

Maximising the Return from Oil and Gas in an Independent Scotland

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1. Executive Summary

Introduction

- The oil and gas sector has had a major impact on Scotland since oil was first discovered more than 40 years ago.
- The industry has made a longstanding and important contribution to Scottish society and our economy.
- Today the industry continues to thrive and expand. The industry itself predicts record levels of capital investment in 2013.
- Companies are planning to invest at least £100 billion in future years, a clear indication that substantial tax revenues would accrue to an independent Scotland over many years.
- Academics estimate 98.8% of total oil production and 60% of total gas production in the 30 years from 2011 will be in Scotland's geographical share of the UKCS.
- Current production from the Scottish portion of the North Sea alone is enough to meet current Scottish domestic oil demand six times over, and current Scottish gas demand three times over - this demonstrates the huge export potential of Scottish oil and gas production.
- This paper sets out the principles the Scottish Government believes should underpin the fiscal, regulatory and licensing regimes in an independent Scotland.
- Alongside these principles the Scottish Government will continue to ensure that health and safety in the offshore sector remains of paramount importance, with the approach adopted in the industry continuing to be a model for Europe.
- The oil and gas industry also has an important role to play in the transition to a low carbon economy, and the hydrocarbon-rich nations have a responsibility to lead this transition.

Importance of the Sector

- Since the 1970s, the industry has contributed approximately £300 billion in tax receipts (2012/13 prices) to the UK Exchequer.

- When Scotland's geographical share of North Sea output is included, it increases GDP per head to around 118% of UK average, although it should be noted that even when North Sea Oil is excluded, national output per head in Scotland is still 99% of the UK average and the highest in the UK outside London and the South East of England.
- Oil and gas receipts represent an important source of Scottish tax revenue, however, they account for a smaller proportion of revenue than in some other major oil producing countries. In Norway, oil and gas production accounted for an average of 30% of public sector receipts between 2000-01 and 2011-12. In comparison, over the same period they accounted for around 15% in Scotland.¹
- In 1970, levels of GDP per capita in Norway were 8.9% lower than in the UK. By 2011 GDP per capita in Norway was 71.5% higher than the UK.
- Analysis by the Fiscal Commission Working Group concluded that if the Scottish Government had the opportunity to invest the net fiscal surpluses achieved since 1980, it could have accumulated assets equivalent to between 62% and 84% of GDP. In cash terms, this would be equivalent to between £17,000 and £23,000 per person in Scotland.
- With more than half of oil and gas reserves by value still to be extracted there is ample opportunity to invest Scotland's oil wealth for future generations.
- In 2012 oil and gas production was estimated to have contributed around £22 billion to Scottish GDP.
- 200,000 people are employed directly or indirectly in the sector across Scotland, and significant growth is expected in the next couple of years.

Scotland's Strategy

- Scotland's Oil and Gas Strategy sets out the direction for the long-term development of Scotland's oil and gas sector. The Strategy's main objective is to maximise the economic recovery of oil and gas from the North Sea through:
 - developing the domestic and international supply chains;
 - supporting industry with new market opportunities in new sectors;

¹ <http://www.scotland.gov.uk/Publications/2013/06/9241/4#chart3.6>

- encouraging the development and deployment of innovative technologies;
- improving skills provision – attracting young people to the industry; and
- promoting the industry and Scotland’s place as a destination for investment.

Future Challenges and Opportunities

- We recognise that production and investment have been damaged by Westminster’s numerous harmful tax changes.
- We will create the conditions to develop new technology, providing the means to maximise the recovery of remaining resources, particularly those in smaller and more challenging fields.
- We are committed to maintaining first class health and safety standards, maximising economic recovery rates, improving production efficiency, driving forward further exploration on the North Sea, improving asset integrity of critical infrastructure and incentivising industry to develop enhanced oil recovery techniques.
- Asset integrity remains a key challenge and opportunity, and many fields continue to be viable as a result of our existing infrastructure. However, in order to realise the opportunities of maximising existing recovery and supporting further exploration, it is imperative that investment is secured to maintain and enhance vital infrastructure.

