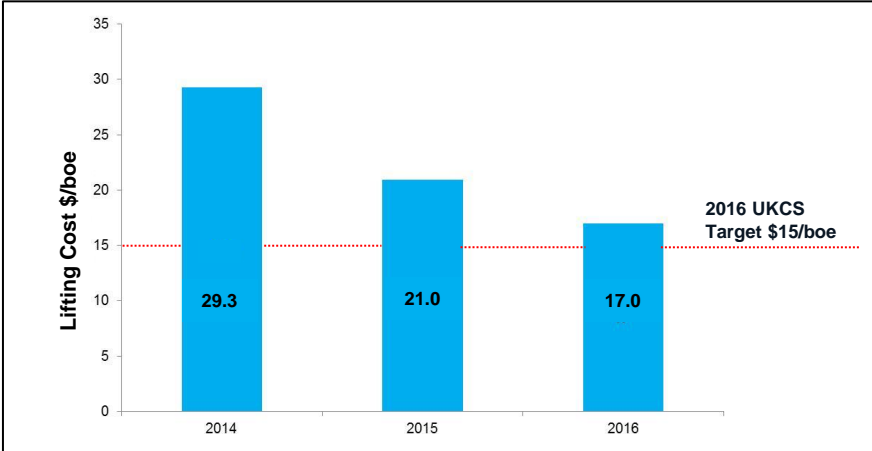


Cost & Production Efficiency

Production



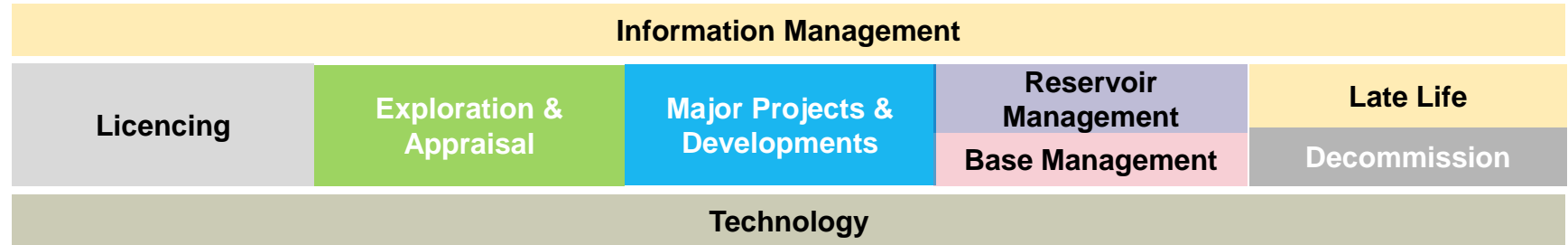
Lifting Costs



Significant improvements in increasing production & managing costs



Improving Asset Stewardship



Develop Stewardship Expectations



Framework Interviews Strategy Survey Reviews Benchmark Coach Survey

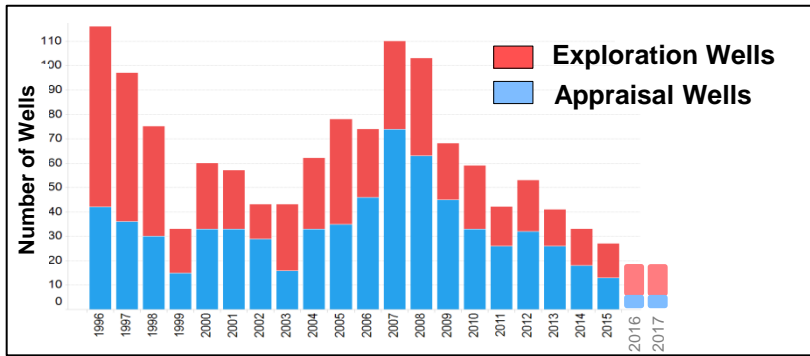
2016

2017

MERUK Asset Stewardship Board working closely with OGA

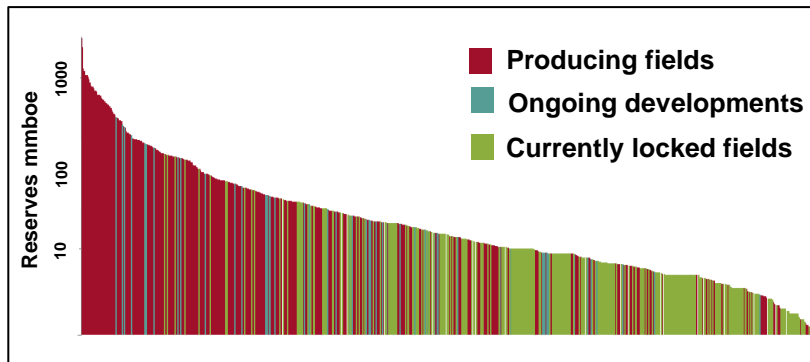


Key Issues Discussion



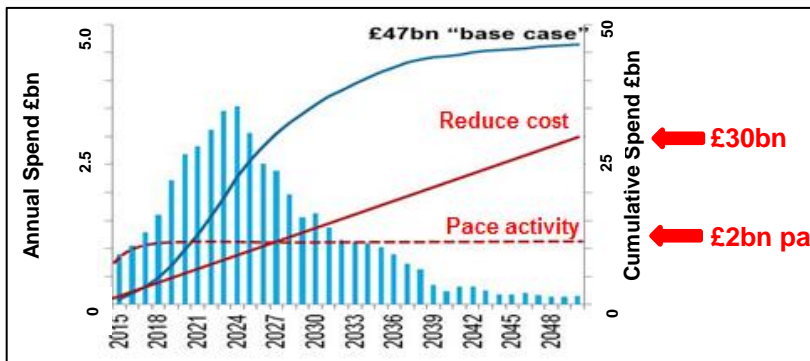
Exploration & Appraisal

- High well costs, misalignment & lack of funding
- Government funding has helped longer term
- Promote UKCS exploration & share information
- Reduce costs, improve marketing, attract investment



Discoveries & Production

- 350+ undeveloped discoveries & improve recovery
- Develop regional hub strategies & optimize
- Apply technology to unlock value
- Share project learnings & maintain base activity



Late Life & Decommissioning

- Avoid premature and costly decommissioning
- Improve Operator & Infrastructure owner alignment
- Encourage new late-life entrants & asset transfer
- Develop a low cost mature basin operation

Continue to manage performance, change behaviours & improve alignment



Oil & Gas
Authority

Cost Efficiency

May 2016



Cost Efficiency Board Summary

<p>Purpose</p>	<p>Oil & Gas UK's Efficiency Task Force is a catalyst and vehicle for pan-industry improvement in efficiency by encouraging cooperation and focusing on value adding initiatives to create a sustainable sector.</p>		
<p>Priorities</p>	<ol style="list-style-type: none"> 1. Business Process: Improvement of everyday operations 2. Standardisation: Developing simplified approaches and standardised solutions to deliver greater value 3. Cultures, cooperation & Behaviours: Changing the way we work – together – to benefit the whole industry 		
