



Oil & Gas
Authority

Call to Action: The Oil and Gas Authority Commission 2015

Dr Andy Samuel
Chief Executive
Oil and Gas Authority

25 February 2015

Contents

Acknowledgments	3
Foreword	4
1. Executive summary	5
2. Current situation and risks	8
3. Building the Oil and Gas Authority	12
3.1 Legislation and governance	12
3.2 Leadership and organisation	12
3.3 Culture and behaviour	14
3.4 Integrating plans and delivery	15
4. Priority tripartite actions	17
4.1 Protect critical infrastructure	18
4.2 Significantly improve production efficiency	19
4.3 Create a competitive cost base	20
4.4 Revitalise exploration	21
4.5 Improve collaboration on decommissioning	24
4.6 Drive investment	25
4.7 Support the supply chain	27
4.8 Develop people and retain skills	39
5. Conclusion	30
Appendix 1 – Summary of priority actions	31

Acknowledgements

The task of producing this report, in a short period of time, would not have been possible without the help and support of the many organisations and individuals who contributed. In particular, I would like to thank Sir Ian Wood and Melfort Campbell, colleagues at the Oil and Gas Authority (OGA), the Department of Energy and Climate Change (DECC), HM Treasury, the Department of Business Innovation and Skills, the Directorate of Oil and Gas UK and the Scottish Government.

In addition, I have received valuable insights from the leadership of Decom North Sea, the Technology Strategy Board, the Oil and Gas Industry Council, members of the OGA Programme Board, the Industry Leadership Group, PILOT, Scottish Enterprise, Aberdeen City Council, Merlin ERD, Subsea UK, the Fabricators Forum, OPITO, the Industry Technology Facilitator and colleagues from both the University of Aberdeen and Robert Gordon University. I have also enjoyed constructive dialogue with trade union representatives at the Aberdeen Energy Summit in February 2015 and during meetings of the Energy Jobs Taskforce.

I am particularly grateful to Carlo Procaccini, Andrew McCallum and Stefan Bojanowski for all their work on the drafting of this report and to Attain Creative for their design services.

Foreword

I am pleased to present my initial findings in response to the urgent commission requested by the Rt Hon Edward Davey MP, Secretary of State for Energy and Climate Change, on what practical measures can be taken by industry and Government to mitigate the immediate risks facing the UK oil and gas industry, in light of the recent fall in global oil prices. I have also taken the opportunity to outline key priorities for the OGA for its first year of operation.

It is one year since Sir Ian Wood published the final report of his UK Continental Shelf (UKCS) Maximising Economic Recovery Review, which identified the key issues facing the UK's oil and gas industry.

Following extensive consultation and with strong support from industry and Government, three core outcomes were agreed:

- The urgent need for enhanced stewardship of UKCS resources;
- The importance of a new tripartite strategy for Maximising Economic Recovery from the UKCS (MER UK), involving HM Treasury, industry, and a new independent regulator with additional powers and resources; and
- The need for clear commitments from industry to collaborate and work to the MER UK strategy.

Sir Ian's review was followed by the Scottish Government's Expert Commission on Oil and Gas, led by Melfort Campbell, which supported the principle of MER UK and introduced the important concept of maximising the sector's Total Value Added, which echoed many of the measures outlined in the UK Government's 2013 UK Oil and Gas Industrial Strategy. In December 2014, HM Treasury published its plan to reform the oil and gas fiscal regime, recognising the need for competitiveness and simplification.

I was delighted to be appointed Chief Executive of the OGA in November 2014, a post which I took up on 1 January 2015. The Infrastructure Act (2015), which received Royal Assent on 12 February, put the MER UK principles into statute. I am now focused on establishing the OGA with the expertise, capacity and capability necessary to deliver the MER UK strategy.

The marked reduction in global oil prices has brought into even sharper focus the significant risks facing the UK oil and gas industry, and the urgent need for industry, Government and the Regulator to take proactive and sustainable action to support and protect the future of this critical sector of our economy.

In this report, having engaged widely with the UK and Scottish governments, industry and a number of other key parties, I have articulated the two key risks currently facing the industry and issued an urgent call to action on the immediate steps industry, Government and the OGA must take to protect current and future investment in this critical UK sector.

The OGA will be a catalyst for change and a facilitator of action, driving performance and removing unnecessary barriers to help protect the current production base and secure a positive future for the UK oil and gas industry.

Building on the Wood Review, this report presents my early views on what must be done, but the OGA cannot achieve these outcomes in isolation. Now is the time for tripartite dialogue and action to become a reality, and for the oil and gas industry, Government and the OGA to demonstrate leadership and focus on delivery.



Dr Andy Samuel
Chief Executive
Oil and Gas Authority

1. Executive summary

The UKCS Maximising Economic Recovery Review (the ‘UKCS MER Review’), published one year ago, outlined the substantial contribution the oil and gas industry makes to the UK’s energy security, economy and levels of employment, and highlighted the significant future potential of recoverable resources of the UKCS. But it also identified the serious challenges facing companies confronted with the task of realising this potential.

The UKCS, now one of the world’s most mature basins, has been finding it increasingly difficult to compete for international investment. Rising costs over many years, a fiscal regime that had not evolved with the fortunes of the basin, and the need for stronger regulatory direction, have complicated the challenges already faced by operators using ageing infrastructure and tackling more demanding fields.

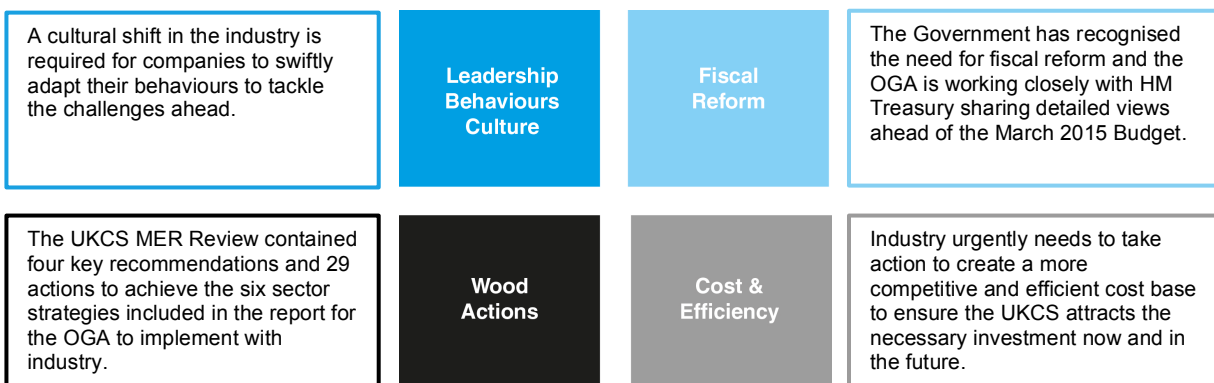
The decline in global oil prices, which began in the middle of 2014, has only magnified the existing challenges for the UKCS as highlighted in Oil and Gas UK’s 2015 Activity Survey. A call to action is now needed to protect and sustain this critical UK industry.

There are two key risks that require urgent focus:

The risk that the profitability of producing fields will be insufficient to attract continued investment, leading to premature decommissioning of assets.

The risk that confidence in the future potential of the UKCS will continue to decline, resulting in critical long-term investment not being committed.

It is most fortunate that both the Secretary of State, through the UKCS MER Review, and HM Treasury, through its fiscal reform review, had the foresight to commission comprehensive analysis on the UKCS well before the current oil price challenges. This work has given clear perspective on the key priorities that must be realised, through tripartite action, to deliver a positive future for the UKCS:



The priorities above form the basis of the priority actions set out in this report. The actions are summarised below against the risks they are aimed at mitigating.