Independence

- The Scottish Government’s approach is focused on listening, engaging and responding to the needs of individuals, communities and businesses.
- Productive links with the oil and gas industry are an example of our approach to government, and have been an essential component of the sector’s development in Scotland. This government has developed both an industrial strategy, and a skills strategy which are reflective of the challenges and opportunities the industry faces.

- With access to a full range of policy levers, the Scottish Government would be in a position to do more to meet the needs of Scotland's oil and gas sector, ensuring that the industry has the optimum conditions to innovate, grow and thrive in a globally competitive environment.
- The Scottish Government believes that there should be three overarching principles which underpin the oil and gas fiscal regime under independence:
 - The fiscal regime must support and incentivise production.
 - There should be long-term stability and certainty in the fiscal and regulatory regimes, including a commitment to formal consultation prior to future reforms, and specific clarity on the fiscal treatment of decommissioning costs.
 - There are efficient fiscal incentives to maximise economic recovery rates.
- Independence for Scotland will ensure that Scotland's vast oil and gas reserves are efficiently and safely extracted for the benefit of the Scottish people. With this in mind – our commitment to stability and certainty for the industry involves focussed attention on the fiscal regime, licencing and regulatory frameworks, and decommissioning.
- With access to all the policy levers that independence will bring, we will be able to create the fiscal incentives which will not only allow the industry to realise its potential but which will also allow all of Scotland's people to benefit.

2. Introduction

Chapter Summary

- This paper sets out the high level principles which the Scottish Government believes should underpin the oil and gas fiscal regime and broader policy framework post-independence.
- This paper presents:
 - a comprehensive overview of the importance of the North Sea oil and gas sector and the contribution it makes to Scotland's economy;
 - the key challenges and opportunities that the sector faces; and
 - the key components of the current UKCS fiscal regime and the key considerations and principles for the policy framework in an independent Scotland.
- Given the industry's importance to Scotland's economy, Scottish Ministers will shortly be announcing the creation of an Expert Commission to develop the proposals outlined in this paper.

2.1. The Scottish Government's strategy for the long term development and sustainable growth of Scotland's offshore sector is contained in the Scottish Oil and Gas Strategy.

2.2. Its central objectives are to maintain our world leading safety standards while simultaneously maximising economic recovery of oil and gas from the North Sea. Independence for Scotland is the opportunity to gain greater control over the achievement of these objectives – ensuring that Scotland's vast oil and gas reserves are efficiently extracted and the revenues and economic benefit are maximised for the benefit of the Scottish people.

2.3. The oil and gas industry has made a longstanding and important contribution to our economy and society, driving forward innovation and pioneering the development and deployment of new technologies. The industry is a key driver of sustainable economic growth in Scotland and the sector achieves this in a way that

is consistent with the Scottish Government's desired characteristics of growth – Solidarity, Cohesion, and Sustainability.²

2.4. The industry has also played an important role in developing the nation's human capital. The industry works in partnership with local communities; supporting education, arts and culture, and other initiatives related to local environments. It continues to drive forward standards in education, linking with primary and secondary schools across the country to encourage an interest in science, technology, engineering, and maths. The industry has left, and continues to leave, a lasting impact.

2.5. As a result, Scotland's oil and gas industry has made an enormous contribution to the Scottish economy over the last four decades. It is the largest industrial sector of the economy in terms of its contribution to GDP. It acts as a major source of employment and investment, and provides the equivalent of six times Scotland's oil needs.

2.6. The sector has also represented a very important source of tax revenue to successive UK governments, indeed it pays more in corporation tax than any other industry, and it continues to make a significant contribution to the UK's balance of payments.

2.7. This contribution to society, the economy, the workforce and the public finances has not been at the expense of health and safety standards. On the contrary, health and safety in the offshore industry is of paramount importance, and the North Sea oil and gas industry has the highest safety standards in the world. In an industry which is currently facing the challenges of ageing infrastructure, we are committed to ensuring that the offshore safety standards continue to improve and set the standard which other countries aim to replicate.