<p>Industry lead</p>	<p>John Pearson, Amec Foster Wheeler</p>	<p>Support lead</p>	<p>Stephen Marcos Jones, O&GUK</p>
<p>Members</p>	<ul style="list-style-type: none"> • Angela Seeney - OGA • Colette Cohen - Centrica • Paul Goodfellow - Shell • Neil McCulloch - EnQuest • Terry Savage - Global Energy Group • Morten Kelstrup - Maersk • Bob Drummond - Hydrasun 	<ul style="list-style-type: none"> • Steve Duthie – Technip (Subsea Technology) • Ian Davidson – Score Group (Valves) • Line Kaldestad – Statoil • Martin Bruce - ENGIE • Mark Richardson – Apache (Culture & Behaviours) 	
<p>Key relationships</p>	<ul style="list-style-type: none"> • Oil & Gas UK Board • Oil and Gas Authority 		
<p>Funding and resources</p>	<p>Wholly funded by industry through Oil & Gas UK. Resources are a combination of Oil & Gas UK Staff and volunteers from industry.</p>		
<p>Progress update</p>	<ul style="list-style-type: none"> • 6 operator companies have joined an inventory trading platform and uploaded in excess of 200,000 items • Maintenance optimisation guidelines first draft complete • 3 operator subsea projects being reviewed, applying evidence to bring down costs by potentially 30% • Operator Collaboration Index (CI) score has moved from 5.9 to 6.7 between summer of 2015 and March 2016 • Rapid Efficiency Exchange has over 50 success stories and a number of challenges 		
<p>Risks / interdependencies</p>	<ul style="list-style-type: none"> • Pace of delivery due to reliance on industry to adopt output of initiatives • Current work streams not disruptive enough • Individual companies constrained by international standards of practice • Inability of the task force to mandate change 		