<p>The risk that the profitability of producing fields will be insufficient to attract continued investment, leading to premature decommissioning of assets.</p>	<p>Priority actions:</p> <ul style="list-style-type: none"> Protect critical infrastructure Significantly improve production efficiency Create a competitive cost base
--	--

<p>The risk that confidence in the future potential of the UKCS will continue to decline, resulting in the failure to secure critical long-term investment.</p>	<p>Priority actions:</p> <ul style="list-style-type: none"> Revitalise exploration Improve collaboration on decommissioning Drive investment Support the supply chain Develop people and retain skills
---	--

For each of the priority actions, this report sets out more detail and target deadlines. These actions have been heavily influenced by the six sector strategies and the 29 actions included in the UKCS MER Review. The eight highest priority actions for the OGA in its first year of operation are:

The OGA will:	Timing
Continue to support HM Treasury as it develops and implements a fiscal regime which instils confidence and secures investment	On-going
Require the top 20 production operators (by volume) to present stewardship improvement plans	April 2015
Recruit a high-calibre, experienced leadership team aligned to the successful delivery of the six sector strategies	July 2015
Drive prioritised action and focused delivery, integrating efforts to reduce the overall number of groups and initiatives across the sector	Sept 2015
Encourage a programme of seismic acquisition in frontier and underexplored areas of the UKCS	End 2015
Complete rigorous economic assessments of key production hubs to explore the drivers of continued investment, including fiscal levers	End 2015
Facilitate the preparation of Regional Development Plans for critical regions of the North Sea, building on data provided by operators	End 2015
Improve the quantity, timeliness and reliability of data and information available internally to the OGA and externally to industry	End 2015

The OGA cannot achieve a sustainable and long-term future for the UKCS in isolation. In the spirit of the tripartite strategy, Government and industry also have leadership roles to play.

The OGA expects industry to:	Timing
Work collaboratively and openly with the OGA and relevant operators to ensure critical infrastructure is protected	On-going
Fully support the activities of PILOT, the Fiscal Forum, the Technology Leadership Board (TLB) and the Oil and Gas Industry Council towards MER UK	On-going
Ensure all is being done to retain apprenticeship, trainee and graduate schemes despite the current challenges	On-going
Prepare and present asset stewardship improvement plans to the OGA	April 2015
Significantly modify commercial behaviours to align with MER UK	August 2015
Establish a single forum to drive innovation and efficiency in decommissioning	Sept 2015
Reinvigorate and intensify efforts to improve efficiency with a target of 30% to 40%, working with the OGA to allow effective monitoring of progress	End 2017

The OGA has welcomed the opportunity to start its tripartite engagement in the production of this report and looks forward to continuing this collaboration.

Significant hydrocarbon reserves and economic value remain to be delivered across the UKCS. This document sets out a call to action for the tripartite bodies. We must now work together to deliver these actions and commit to the path of maximising economic recovery of UKCS oil and gas.

2. Current situation and risks

The UKCS is one of the world's most mature basins, maintaining constant production for nearly 50 years. While production levels have declined from peak in 1999, the UK remains a substantial producer with a combined production of oil and gas of 1.42 million barrels of oil equivalent per day in 2014¹.

There are still positive signs from the basin. There has been a marked slowdown in production decline in recent years, with production levels in 2015 roughly equal to 2014. There have also been record levels of capital expenditure over the past three years, albeit with more than half on maintaining and upgrading ageing North Sea infrastructure. Going forward, first production is expected from more than 30 new fields between 2014 and 2017 and there is no doubt that significant potential remains both in the more mature areas of the Northern, Central and Southern North Sea, but also across frontier areas and new plays.

However, profit margins are on a steep downward trend for many companies operating on the UKCS. The low oil price has exposed the issue of low profitability for operators and supply chain companies, leading many to significantly reduce new exploration, infrastructure investment, staffing levels and contractor rates over the past six months. These trends are highlighted in Oil and Gas UK's 2015 Activity Survey:

- An all-time low for exploration and appraisal activity in 2014;
- A dramatic fall in investment over the next three years with very little activity forecast beyond 2018; and
- The lowest production revenue in 2014 in nearly two decades¹.

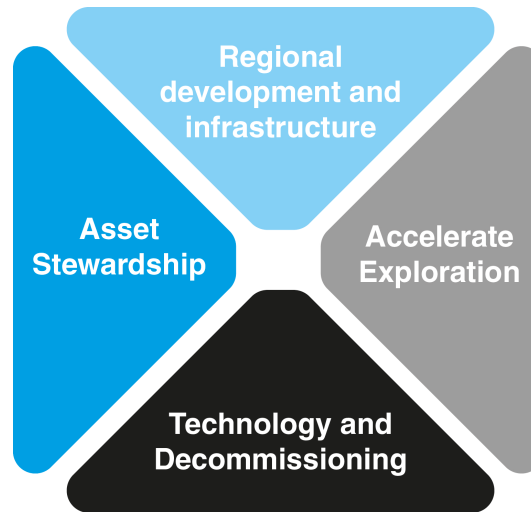
Even before the sharp decline in the oil price, the 2014 UKCS MER Review recognised these challenges and recommended the establishment of an independent regulator with the powers to develop and implement six sector strategies to protect the current asset base and help realise the future potential of the UKCS. The six sector strategies form the areas of focus for the OGA:

- Exploration
- Asset stewardship
- Regional development
- Infrastructure
- Technology
- Decommissioning

¹ Oil and Gas UK Activity Survey 2015

The six sector strategies inter-relate and in the case of Regional Development and Infrastructure there are very close linkages. Decommissioning and technology are also grouped together in the diagram below as they will be managed under the same part of the OGA organisation:

Figure 1: The OGA sector strategies



The industry faces significant challenges in each of these important areas. Many actions are already being taken, with some evidence of clear and tangible collaboration between individual companies and also between industry and Government. Whilst work is underway, efforts must now be re-doubled and focused to tackle the most immediate risks, with all tripartite bodies working closely together to deliver the right solutions.

In light of the recent fall in global oil prices and the general situation in the UKCS, there are two significant risks that, if unaddressed, will have a material negative impact on the industry's contribution to the energy security, employment and economy of the country. These are:

The risk that the profitability of producing fields will be insufficient to attract continued investment, leading to premature decommissioning of assets.

The risk that confidence in the future potential of the UKCS will continue to decline, resulting in the failure to secure critical long-term investment.

A significant issue arising from the risk of premature decommissioning is the possibility of a domino effect across the basin. Maximising economic recovery from the North Sea relies on maintaining the connectivity and integrity of a complex network of fixed, floating and subsea production assets, and pipelines between production facilities and the shore.

Premature decommissioning of certain critical pieces of this interconnected jigsaw has the potential to shut down areas of the basin, locking in oil and gas reserves that could be, and should be, produced in order to maximise economic recovery. The domino effect could also lead to a negative impact on all areas of the industry from levels of employment, to supply chain development, to technology innovation. Two triggers of the domino effect are described in the box below:

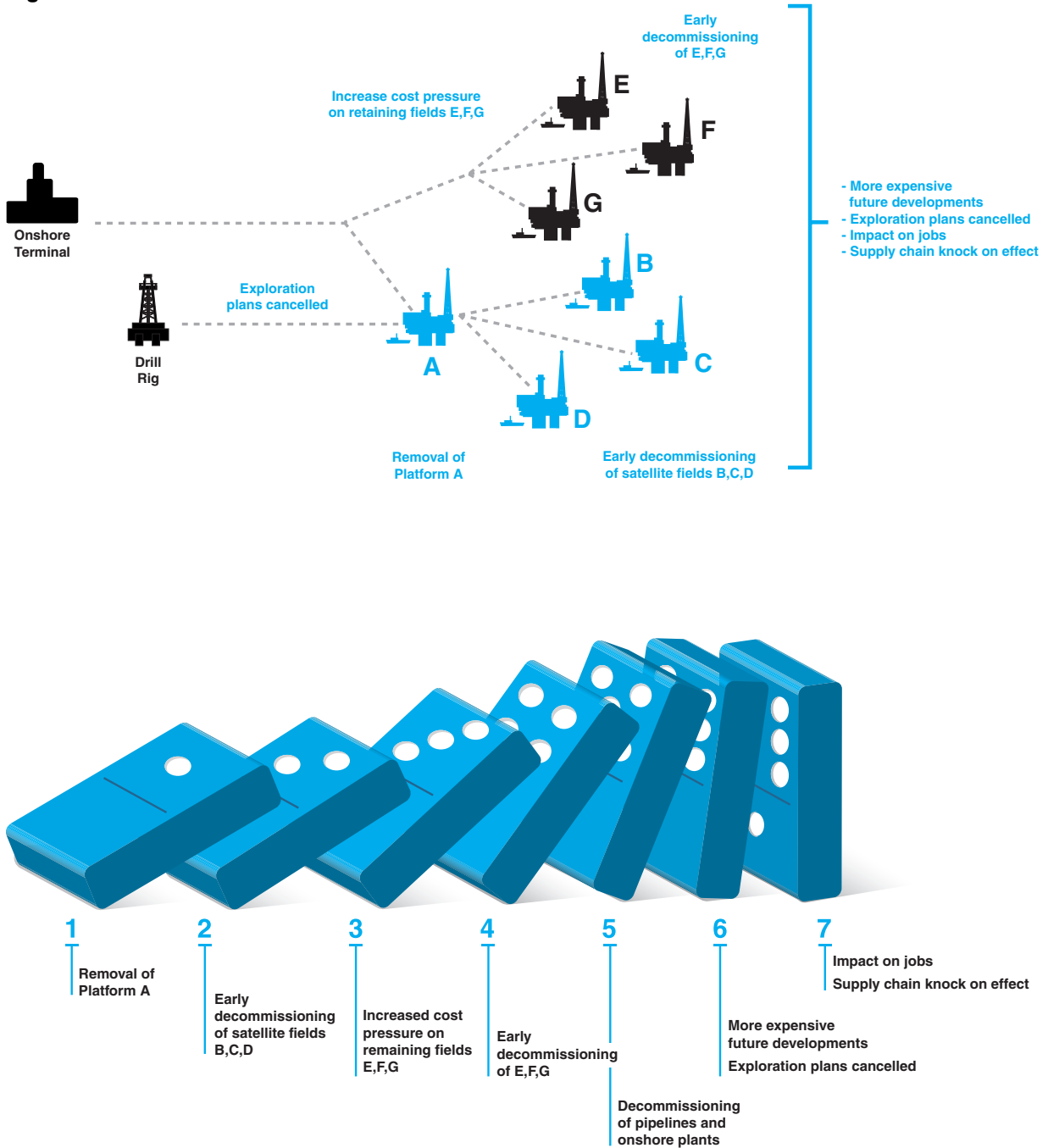
Physical domino effect

Removing an individual platform involves disconnecting it from the pipeline network. 'Breaking the circuit' can require neighbouring operators to invest in a by-pass, which may take some time to be installed or be uneconomic. The shutdown required to undertake the work and the costs involved might lead the neighbouring operators to prematurely decommission their assets.

Economic domino effect

The economic challenges of profitably maintaining ageing infrastructure may lead companies to cease investment in some activities. A consequence of this includes accelerated production decline, reduction in overall production volumes and increases in costs, all of which could lead to premature decommissioning. As each platform is decommissioned, shared infrastructure costs have to be allocated across fewer platforms increasing the unit operating costs in a vicious circle.

Figure 2: The domino effect



Source: OGA

Call to action

Tripartite action to tackle these two key risks is now essential. Section 4 of this report sets out, from the perspective of the OGA, the priority actions that must be taken to protect the current production base and the future performance of the UKCS. The following section describes the actions required to build the OGA.

3. Building the Oil and Gas Authority

Establishing the OGA with the right legislative framework, leadership capability, resources and culture is a key priority towards implementing the six sector strategies and addressing the challenges facing the UK oil and gas industry. This section sets out the progress that has been made in building the OGA and describes the development of an integrated plan.

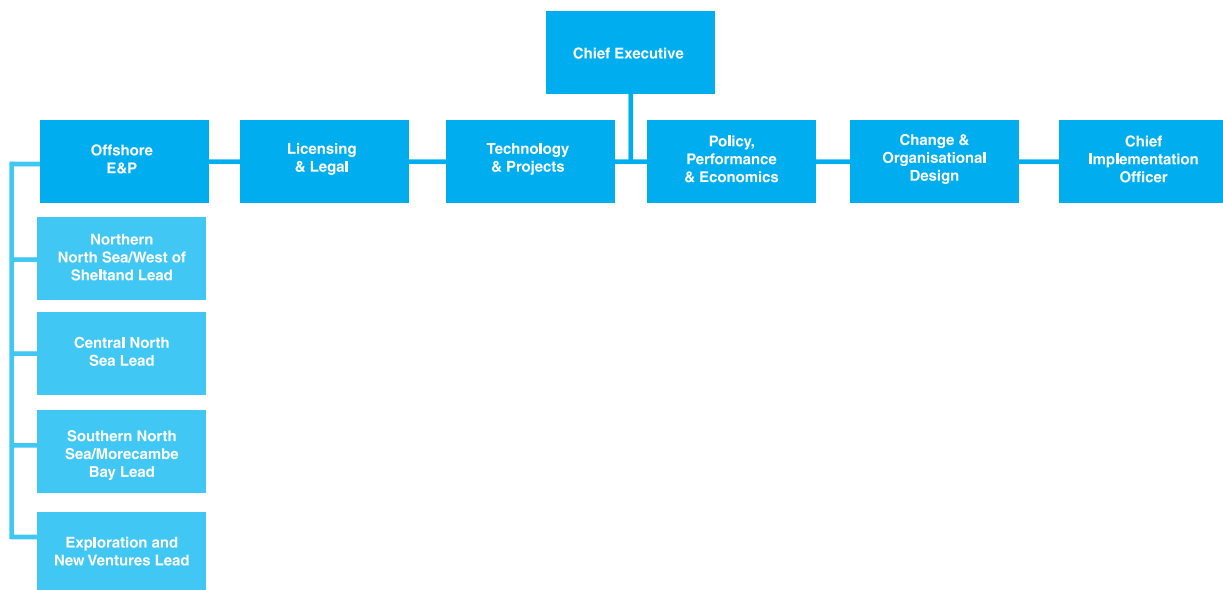
3.1 Legislation and governance

Following the publication of the UKCS MER Review, the Wood Review Implementation Team was formed in DECC to progress the necessary legislative and governance arrangements to establish the OGA. To support this work, a Call for Evidence was undertaken in late 2014. The Call for Evidence received extensive feedback and the Government plans to publish its response in March 2015. The Infrastructure Act (2015), which put the MER UK principles into statute, received Royal Assent on 12 February and the OGA is on track to become an Executive Agency of DECC on 1 April 2015.

3.2 Leadership and organisation

The OGA's Chief Executive was confirmed on 6 November 2014. Since taking up the role on 1 January 2015, he has outlined a highly accountable layer-light leadership structure, with the right capability and capacity to deliver the new Regulator's priorities.

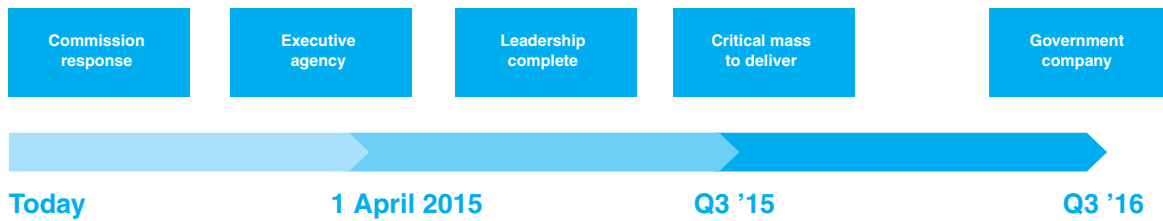
Figure 3: OGA's emerging organisation structure



The first three directors have been appointed and a recruitment process is now underway for three further directors and four regional area managers. Once this senior team is formed and capacity built, the OGA will rapidly start to act like an independent regulator.

Set out below is the proposed timeline for establishing the OGA as a Government Company (GovCo) in Q3 2016. From September 2015 this year, the OGA should have the leadership team and critical mass necessary to deliver the full set of actions set out in this report.