² The Scottish Government desired characteristics for Growth are set out in the Government Economic Strategy <http://www.scotland.gov.uk/Resource/Doc/357756/0120893.pdf>

Historical Context

2.8. The oil and gas sector has had a major impact on Scotland since oil was first discovered more than 40 years ago.

2.9. The Forties field, discovered by BP in 1970, contained an estimated 4.2 to 5.0 billion barrels of oil, with production peaking at over 500,000 barrels per day (bopd). When Apache purchased the field in 2003, it was estimated to have 144 million barrels of oil equivalent (boe) of proven reserves and production was expected to cease in 2012. However, as a result of the transfer of ownership and the adoption of new techniques and technologies, the field has now produced nearly 200 million boe, with 114 million boe of proven reserves remaining³. This indicates that the innovative approaches adopted by new owners of established fields can greatly increase economic recovery rates in mature fields.

2.10. Shortly after, the discovery of the Brent oil and gas field occurred in the northern North Sea east of Shetland, with production beginning in 1975. The Brent field has been in service for the UK for more than 35 years and it has produced around 2 billion barrels of oil and 5.7 trillion cubic feet of gas (2008), a total of some 4 billion boe.

2.11. Despite numerous predictions from Westminster that the oil was running out in the eighties, nineties and the 2000's, we still see today an industry which continues to thrive and expand. The McCrone report, presented to the UK Cabinet in 1975, has shown how Scotland, by having access and control over its North Sea oil and gas reserves could have made an independent Scotland as prosperous as Switzerland. Key quotes from this report, include:

³ http://www.apachecorp.com/Operations/Capturing_value/Forties_field_acquisition/index.aspx

“the discovery of North Sea oil will come to be seen as something of a watershed in Scotland’s economic and political life”.

“large revenues and balance of payments gains would indeed accrue to a Scottish Government in the event of independence provided that steps were taken either by carried interest or by taxation to secure the Government ‘take’. Undoubtedly this would banish any anxieties the Government might have had about its budgetary position or its balance of payments”.

2.12. The McCrone report is not the only source of evidence that Scotland’s vast resources have been underplayed. Recently the former Chancellor Denis Healey revealed that⁴:

“I think we did underplay the value of the oil to the country because of the threat of nationalism but that was mainly down to Thatcher.”

“It’s true that we should have invested the money in things we needed in Britain and I had thought about an oil fund, like in Norway but it wasn’t my responsibility by then.”

2.13. If Scotland had access to this resource we could have invested in an oil fund so that all of the people of Scotland would have benefited. We could have used the vast tax reserves to make Scotland a fairer society. With more than half the value of reserves still to be extracted from the North Sea,⁵ this is a mistake that we cannot let happen again.

2.14. With access to all the policy levers that independence will bring, we can do even more to enhance the conditions in which the industry is operating. We will be able to create the fiscal environment which will not only allow the industry to realise its potential but which will also allow all of Scotland’s people to benefit.

⁴ <http://www.holyrood.com/2013/05/still-raising-eyebrows/>

⁵ Assumptions set out in PQ answer (S4W-06988) - <http://www.scottish.parliament.uk/parliamentarybusiness/28877.aspx?SearchType=Advance&ReferenceNumbers=S4W-06988&ResultsPerPage=10>

3. Scotland's Asset

Chapter Summary

- Oil and gas is the largest industrial sector in Scotland, contributing around £22 billion to Scottish GDP in 2012.
- Oil and gas production has contributed approximately £300 billion in tax receipts (2012/13 prices) to the UK Exchequer.
- Scottish GDP per head is around 118% of the UK average when Scotland's geographical share of North Sea output is included.
- The sector is currently undertaking record levels of field investment, with total future investment in companies' plans worth at least £100 billion.
- 200,000 people are employed directly or indirectly in the sector across Scotland and significant growth is expected in the next couple of years.