Inventory Rationalisation Project

- System Launched in April 2016
- Six companies
- In excess of 200,000 items available for industry trading

Immediate opportunity to fast track efficiencies

Provides quick access to items when needed

Reduces lead times, spend and warehouse costs

Subsea Technology

- Identifying efficiencies that could be applied to subsea developments adopting a simplified approach and standardisation
- 30 companies involved
- Engaging with industry through workshops to realise opportunities in current and future projects

Up to 30 per cent savings possible

Procurement

Need to quantify wastage and establish how it can be removed from the tendering process.

Operators and Contractor reviewing ITT & Tender processes.

Meetings to be arranged starting in May and report to Industry by October 2016.

Logistics

Seek to understand how collaboration can reduce costs.

Terms of Reference being finalised, participants identified to progress the optimisation plan.

First meeting to be arranged for May - report to Participants and Industry by September '16.

Workforce Engagement

Need to involve all levels of oil and gas community in ETF identified.

Communications plan for Workforce underway.

Development in progress – to go live in Summer 2016.

Maintenance

Regimes need to be simplified and wastage reduced without cutting the maintenance work being carried out.

Maintenance optimisation guidelines first draft complete.

To be published in July 2016.

Work with other MER UK Boards

Key Board interactions:

Supply Chain
Asset Stewardship

A catalyst and vehicle for pan-industry improvement in efficiency by encouraging cooperation and focusing on value adding initiatives to create a sustainable sector

Discussion: What else can we do to improve behaviours?

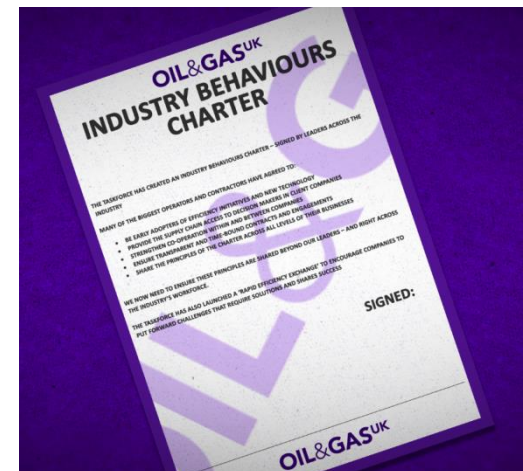
A study by Oil & Gas UK and Deloitte shows **Operator Collaboration Index (CI)** score has moved from **5.9 to 6.7** between summer of 2015 and March 2016 – what can we do to enact further positive change?

Deloitte.

OIL&GAS^{UK}

Delivering the behavioural change this sector needs to compete in a lower oil price world, a step-change in our culture. Other projects include:

- **The Industry Behaviours Charter**
- **The Rapid Efficiency Exchange**
- **CI Efficiency Network**
- **Workforce Engagement**
- **Efficiency Roadshows**





Oil & Gas
Authority

Technology

May 2016



Technology Leadership Board (TLB)

Purpose

Work with industry, government and stakeholders to adopt, adapt or develop oil & gas technologies, securing investments, to deliver high value MER UK benefits and strengthen industry competitiveness through deployment

Priority Themes

- 1. Small Pools:** Unlock economic recovery of 2 to 3bnboe discovered resources
- 2. Well cost reduction:** Reduce total well cost by 50% to enable further development of resources
- 3. Asset Integrity:** Enhance asset integrity inspections to improve late life and reduce operating costs
- 4. Decommissioning:** Technology to support cost savings targets of 30-50%

Industry lead

Paul White	OGA lead	Angela Seeney
------------	-----------------	---------------

Members

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> • Shell Paul Goodfellow, • Centrica Colette Cohen • EnQuest Neil McCulloch • Total Elisabeth Proust | <ul style="list-style-type: none"> • BP Dave Lynch • Baker Hughes Crawford Anderson • AMEC FW Andy Ewens • IMES Melfort Campbell | <ul style="list-style-type: none"> • Academia Prof John Underhill • Magma Charles Tavner • NERC, NSRI, ITF, OGIC, BIS, SE and SG, and OGUk |
|--|--|---|