Figure 4: OGA timeline



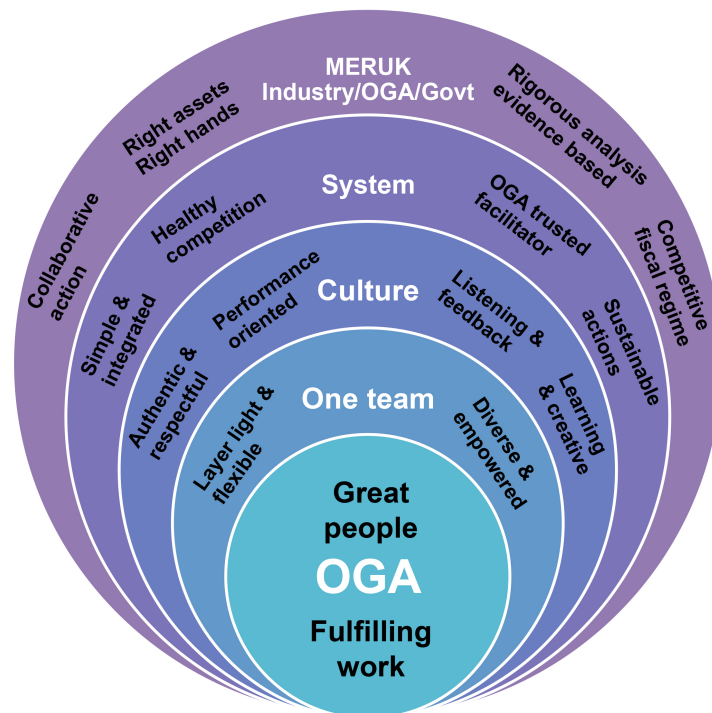
3.3 Culture and behaviour

There is a cultural shift required across the industry to tackle the challenges facing the UKCS and the OGA will lead by example. It is building a team to lead change with an organisation structure to reinforce this. The OGA will be flexible to meet challenges, with individuals and teams empowered to drive forward the ambitious set of actions set out in this report.

The OGA will seek to establish a culture of collaboration across the organisation. This will require regular and effective communication across the organisation and with industry, Government and wider stakeholders.

The OGA will strive to ensure decision-making is fully aligned with MER UK and use rigorous, evidence-based analysis, building on and learning from best practice and the significant efforts already made by industry.

Figure 5: OGA way of working



The OGA will:	Timing
Become an Executive Agency of DECC on 1 April	April 2015
Recruit a high-calibre, experienced leadership team aligned to the successful delivery of the six sector strategies	July 2015
Act like an independent regulator once the senior team is formed	August 2015

3.4 Integrating plans and delivery

In the year following the publication of the UKCS MER Review there has been progress against elements of each sector strategy, with the creation of new initiatives accompanied by some positive changes in behaviour and increased collaboration. These important tripartite activities include HM Treasury’s Driving Investment plan, the rejuvenation projects led by Oil and Gas UK and the increased stewardship by DECC.

Given the current risks facing the UKCS, it is more important than ever that sector initiatives are focused and aligned with strong leadership and commitment to deliver MER UK. With such an ambitious work programme and given the range of on-going activities and organisations involved, the OGA has developed an integrated plan. The purpose of the integrated plan is to map current and future industry-wide activities and initiatives against the sector strategies and other key work-streams, so that delivery of the tripartite strategy can be prioritised and managed effectively.

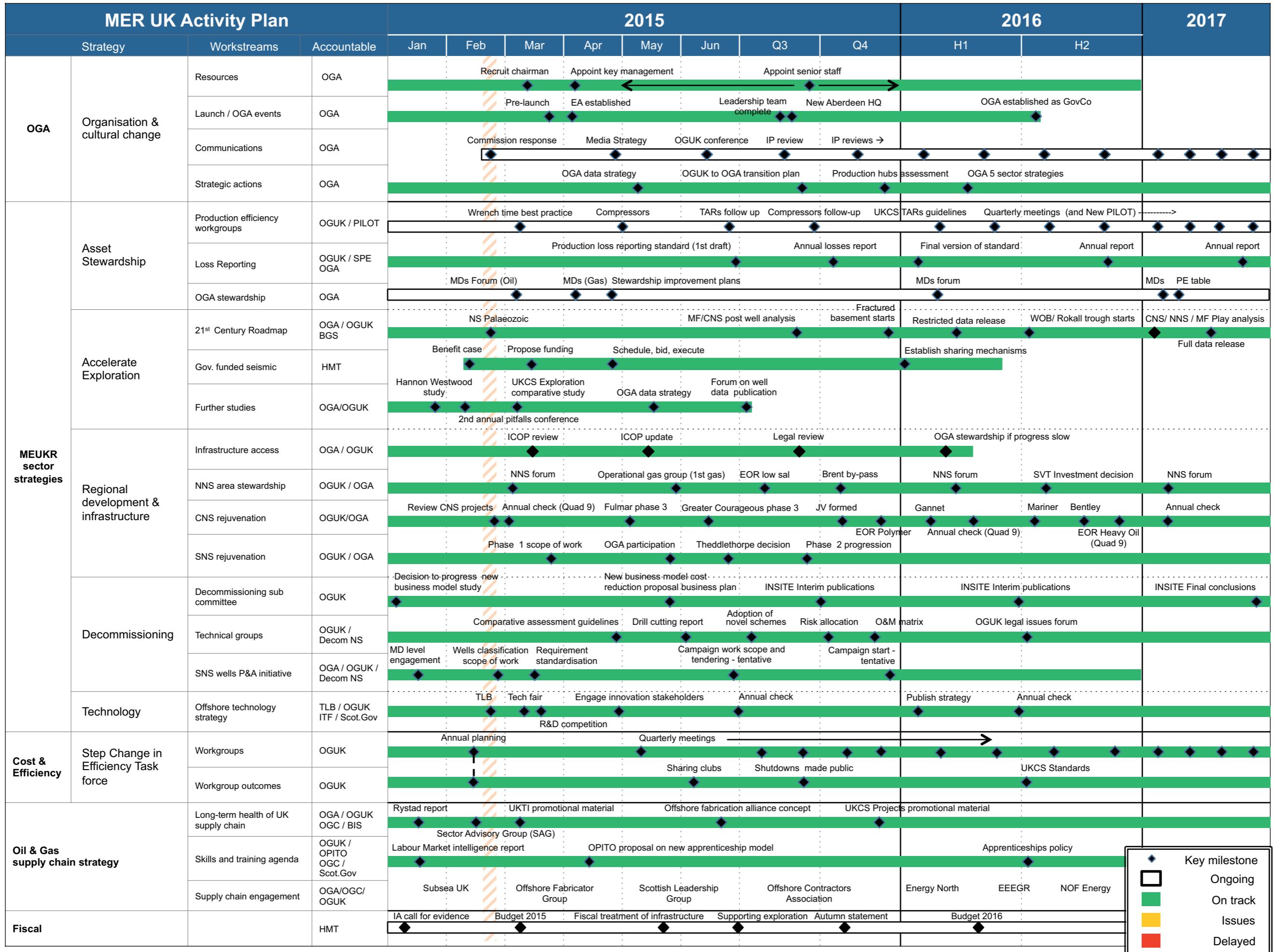
The integrated plan will:

Improve communication and co-ordination between industry stakeholders, sharing information on who is doing what across the sector.

Improve planning and accountability, helping identify where more effort is required and where fewer activities will be most efficient and cost effective.

Improve monitoring and delivery through quarterly updates and communication between those accountable for each area of the plan.

The OGA will:	Timing
Hold individuals and groups to account for delivery of agreed projects and initiatives, driving high-quality work	On-going
Fully align PILOT with MER UK and integrate with the Fiscal Forum and co-ordinate meetings with the Oil and Gas Industrial Council	June 2015
Drive prioritised action and focused delivery, integrating efforts to reduce the number of working groups and initiatives across the sector	Sept 2015



- ◆ Key milestone
- Ongoing
- On track
- Issues
- Delayed

4. Priority tripartite actions

A call to action is needed to protect the current production base and realise the future potential of the UKCS. Based on the two key risks, a set of priority tripartite actions has been identified. These actions and their target deadlines are set out in this section.

The risk that the profitability of producing fields will be insufficient to attract continued investment, leading to premature decommissioning of assets.

Priority actions:

- 4.1 Protect critical infrastructure
- 4.2 Significantly improve production efficiency
- 4.3 Create a competitive cost base

The risk that confidence in the future potential of the UKCS will continue to decline, resulting in the failure to secure critical long-term investment.

Priority actions:

- 4.4 Revitalise exploration
- 4.5 Improve collaboration on decommissioning
- 4.6 Drive investment
- 4.7 Support the supply chain
- 4.8 Develop people and retain skills

4.1 Protect critical infrastructure

Investing to maintain ageing infrastructure is a challenge for companies operating in the mature UKCS. Falling production, rising operating costs, poor efficiency and associated low profitability are contributing to the risk that key assets could be decommissioned prematurely to the detriment of production hubs and infrastructure.