Contribution of Oil and Gas to the Scottish Economy

3.1. The oil and gas industry has been a vital element of the Scottish economy for over forty years, and will remain so for decades to come.

3.2. Since production began in the 1970s, the industry has contributed approximately £300 billion in tax receipts (2012/13 prices) to the UK Exchequer, around 90% of which has been generated by production in Scottish waters. In 2011-12 alone, oil and gas production in Scottish waters generated £10.6 billion in tax revenues, the second highest nominal level of tax revenue in the past 25 years. The annual tax revenues from oil and gas production in Scotland's portion of the UKCS have averaged over £1,500 per person in Scotland since 1980⁶.

3.3. In 2012, oil and gas production is estimated to have contributed around £22 billion to Scottish GDP⁷ – making it the largest industrial sector in Scotland by a large margin. Oil and gas production also boosted the UK balance of payments by some £40 billion in 2011.⁸

⁶ SG estimate of annual tax revenue in real terms. Based on GERS 2011/12, <http://www.scotland.gov.uk/Resource/0041/00415875.pdf>; and GROS population estimates, <http://www.gro-scotland.gov.uk/statistics/theme/population/>

⁷ Scottish Government (2013) – Scottish National Accounts Project

⁸ Digest of UK energy statistics (DUKES) 2012, Table G2.

3.4. The sector generates enormous wealth for Scotland. Including a geographical share of North Sea output, Scottish GDP per head is around 118% of the UK average⁹. Indeed, when Scotland is assigned a geographic share of oil and gas production, it would have been ranked 8th in the OECD in terms of GDP per head in 2011, whilst the UK was ranked 17th.

3.5. In 2013 oil and gas was the largest single sector in the FTSE 100 Index of leading companies, and a sector where Scottish firms are leading global players¹⁰.

3.6. In light of the substantial opportunities in the sector that continue to emerge, field investment is expected to increase to £13 billion in 2013, whilst total future investment in companies' plans is estimated to now be worth at least £100 billion¹¹.

3.7. The industry's contribution to the wider economy is reflected in the level of employment it supports. The industry provides employment for around 200,000 people across Scotland both directly in the industry and by supporting jobs in other sectors of the economy. This is almost half of the UK employment supported by the sector¹². Chart 1 illustrates the significance of the oil and gas industry in Scotland. The jobs supported by the sector are equivalent to 8% of total employment in Scotland.

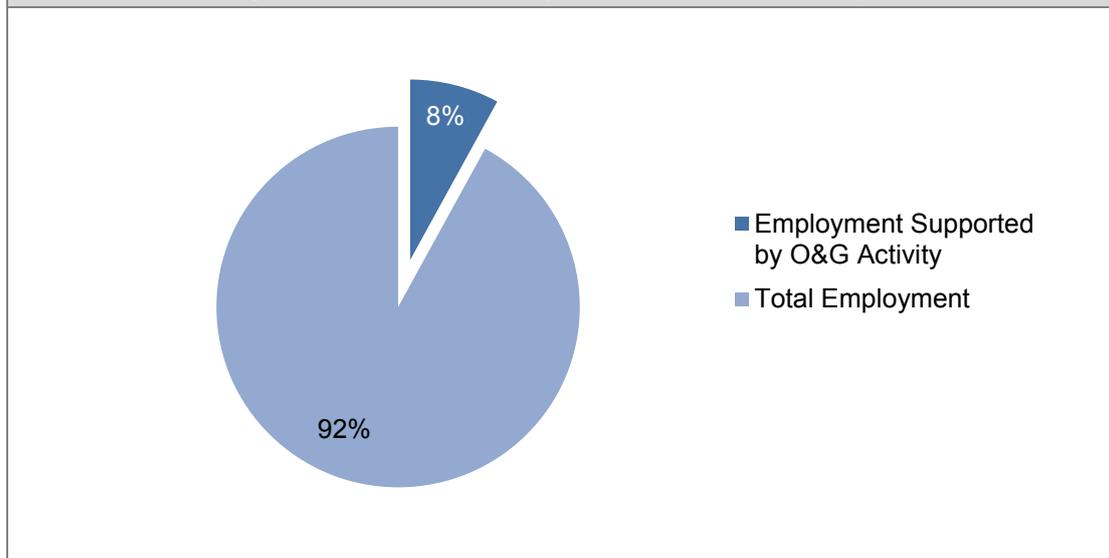
⁹ Chapter 4 of the Fiscal Commission Working Group's First Report - <http://www.scotland.gov.uk/Publications/2013/02/30177>