Industry links

- Key MER UK Boards: Regional Developments, Exploration, Asset Stewardship, Supply Chain & Decommissioning
- Aberdeen City & Region Deal, Opportunity North East Board, Oil and Gas Technology Centre (OGTC)

Progress update

- OGTC development progressing strongly with full TLB support. 1st Board meeting held and recruitment underway
- TLB proactively driving progress in Themes supporting OGTC plans
- Strong progress by themes with business cases, mapped technology options, development plans, cost/value profiles
- The decommissioning theme (4) is developing the technology demand profile and concepts
- OGA/TLB working closely with OGTC team to develop funding proposal and delivery capabilities

Funding and resources

- Members support own manpower and incidental costs, and to date, significant support “in kind” for Themes
- £3-5m / initiative / pa for meaningful progress and industry traction – proposed through OGTC
- OGA Technology Funding Proposal not required for the Autumn Statement

Risks / dependencies

- OGTC and match Funding for themes is not secured or insufficient, lack of progress
- Companies scale back operations further, viable technology is not deployed, IP constraints, commercial hurdles



Strong progress – TLB Themes

Small Pools

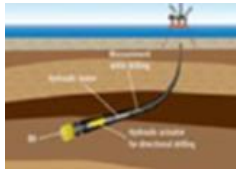


centrica



- 300 improvement ideas captured by Industry Workshops
- OGA-led UKCS data map of the Small Pool opportunities
- Near-term efficiencies (eg Subsea standardisation) pursued
- Screening of top 10 medium- to long-term technologies

Well cost reduction



- Identified Well design best practices for major UKCS areas
- Deploy best practise as quick wins starting 2016 / 2017
- Joint Industry projects on top-3 technologies
- More options being screened

Asset integrity



- Cross-industry technology landscaping study
- 2 focus areas targeted Vessel Inspections and Pipework corrosion
- Workshops with industry experts has confirmed “Adopt”, “Adapt” and long term development priorities, including early wins

Decommissioning



centrica



- Focus to be agreed between the Decommissioning Board and the TLB, with scoping underway
- In Wells plugging & abandonment, 2-3 high value technologies are pursued with proposals under evaluation

Clear demand-led priorities, covering largest areas of value



Plan forward – Highlights

OGTC Support

- *Very significant OGTC progress, Board formed and senior recruitment underway*
- *TLB Theme business cases in support of OGTC “Greenbook” submission drafted*
- *Effective ramp up of Solution Centres anticipated late summer*

Industry Commitment to Deploy

- *Sharing best practices and building industry commitment*
- *TLB sponsoring key Themes*
- *TLB holding Industry events to enhance collaboration and route to deployment*

Broader Support for Technology

- *Access UK-wide research and innovation network*
- *Secure funding for new themes and scope of work with OGTC and other working groups*
- *Raise industry and government awareness innovation needs for Oil and Gas*

Develop and Maintain a Pipeline

- *Develop pipeline of technology themes*
- *Input from parallel industries and broader UK innovation network*
- *Support and steer initial landscaping and scoping work for new Themes*