Furthermore, as highlighted above, given the interdependence of assets and infrastructure in certain parts of the UKCS, there is the real risk of a 'domino effect' through accelerated shutdown of certain critical pieces of this interconnected jigsaw.

However, a positive 'domino effect' can also be created if operators are encouraged to invest in new projects, which maintain and increase production. This can reduce unit operating costs within certain areas and can encourage neighbouring operators to invest in their assets and facilities. This underpins production, secures and creates employment, and generates tax revenues. The collective challenge for the tripartite bodies is, therefore, to create a virtuous circle as opposed to a vicious cycle.

An important part of progress in this area is the development of Regional Development Plans. Studies are underway across large areas of the North Sea with multiple operators to understand the various economic drivers and operator activities required to achieve MER, from exploration potential, future new field developments and incremental projects to IOR/EOR² opportunities. The studies are also being used to better define the critical infrastructure that, if removed, could accelerate a negative domino effect.

A regional model has already been developed for the Northern North Sea basin, east of Shetland. This area comprises a number of fields that share two pipelines leading onshore to the Sullom Voe terminal. This is a good example of collaboration involving DECC, Oil and Gas UK and the operators in the region.

The OGA fully supports such work. Going forward, the OGA will work with operators to develop rigorous economic scenario models of key offshore fields and infrastructure, pipelines and onshore terminals to explore drivers of investment and fiscal levers that could most effectively promote continued investment to maximise economic recovery. Once complete, the OGA looks forward to sharing its results with HM Treasury. These models should include technology enablers such as EOR systems.

The creation of Regional Development Plans and models is a critical activity across the North Sea and must be accelerated where possible. The OGA will work closely with industry and Oil and Gas UK in this area and expects operators to openly share data with the OGA to facilitate this work.

The OGA will:	Timing
Facilitate immediate actions to protect critical infrastructure	Immediate
Facilitate the preparation of Regional Development Plans for critical regions of the North Sea, building on data provided by operators	End 2015
Complete rigorous economic assessments of key production hubs to explore the drivers of continued investment, including fiscal levers	End 2015

² Increased Oil Recovery (IOR)/Enhanced Oil Recovery (EOR).

4.2 Significantly improve production efficiency

Following a 10-year decline in production efficiency³, average levels on the UKCS fell to around 60% in 2013, lower than many comparable basins around the world. In response, PILOT established its Production Efficiency Task Force with an explicit target of returning UKCS production efficiency to 80% (the level in 2005). As part of this, Oil and Gas UK established a number of workgroups to address low production efficiency with operators. Initiatives include reductions in unplanned losses⁴ and planned shutdown durations.

The OGA will monitor these initiatives closely and will work with Oil and Gas UK to ensure the key milestones of these activities are reflected on the integrated plan. In addition, the OGA has taken leadership in this critical area by asking the 20 largest production operators (by volume) to present stewardship improvement plans to the OGA and jointly share positive lessons learnt.

There are also significant opportunities for industry to identify opportunities to improve production efficiency. One recent example of a quick-win is set out below in the Case Study: Northern North Sea (NNS) Fuel Gas Initiative. This collaboration was initiated through findings from the NNS regional model, discussed above, and demonstrates the importance of these plans across a range of initiatives in the North Sea.

Case Study: NNS Fuel Gas Initiative

Selected platforms in the NNS have become 'gas deficient' as the gas produced from their fields is not sufficient to generate all the power that is needed for their operation including water injection to sustain oil production as reservoir pressure declines. It has become necessary, therefore, to import fuel gas to avoid using more expensive diesel to allow for the economic life of these assets to be extended.

Individual operators found it difficult to source gas independently and secure reliable supply. As a result, five operators have adopted a collaborative approach for a common supply of gas which once implemented will enable them to manage their gas import requirements more efficiently. The benefits to this approach include, for the users, a reliable supply at a reasonable cost; and for the supplier, a regular commitment for meaningful volumes. Oil and Gas UK facilitated this process in the context of the NNS Area Stewardship workgroup and through holding specific progress updates with the companies directly involved. DECC was involved throughout. The project is progressing towards 'first gas' later this year.

The OGA will:	Timing
Require the top 20 production operators (by volume) to present stewardship improvement plans	April 2015
Build significant new capacity within the organisation to facilitate operators' discussions to achieve commercial alignment	On-going

³ Production efficiency is the ratio of actual production to the maximum production potential of a field.

⁴ Production losses are defined as the unrealised production due to outages.

4.3 Create a competitive cost base

Over the past 10 years, both unit operating and capital costs on the UKCS have risen substantially. Around 50% of operating cost inflation is directly related to higher input costs, such as rising salaries and costs of equipment which have been driven by past rises in oil prices. Additional activity, such as increased maintenance work, accounts for 20%, with reduced production contributing the remaining 30%. The picture is similar for capital expenditure with greater well and field complexity further adding to the rapid increase in both well and facilities costs⁵.

In addition, there have been substantial increases in the costs of exploration and appraisal drilling. Oil and Gas UK note that exploration and appraisal well costs have risen five-fold over the past decade. This is largely due to rental rates of drilling rigs and ancillary services rising, albeit more technically challenging wells, such as high pressure, high temperature and deep water prospects, have also had an impact.

Persistent high costs will significantly jeopardise production from the UKCS and create a domino effect on shared infrastructure and the broader supply chain.

The recent decline in the oil price has led many companies to implement cost reduction programmes, although in many instances this has involved reducing staffing levels and contractor rates. The industry has also started to focus action on target areas of costs through Oil and Gas UK's Step Change in Efficiency Taskforce.

While the OGA supports cost reduction efforts by operators, it is important that companies implement sustainable cost reduction programmes that minimise the negative impact on asset stewardship and investment. These programmes should recognise the risks of potentially losing key skills and expertise required for the future. Great care must also be taken to avoid adverse impacts on safety, the environment and maintenance programmes.

There is a significant prize available if drilling efficiency can be improved. Extended reach wells, for example, can considerably improve the recovery and economics of field developments. A key success factor is the ability to drill more technically challenging wells in a tightly controlled, reliable and more cost efficient way. Companies such as Merlin ERD highlight the importance of combining technology innovation with the adoption of back-to-basics engineering. Human factors such as engaged training, quality coaching and working as one team are critical.

The OGA will work with industry to help advise on cost reduction activities and monitor progress, including through membership of the Oil and Gas Industry Council. The OGA will also support and monitor the work of the Step Change in Efficiency Task Force through regular engagement with Oil and Gas UK.

The OGA will:	Timing
Work with industry to prioritise activity and monitor efficiency improvements	On-going
Encourage a 30% to 40% improvement in efficiency	End 2017

⁵ Analysis by Oil and Gas UK.

4.4 Revitalise exploration

Exploration provides the essential foundation of sustaining activity on the UKCS for the future. Exploration and appraisal (E&A) drilling has been declining since the beginning of the financial crisis in 2008. In 2014, only 32 (14 exploration and 18 appraisal) wells⁶ were drilled despite the sustained high oil price until the middle of the year, and discovery sizes are also on a downward trend.

The OGA notes that the downward trend in exploration drilling is predicted to continue, with potentially as few as eight exploration wells planned in 2015⁷. It is inevitable that a continued decline in exploration activity will lead to fewer discoveries, resulting in less infrastructure investment, lower production levels and ultimately the decommissioning of facilities.

There are a number of reasons for the fall in exploration activity:

- The maturity of much of the basin means the remaining resources may be smaller and harder to develop. It is, therefore, increasingly difficult for the UKCS to compete for investment with basins with perceived lower risk and higher potential.
- Access to capital for many companies is challenging.
- As noted above, the costs of exploration drilling have risen in recent years.
- A study of recent exploration drilling conducted by DECC and Oil and Gas UK (The Post Well Analysis) lists factors contributing to a fall in well success rates including: limitations in accessing seismic data and analysis, inadequate planning and failure to share knowledge⁸.
- There has been an insufficient emphasis on fundamental geological research as a precursor to unlock the exploration potential of new frontiers and under-explored areas.