¹⁰ FTSE 100 Factsheet, 30 April 2013

¹¹ Oil and Gas UK Activity Survey 2013

¹² Oil and Gas UK (2011) – Economic Report 2012

Chart 1: Employment Supported by Oil and Gas Activity¹³



3.8. Recent evidence also points to optimism for employment prospects in Scotland. Lloyds Banking Group forecast in March 2013 that future growth in the sector will create 34,000 jobs in the industry and related businesses across the UK over the next two years, with all areas of Scotland expected to benefit. The study also found that Scottish oil and gas firms are more likely to expect growth than those south of the Border - with 83% expecting to see more business.¹⁴

International Contribution

3.9. The presence of the oil and gas industry in Scotland has led to the creation of a sophisticated supply chain to service the offshore industry. There is now a cluster of world class companies headquartered in Scotland with strengths in many areas including project management, subsea, well-management and training services.

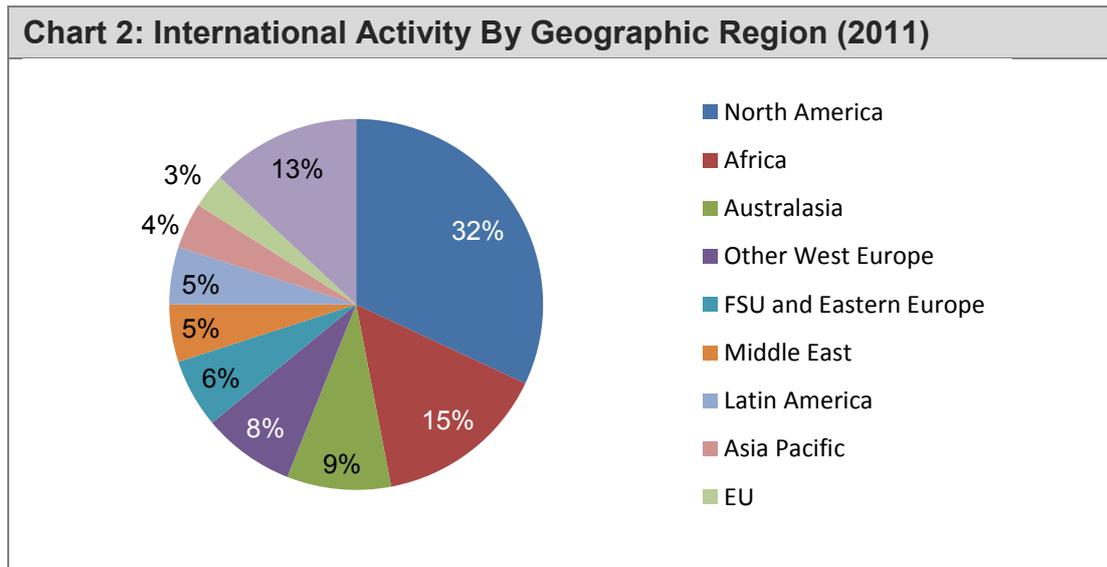
3.10. There are around 2,000 companies in the oil and gas supply chain operating in Scotland.¹⁵ The majority of these companies are based around Aberdeen and the North East of Scotland but there are significant pockets of expertise throughout

¹³ SG estimate, based on O&G UK Employment estimates and LFS data for total employment.