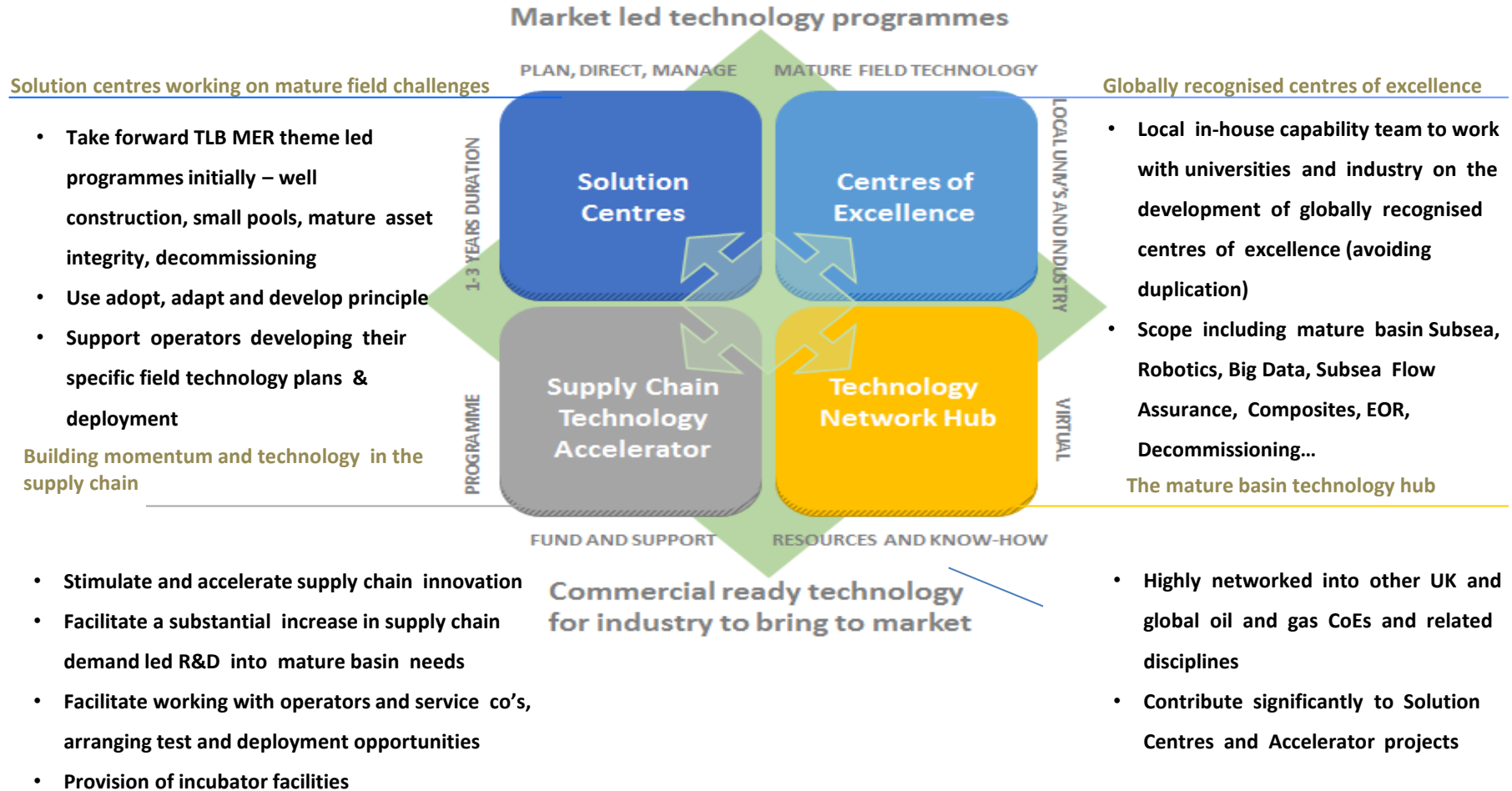
Work with other MER UK Boards

- *Key Board interactions: Decommissioning, Regional Developments, Exploration, Supply Chain, Asset Stewardship, Cost and Efficiency*
- *Define demand-led Technology priorities together*
- *Identify actions for other Boards*



Oil and Gas Technology Centre

The “go to” global centre for solving offshore mature basin technology challenges



- Experienced management team, circa 30 staff – Technical, IP, Commercial, Legal, Marketing, HR and Finance
- £180m core funding over 10 years; matched by private sector funds in later years, including in-kind contributions
 - Clients – Operators and supply chain, including securing prominent industry anchor companies
- Where appropriate, facilitating financing and commercial agreements for collaborative technology projects



Discussion topics

- The OGTC funding proposal is a key opportunity for MER UK: How do we ensure ongoing support and commitment from Government, OGA and Industry?
- What else could be done to further raise the profile of oil and gas innovation
 - increasing investment and focus. both public and private,
 - leveraging existing UK “centres of excellence” across academia and supply chain
 - enhancing knowledge sharing across the oil and gas industry, and from other sectors
- Ongoing support for TLB and OGA strategy to deploy existing technologies to MER UK, avoiding a potential “hiatus” due to contingent industry downturn