The OGA welcomes the activities already underway to stimulate exploration. These include the 21st Century Roadmap project⁹ and potential Government financial support for seismic surveys in under-explored areas in the 2015 Budget. Key milestones for these two activities have been included in the MER integrated plan on page 17.

⁶ Oil and Gas UK Activity Survey 2015.

⁷ Oil and Gas UK Activity Survey 2015. – not highlighted

⁸ Central North Sea/Moray Firth Post Well Analysis.

⁹ The 21st Century Roadmap is a project to improve the quality and quantity of subsea information available in the North Sea. The Roadmap is currently progressing two projects: an in-depth analysis of the Palaeozoic region, led by the British Geological Survey and a post-well analysis of the Moray Firth and Central North Sea regions, led by DECC, but involving close co-operation with industry.

As the industry regulator, the OGA also has a wider role to play in ensuring appropriate data is being collected and published to support MEK UK. The OGA is progressing its Data Strategy set out in more detail below:

OGA Data Strategy

The UKCS MER Review made several recommendations regarding the collection, publication and use of data to support the MER UK strategy. Exploration was highlighted as the area in most urgent need of improved data.

The OGA Data Strategy will include structured data and unstructured information across the entire exploration and production spectrum, including geology, geophysics, well engineering, production, infrastructure and decommissioning.

The Strategy will:

- Expand the scope, quantity and reliability of data and information available internally to the OGA and externally to industry.
- Make key data sets available earlier and more easily than at present and (where applicable) in alignment with area licensing strategies.
- Enable the OGA to enforce the regulations governing the provision of data for use, sharing and publication.
- Adopt a collaborative and cost-effective solution with industry to share data and the resources necessary to keep and manage data.

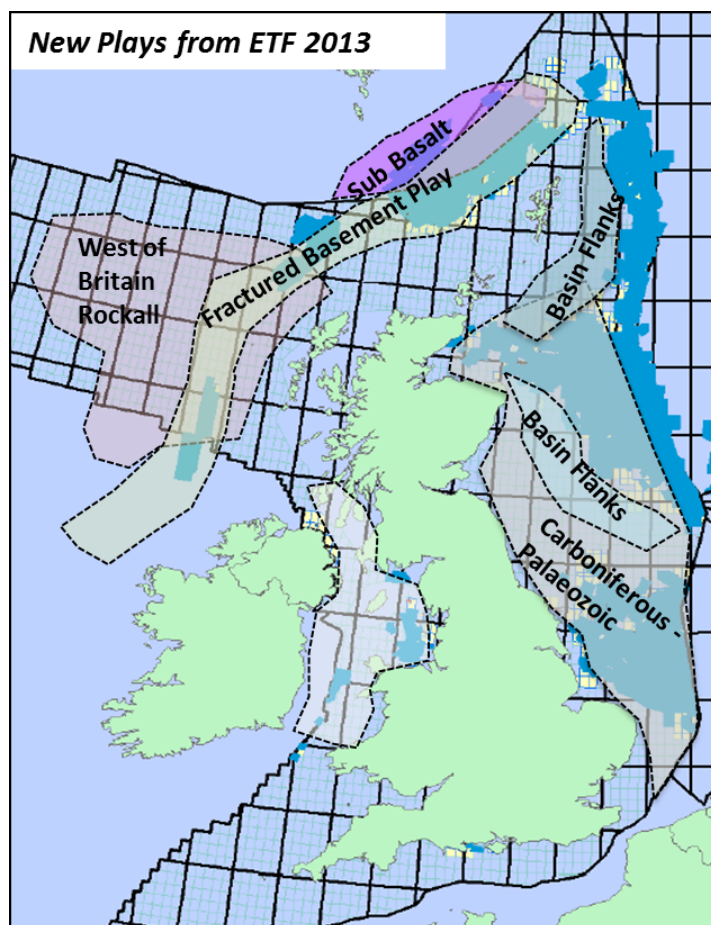
Together with the other work undertaken by the OGA, the Data Strategy will:

- Generate more prospects and a more accurate evaluation of exploration risk.
- Improve transparency and benchmarking of asset stewardship performance.
- Support regional and hub-based data, information and knowledge sharing.
- Improve the content of regional-scale geoscience research and interpretation.
- Help promote new ideas for exploration and development.

There is little doubt that significant potential remains in a wide range of highly petroliferous UKCS basins, both in the more mature areas of the Northern, Central and Southern North Sea, but also across frontier areas and new plays. The considerable extent of some of these new plays is indicated in the map below.

Given the size of these new plays, there are still large areas requiring new seismic data and analysis. The OGA believes the lack of seismic data is a fundamental barrier to exploration in these regions and part of the work of the OGA will be to encourage programmes of seismic acquisition in these areas.

Figure 6: UKCS New Plays



Source: Exploration Task Force (ETF) 2013

The OGA will:	Timing
Encourage a programme of seismic acquisition in frontier and underexplored areas of the UKCS	End 2015
Continue to lead well reviews to ensure that data and knowledge are shared quickly and efficiently	End 2015
Improve the quantity, timeliness and reliability of data and information available internally to the OGA and externally to industry	End 2015
Engage with other bodies such as the Norwegian Petroleum Directorate on best practices	On-going

4.5 Improve collaboration on decommissioning

Decommissioning is an area of growing importance for the UKCS. Over the next 35 years, over 5,500 wells, 400 facilities and 10,000km of pipelines will be decommissioned, at an aggregate estimated cost in excess of £50 billion (2014 prices)¹⁰. Decommissioning also represents an excellent opportunity for specialisation and international competitiveness of the UK supply chain (equipment, services and facilities) and consequently jobs and the broader economy.

However, it is important that decommissioning is planned in such a way as to minimise disruption to neighbouring fields and additional development opportunities. Equally, it is important to execute decommissioning in a safe, environmentally conscious and cost effective way.

Decommissioning experience on the UKCS is limited to around 10 large projects and while the record of these projects has been good, industry is still learning and adapting to this phase of activity. For example, there is evidence of operators underestimating the costs of decommissioning activities and a lack of collaboration with nearby operators.

Nevertheless, there has been a growing focus from industry on decommissioning practices and cost reduction methods, including through innovation and new technologies. The OGA supports these activities, including the publication of guidelines and market analysis by Oil and Gas UK and Decom North Sea and a number of technical workgroups. It is important that such efforts are focused on innovation and efficiency in decommissioning through a single forum. The OGA plans to work with industry to ensure such a forum is established, or an existing forum is recognised in this way.

Companies have also been developing internal capabilities and have started sharing expertise and collaborating. For instance, opportunities to combine well abandonment scope into multi-operator campaigns were recognised by Southern North Seas operators who are evaluating practical ways forward.

However, the industry now needs to accelerate the learning and the ramping-up of capacity in order to deliver the fast growing volume of activity in the coming years, safely and efficiently in an integrated manner.

The OGA will:	Timing
Proactively work with operators to drive collaboration in the planning and execution of decommissioning projects	On-going
Work with industry to establish a single forum to drive innovation and efficiency in decommissioning	Sept 2015

¹⁰ DECC analysis.

4.6 Drive investment

The OGA welcomes and supports the significant fiscal reform work carried out in 2014 and through 2015 and echoes the importance of the fiscal regime to maximising economic recovery from the UKCS. The OGA warmly welcomed the three principles underpinning HM Treasury's fiscal reform as laid out in the report: 'Driving Investment: a plan to reform the oil and gas fiscal regime':