¹⁴ Source - Lloyds Banking Group: 'Rising Fortunes 2: Oil and Gas survey 2013' and accompanying Scottish Parliament briefing by Lloyds Banking Group

¹⁵ Scottish Oil and Gas Strategy, <http://www.scottish-enterprise.com/~media/SE/Resources/Documents/MNO/Oil-and-Gas-strategy-2012-2020.pdf>

Scotland. The presence of this world class cluster means that Scotland is now a major player in the global oil and gas supply chain, with Scottish companies now operating in over 100 countries (Chart 2). In 2011, the Scottish supply chain achieved international sales of over £8.2 billion¹⁶. Nearly half of the Scottish supply chain's total sales (£17.2 billion) were from international activity, up from a third in 2002.

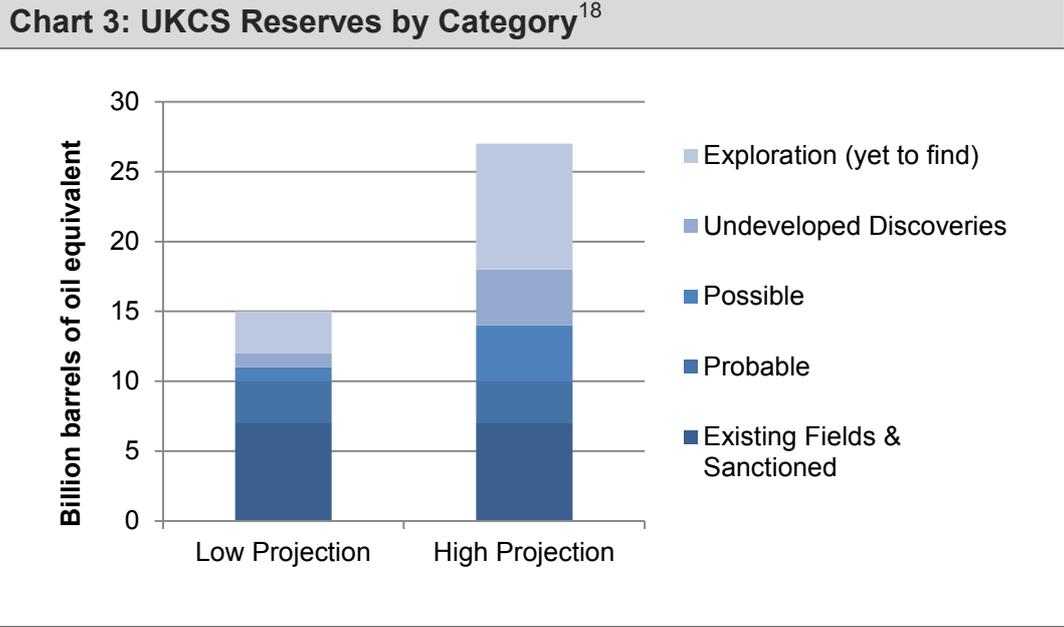


Reserves

3.11. Remaining oil and gas reserves on the UKCS are substantial, suggesting that activity in the sector will continue for a significant period. Oil and Gas UK estimate that up to 24 billion barrels of oil and gas equivalent can still be recovered from the UKCS as a whole. This encompasses proven, probable, and possible reserves from existing fields and new developments, plus a contribution from additional resources arising from marginal or tertiary developments, using improved or enhanced oil recovery techniques as well as further exploration¹⁷. Identifying reserves from remaining resources will be driven by the extent of exploration activity that is undertaken in the UKCS. The full range of forecasts published by Oil and Gas UK are summarised in Chart 3 below.

¹⁶ Scottish Enterprise (2013) - Survey of International Activity in the Oil and Gas Sector 2011-12

¹⁷ http://www.oilandgasuk.co.uk/2012economic_report/resources_reserves.cfm



3.12. It is possible that ultimate recovery could exceed the estimates presented above. For example, Mark Higginson, a senior partner of accountants PWC, has stated that *“it’s likely that there is probably between 24 and 30 billion barrels of oil equivalent still to gather from the North Sea.”*¹⁹ Many industry experts also agree that the 24 billion boe could be a significant underestimate. The estimates of remaining reserves published by the UK Department of Energy and Climate Change (DECC), whilst reflecting a wide range of potential scenarios, suggest that up to 33 billion boe could still remain.²⁰