Oil & Gas
Authority

MER UK Forum Board Updates

May 2016



Exploration Summary

Purpose	To revitalise exploration in the UKCS in order to add reserves to replace production and secure longevity of the North Sea											
Draft priorities	<ul style="list-style-type: none"> Promote exploration potential of UKCS Improve technical understanding of potential and undertake successful exploration campaigns Optimise licensing T&C's to maximise frontier and mature potential Incentivise exploration through a combination of fiscal and non-fiscal initiatives 											
Industry lead	Phil Kirk (Chrysaor)	Support lead	Gunther Newcombe (OGA)									
Members	<table border="0"> <tr> <td>Ron Roberts (Apache)</td> <td>Ruud Zoon (GDF)</td> <td>Tom Dreyer (Statoil)</td> </tr> <tr> <td>Chuck Guderjahn (BP)</td> <td>Roberto Cerro (ENI)</td> <td>Kaj Hemmes (Shell)</td> </tr> <tr> <td>Jon Parry (DONG)</td> <td>Mike Tholen (OGUK)</td> <td></td> </tr> </table>			Ron Roberts (Apache)	Ruud Zoon (GDF)	Tom Dreyer (Statoil)	Chuck Guderjahn (BP)	Roberto Cerro (ENI)	Kaj Hemmes (Shell)	Jon Parry (DONG)	Mike Tholen (OGUK)	
Ron Roberts (Apache)	Ruud Zoon (GDF)	Tom Dreyer (Statoil)										
Chuck Guderjahn (BP)	Roberto Cerro (ENI)	Kaj Hemmes (Shell)										
Jon Parry (DONG)	Mike Tholen (OGUK)											
Key relationships	<ul style="list-style-type: none"> MER UK boards, especially RDI & TB Norwegian & Irish Sea Regulatory Bodies & IAGC 											
Funding and resources	<ul style="list-style-type: none"> OGA support funded from OGA Levy Members support manpower and incidental costs from own budgets 											
Progress update	<ul style="list-style-type: none"> Last Board Meeting 3rd May, third meeting since start up in December 2015 Licensing strategy task group developed Innovate Licence Approach 1Q 2016 Seismic Industry Group data acquisition proposal 2Q 2016 Work with CA to improve understanding & streamline well approval & rig transfer process 											
Risks / interdependencies	<ul style="list-style-type: none"> Strong linkage with other core work boards & groups are required Exploration is undertaken by many different companies ranging from multi-nationals to promote companies and their approach to exploration will vary as will solutions to incentivise exploration Managing expectation of a short-term fix, revitalisation will be a gradual process 											



RD&I Summary

Purpose	Deliver strategic & behavioural change to maximise value for UKCS		
Draft priorities	<ul style="list-style-type: none"> • Undertake prioritised regional reviews to mitigate risks and facilitate delivery of opportunities • Building on HMT Infrastructure workstream output deliver an improved infrastructure access plan • Monitor work in TB to reduce well costs & unlock value of discovered undeveloped resources 		
Industry lead	Paul Goodfellow (Shell)	Support lead	Gunther Newcombe (OGA)
Members	John Warrander (Addax) Cori Loegering (Apache) Mark Thomas (BP) (TOTAL) Craig May (Chevron)	Dominic Macklon (Conoco Phillips) Mike Smith (DONG) Neil McCulloch (Enquest) Morten Kelstrup (Maersk)	Vince Graham (OMV) Pete Jones (TAQA) Elisabeth Proust
Key relationships	<ul style="list-style-type: none"> • All MER UK Boards (especially Technology Board), OGUK Board & Commercial Behaviors WG 		
Funding and resources	<ul style="list-style-type: none"> • OGA support funded from OGA Levy • Members support manpower and incidental costs from own budgets • Operators to provide (ideally) full time staff to undertake prioritised regional reviews with OGA 		
Progress update	<ul style="list-style-type: none"> • Next Board Meeting 3rd June, two meetings since start up in December 2015 • Infrastructure Task Group - Eric Marston (OGA) & Elizabeth Proust (TOTAL) leads • Fulmar (CNS) Task Group - Scott Robertson (OGA) & John Warrander (Addax) leads • West of Shetland Task Group - Brenda Wyllie (OGA) & Mike Smith (DONG) leads 		
Risks / interdependencies	<ul style="list-style-type: none"> • Strong linkage with other core work boards, in particular TB on small pools and well costs, to ensure linkages made where required and avoid duplication and confusion & OGUK Board • Evaluation of key regions is part of a prioritised phased approach which in the short-term, next 3-6 months, operator support as, OGA is currently recruiting these skills and developing capability 		



Decommissioning Board Summary

Purpose/Vision

Establish a respected, stable & sustainable decommissioning industry, effectively minimising costs & maximising economic recovery through collaboration and fit for purpose lifecycle planning, policies, solutions and execution.