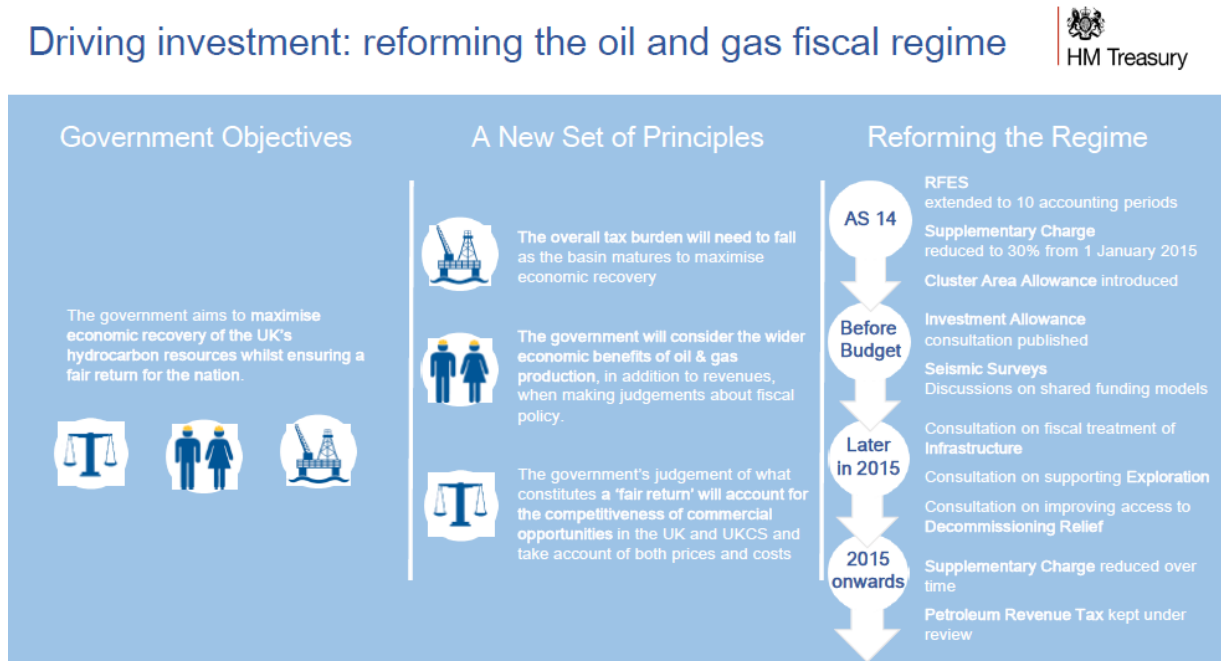
- that the overall tax burden will need to fall as the basin matures;
- that fiscal policy will need to consider the wider economic benefits through the supply chain of oil and gas production, in addition to Exchequer revenues; and
- that the Government's judgment of what constitutes a 'fair return' will need to take account of the global competitiveness of commercial opportunities.

The OGA fully supports the reforms set out by Government to assist the UKCS and will continue working closely with HM Treasury to build on the following commitments:

- An immediate 2% reduction to the rate of the Supplementary Charge from 32% to 30%, with the ambition of reducing the rate further in future in an affordable way.
- A commitment, and publication of a consultation, on the introduction of a basin-wide 'Investment Allowance' to reduce the effective tax rate further for those companies investing in the future of the UKCS.
- An immediate extension of the ring-fence expenditure supplement from six to 10 years to ensure companies already investing in the UKCS are given every support to continue.
- A commitment, in the 2015 Budget, for financial support for seismic surveys in under-explored areas of the UKCS, working with industry on options for shared funding models.
- Further work on options for supporting exploration through the tax system, such as a tax credit or similar mechanism, in a way that is carefully targeted and affordable.
- Development of options to improve access to decommissioning tax relief and work with the OGA to consider options for reforming the fiscal treatment of infrastructure, with further consultation with industry in 2015.
- The government will keep the rate of Petroleum Revenue Tax under review and will consider reducing the rate when fiscal conditions allow.
- The government, working with the OGA, will consider options for reforming the fiscal treatment of infrastructure and consult further with industry in 2015.

The OGA is listening carefully to industry and wider stakeholders on what actions may benefit the UKCS in these key areas and looks forward to rapidly growing its technical and analytical capabilities to continue working effectively with HM Treasury as a trusted adviser.

Figure 7: Treasury fiscal plan



Source: HM Treasury

The OGA will:	Timing
Build significant additional capability in economics within the OGA organisation	On-going
Continue to support HM Treasury as it develops and implements a fiscal regime which instils confidence and secures investment	On-going

4.7 Support the supply chain

The benefits of maintaining the UK oil and gas supply chain are clear. The UKCS and its supply chain sustains 375,000 domestic jobs, supports domestic companies working beyond the oil and gas sector and contributes to the UK's balance of trade. Research commissioned by Oil and Gas UK showed that in 2012 the UK offshore oil and gas supply chain added £35 billion to the UK economy, with 42% coming from exports¹¹.

The OGA recognises a number of organisations are already working to support the supply chain, particularly through the Oil and Gas Industry Council (OGIC) with representation from the OGA, The Department of Business Innovation and Skills, Scottish Enterprise and industry. The Oil and Gas Industry Council has set up four work-streams to focus its activities:

- Ensuring the long-term health of the UK supply chain;
- Delivering the technology strategy through the TLB;
- Addressing the skills and training agenda; and
- Improving the perceptions of the industry.

Key milestones for these activities have been included on the integrated plan. These include the delivery of an action plan on improving the competitiveness of fabricators (offshore fabrication alliance concept); reviewing the labour market to better understand where the sector skills gaps are (Labour Market Intelligence Report¹²) and supporting OPITO in developing new apprenticeship models to embrace changes and opportunities in the sector.

Going forward, the OGA will continue to support the work of the OGIC and ensure alignment with MER UK. Given the number of UK jobs which are directly derived from the oil and gas sector, the OGA will continue to maintain a strong focus on maximising full economic return through the entire value chain from field development to decommissioning.

The success of the supply chain is also dependent on the nature of demand. If operators radically change their plans at short notice, supply chain companies will be adversely affected. The OGA has an important part to play here in better monitoring and publicising UKCS demand to help the supply chain plan for the future.

The supply chain also has a vital role to play in both lowering production and development costs and developing the technology required to access and recover more from the variety of UKCS fields. Work is already underway in this area and the OGA welcomes the efforts of the OGIC and the Technology Leadership Board (TLB). The TLB has already mapped out its strategy and work is on-going to refine and prioritise actions. Furthermore, The Department of Business Innovation and Skills, organisations, is funding a £5m collaborative R&D competition, through InnovateUK, starting in March 2015. In addition, there is a £5m innovation funding being made available via The Natural Environment Research Centre which is also funding the Centre for Doctoral Training in Oil and Gas.

¹¹ EY (2012) – The economic contribution of the UK upstream oil and gas supply chain.

¹² OPITO (2014) – Labour Market Intelligence Report.

The challenges faced by UKCS operators, including complex drilling, highly technical projects and complex decommissioning, will be significant growth areas across the globe. The OGA looks forward to working with the TLB to assist in the development of a technology strategy that will provide clear guidance and focus on technological priorities. Such efforts can help sustain the UKCS as a hub for the oil and gas industry and as a major exporter of innovation and expertise for years to come.

The OGA will:	Timing
<p>Ensure the Oil and Gas Industry Council milestones are aligned on the integrated plan and fully supported</p>	<p>On-going</p>
<p>Support the TLB to create a focused strategy on technology development</p>	<p>End 2015</p>

4.8 Develop people and retain skills

Despite the immediate challenges created by the sharp decline in the global oil price, it is vital that the industry continues to invest in training and developing people, securing the skills and expertise the industry needs to create a positive future. The OGA is actively involved in the Scottish Energy Jobs Taskforce, which is committed to the creation of future jobs and career opportunities.

Historic changes in oil price have led to short-term decision making across the industry that has a damaging effect on individuals and the economy as jobs are lost. Each cycle of oil price change, however, has then been followed by a period of high demand for talent, leading to unsustainable wage inflation which in turn contributes to an uncompetitive cost picture.

Therefore, in the interests of the industry, the country and the workforce, there is a need to facilitate long-term thinking during the current cycle.

The OGA will:	Timing
Encourage companies to retain apprenticeship, trainee and graduate schemes despite the current challenges	On-going
Encourage companies to consider all alternatives to redundancy during the current downturn, to avoid losing capability from the UK	On-going

5. Conclusion

This report is a call to action for industry, Government and the OGA, to address the two key risks facing the UK oil and gas industry. The scale of the challenge ahead is significant. Work is proceeding at great pace to establish the OGA, bringing together the right leadership, organisation structure and priorities to make it a catalyst for change and a facilitator of action. The OGA intends to empower teams to drive forward the ambitious set of actions set out in this report.

The OGA cannot achieve a sustainable and long-term future for the UKCS in isolation. In the spirit of the tripartite strategy, industry and Government also have key leadership roles to play. To reflect this, the highest priority actions required from industry have been identified and the OGA is working closely with HM Treasury sharing detailed views ahead of the March 2015 Budget.