Themes

- 1. Cost reduction:** Driving to a cost reduction target of >35%, including innovative and regional approaches, with extensive and effective knowledge sharing and best practice adoption
- 2. Delivery Capability:** Working across industries to develop a safe, competitive, and globally recognised capability that delivers transformational solutions, which will drive cost reduction, promoting investment and maximising economic recovery within UKCS.
- 3. Policy Guidance and Stakeholders:** Working with DECC and others to identify and evaluate opportunities to further optimise policy guidance and engagement with regulators

Industry lead

Colette Cohen

OGA lead

Angela Seeney

Members

Shell - Paul Goodfellow
BP - Win Thornton
Talisman - Bill Dunnet
Conoco Phillips - Dominic Macklon
Perenco - Brian James

AMECFW - Craig Shanaghey
Halliburton - Matt Betts
WG - James Crawford
Awilco - Jon-Oliver Bryce
Petrofac - Walter Thain

Plus representatives from DECC,
BIS, SE, UKTI NERC
OGUK – Michael Tholen
DNS - Karen Seath

Key relationships

- MER UK Boards especially Technology and RD&I Boards
- HMT Workstreams Late Life Entrants and related Decommissioning constraints
- Supply Chain – building the decom market

Progress update

- 2nd board meeting held on March 8th; theme leads presented Terms of Reference, teams kicked off and forward plans generated
- Presentation given on anti-competitive law and considerations for collaboration
- Decommissioning strategy draft currently under review and due for publication as planned in Q2 2016

Funding and resources

- OGA support funded from OGA Levy
- Others support own manpower and incidental costs

Risks / interdependencies

- Decommissioning accelerates and costs escalate and undermines MER
- Stable, sustainable Supply Chain market does not develop. New solutions not developed.
- Collaboration becomes anti-competitive



Supply Chain Exports & Skills Board Update

Purpose	Work with industry, government and trade bodies to promote and strengthen the supply chain and exports, improving sustainability, local and global competitiveness while anchoring activities in the UK.		
Draft priorities	<ol style="list-style-type: none"> 1. Transformation: Transform the relationship between operators and service companies, 2. Supply-demand: Use supply-demand outlooks from key sources and other Boards to effectively prioritise and focus new or improved value-led, low-cost solutions 3. Strengthen supply chain and exports: Promote the UKCS supply chain and global exports . 4. Development : Develop a flexible workforce, identifying critical roles and skills prioritising apprentices 		
Industry lead	Neil Sims (Expro)	Support lead	Angela Seeney (OGA)
Members	Ali Talput (EnQuest) Ian Jack (SLB) Julian Rippiner (Shell) Mark Richardson (Apache) Mark Docherty (Acteon)	Dave Stewart (WGPSN) Mike Pettigrew(Babcock) Terry Savage (Global Energy) Barry Macleod (Bibby) Dave Clark (Aker)	Alan Johnston (AMEC) Paul Charlton (PDL) Richard Male (Diamond) Mark Goodall (East of England) BP & TAQA
Key relationships	Stuart Edwards (BIS) Maggie McGinlay (SE)	Craig Jones (UKTI) Ken Cruickshank (OGUK)	MERUK Boards especially Skills, Technology & Decommissioning
Progress update	<ul style="list-style-type: none"> ➤ The Board has met 3 times with the 4th meeting planned for the 1st June ➤ Four initial priority workgroups have been formed as follows: <ul style="list-style-type: none"> ○ Exports – target to double the share of global oil and gas market by 2025 ○ New Opportunities –broaden/expand the market by unlocking stranded investment and building new capabilities ○ Promotion of supply chain – create a collaborative environment which adds value to UKCS ○ Skills workforce – retain/develop and protect a skilled workforce ➤ Transformational change – Board is developing a transformation agenda and plan ➤ Strategy document developed with target published date end of June. 		
Risks / interdependencies	<ul style="list-style-type: none"> • Strong alignment with other MERUK Boards, government and trade bodies is key avoiding duplication and adding value by promoting and supporting new approaches collaboratively • Insolvency of supply chain companies leading to loss of capability 		