Encouragement can be drawn from the significant amount of work already underway. However, to be as effective as possible, these activities need strong leadership and guidance. The OGA has developed the Integrated Plan as a tool to drive prioritised action and focused delivery. It will use it to hold individuals and groups, as well as itself, to account for high-quality delivery of the most impactful projects.

The OGA has welcomed the opportunity to start its tripartite engagement through the production of this report, and looks forward to continued collaboration. It is keen to form a bridge between Government and industry, fostering trust, constructive dialogue and action.

Significant hydrocarbon resources and economic value remain to be realised from the UKCS. We must now work together to deliver these actions and commit to maximising economic recovery of the UK's oil and gas.

Appendix 1: Summary of actions

Building the OGA and the integrated plan

Establishing the OGA with the right legislative framework, leadership capability, resources and culture to address the challenges facing the UK oil and gas industry is a key priority. Swift progress has been made in building the leadership team and, with continued strong support from industry and Government, the OGA is on track to become an Executive Agency on 1 April 2015. It will play a proactive and incisive role in tackling the key risks facing the UKCS. It will be a catalyst for change and a facilitator of action, intervening where there is the opportunity to help resolve issues, underpinned by its regulatory powers to maximise economic recovery.

The OGA will:	Timing
Become an Executive Agency of DECC on 1 April	April 2015
Recruit a high-calibre, experienced leadership team aligned to successful delivery of six sector strategies	July 2015
Act like an independent regulator once the senior team is formed	August 2015

There has been progress against each of the six sectors outlined by Sir Ian Wood in his 2014 report. The creation of new initiatives has in some cases been accompanied by positive changes in behaviour and increased collaboration. With such an ambitious work programme, and given the range of on-going activities and organisations involved, the OGA has developed an integrated plan, mapped against the sector strategies and other key work-streams, so that delivery of the tripartite strategy can be prioritised and managed effectively.

The OGA will:	Timing
Hold individuals and groups to account for delivery of agreed projects and initiatives, driving high-quality work	On-going
Fully align PILOT with MER UK and integrate with the Fiscal Forum and co-ordinate meetings with the Oil and Gas Industrial Council	June 2015
Drive prioritised action and focused delivery, integrating efforts to reduce the number of working groups and initiatives across the sector	Sept 2015

Actions to mitigate the two key risks

The risk that the profitability of producing fields will be insufficient to attract continued investment, leading to premature decommissioning of assets.

i) Protect critical infrastructure

Premature decommissioning could result in the accelerated shut down of production as certain critical pieces of infrastructure are removed, creating a ‘domino effect’ that would leave vital parts of the North Sea without the necessary infrastructure to produce the oil and gas reserves that remain. Importantly, however, the reverse is also true. A positive ‘domino effect’ can be created if the right conditions are set out for investment in new infrastructure.

The OGA will:	Timing
Facilitate immediate actions to protect critical infrastructure	Immediate
Facilitate the preparation of Regional Development Plans for critical regions of the North Sea, building on data provided by operators	End 2015
Complete rigorous economic assessments of key production hubs to explore the drivers of continued investment, including fiscal levers	End 2015

ii) Significantly improve production efficiency

Historical under-investment in production facilities and insufficient uptake of improved and EOR techniques have caused UKCS production efficiency to fall by 20% in the past decade. Failure to improve production efficiency is inconsistent with maximising economic recovery, as reserves will be underexploited and value lost.

The OGA will:	Timing
Require the top 20 production operators (by volume) to present stewardship improvement plans	April 2015
Build significant new capacity within the organisation to facilitate operators’ discussions to achieve commercial alignment	On-going

iii) Create a competitive cost base

The comparatively high operating costs of the UKCS are impacting investment, jeopardising production and could create a domino effect on shared infrastructure, the broader supply chain and employment. Cost reduction measures must be sustainable with no adverse impact on safety, asset stewardship and skills development.

The OGA will:	Timing
Work with industry to prioritise activity and monitor efficiency improvements	On-going
Encourage a 30% to 40% improvement in efficiency	End 2017

The risk that confidence in the future potential of the UKCS will continue to decline, resulting in critical long-term investment not being committed.

iv) Revitalise exploration

The downward trend in exploration drilling is predicted to continue, with potentially as few as eight exploration wells in 2015. This will inevitably lead to fewer discoveries, less infrastructure investment, lower production levels and premature decommissioning of facilities. Limitations in access to seismic data and analysis, inadequate planning, failure to share knowledge and insufficient emphasis on fundamental geological research are some of the root causes.

The OGA will:	Timing
Encourage a programme of seismic acquisition in frontier and underexplored areas of the UKCS	End 2015
Continue to lead well reviews ensuring that data and knowledge are shared quickly and efficiently	End 2015
Improve the quantity, timeliness and reliability of data and information available internally to the OGA and externally to industry	End 2015
Engage with other bodies such as the Norwegian Petroleum Directorate on best practices	On-going

v) Improve collaboration on decommissioning

It is crucial that decommissioning is planned in such a way as to minimise disruption to neighbouring fields and new development opportunities. It is also critical that decommissioning activity is delivered safely, cost-efficiently and in a way that minimises the impact on the environment. Decommissioning represents an excellent opportunity for growth, specialisation and international competitiveness of the UK supply chain and consequently jobs and the broader economy. It is also an excellent opportunity to inspire confidence and collaboration in the UKCS.

The OGA will:	Timing
Proactively work with operators to drive collaboration in the planning and execution of decommissioning projects	On-going
Work with industry to establish a single forum to drive innovation and efficiency in decommissioning	Sept 2015

vi) Drive investment

The OGA supports HM Treasury’s plan to reform the oil and gas fiscal regime and echoes the importance of the fiscal regime to maximising economic recovery from the UKCS. The OGA is listening and working carefully with industry and wider stakeholders on what actions may benefit the UKCS and looks forward to building a strong economics team and will continue to work closely with HM Treasury as a trusted adviser.

The OGA will:	Timing
Build significant additional capability in economics within the organisation	On-going
Continue to support HM Treasury as it develops and implements a fiscal regime which instils confidence and secures investment	On-going

vii) Support the supply chain

The UKCS and its supply chain sustains 375,000 domestic jobs, supports domestic companies working beyond the oil and gas sector, and contributes to the UK’s balance of trade. Supply chain companies have a vital role to play in improving the efficiency and competitiveness of the UKCS, and developing the technology required to maximise economic recovery. The OGA supports and will play an active role in the work of the Oil and Gas Industry Council with representation from the Department for Business Innovation and Skills, Scottish Enterprise and industry.

The OGA will:	Timing
Ensure the Oil and Gas Industry Council milestones are aligned on the integrated plan and fully supported	On-going
Support the TLB to create a focused strategy on technology development	End 2015

viii) Develop people and retain skills

Despite the immediate challenges created by the sharp decline in the global oil price, it is vital that the industry continues to invest in training and developing people, securing the skills and expertise the industry needs to create a positive future. The OGA is actively involved in the Scottish Energy Jobs Taskforce, which is committed to the creation of future jobs and career opportunities.

The OGA will:	Timing
Encourage companies to retain apprenticeship, trainee and graduate schemes despite the current challenges	On-going
Encourage companies to consider all alternatives to redundancy during the current downturn, to avoid losing capability from the UK	On-going

Actions for industry

The new approach to collaboration between the tripartite bodies will require both industry and Government to work closely together towards MER UK.

The OGA expects industry to:	Timing
Work collaboratively and openly with the OGA and relevant operators to protect critical infrastructure	On-going
Fully support the activities of PILOT, the Fiscal Forum, the TLB and the Oil and Gas Industry Council towards MER UK	On-going
Ensure all is being done to retain apprenticeship, trainee and graduate schemes despite the current challenges	On-going
Prepare and present asset stewardship improvement plans to the OGA	April 2015
Significantly modify commercial behaviours to align with MER UK	August 2015
Establish a single forum to drive innovation and efficiency in decommissioning	Sept 2015
Reinvigorate and intensify efforts to improve efficiency with a target of 30% to 40%, working with the OGA to allow effective monitoring of progress	End 2017

In addition, the OGA is already working closely with HM Treasury sharing detailed thoughts on fiscal reform ahead of the March 2015 Budget.