3.13. Analysis by the Scottish Government suggests that the 24 billion boe of reserves have a potential wholesale value of up to £1.5 trillion – ten times the size of the Scottish economy. This indicates that more than half of the oil and gas reserves in the UKCS, by value, have still to be extracted.²¹

3.14. Drawing on internationally comparable data, Scotland is estimated to have the largest conventional oil reserves in the EU. Chart 4 shows that Scotland is estimated to account for nearly 60% of total EU oil reserves. The major investments

¹⁸ Source: Oil & Gas UK, 2012 Economic Report: http://www.oilandgasuk.co.uk/2012economic_report.cfm

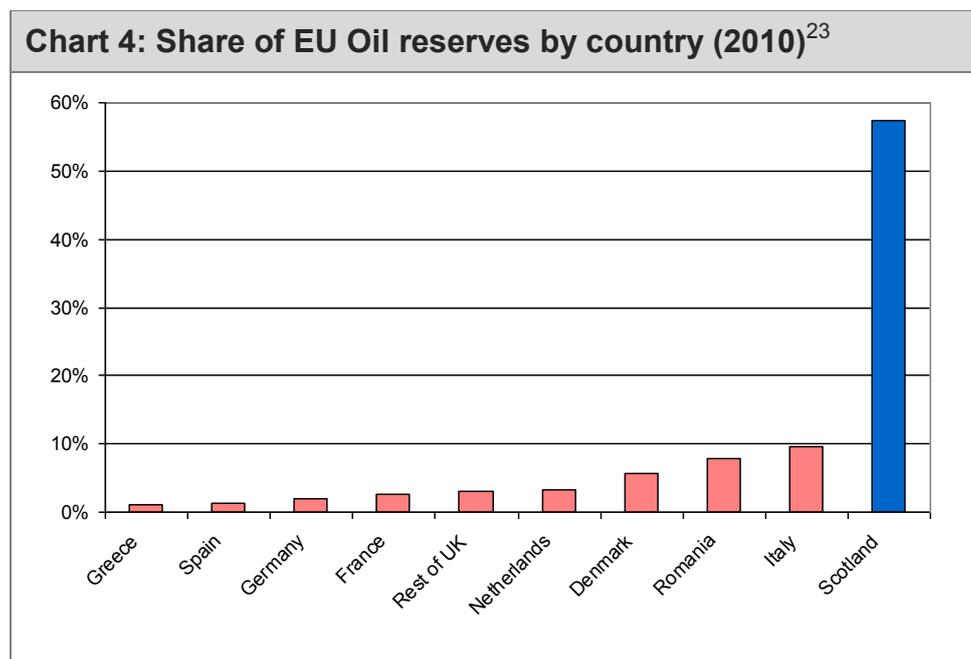
¹⁹ BBC Radio 4 Wed, 22 May 2013

²⁰ <https://www.gov.uk/oil-and-gas-uk-field-data#uk-oil-and-gas-reserves>

²¹ Assumptions set out in PQ answer (S4W-06988) - <http://www.scottish.parliament.uk/parliamentarybusiness/28877.aspx?SearchType=Advance&ReferenceNumbers=S4W-06988&ResultsPerPage=10>

announced in recent months could have the potential to increase overall oil recovery rates. This could increase Scotland's share of recoverable EU oil reserves further.

3.15. Equivalent estimates of remaining gas reserves are not available due in part to the range of different methods used to quantify potential unconventional gas reserves. However, separate analysis estimates that Scotland could have the second largest volume of proven gas reserves, a sub-set of total reserves, in the EU after the Netherlands.²²



3.16. Scotland's oil and gas reserves represent a significant resource for the people of Scotland. Analysis by Professor Alex Kemp and Linda Stephens, at the University of Aberdeen, has estimated Scotland's geographical share of oil and gas production based on the median line principle. This is the likely position given that it has been used to determine other North Sea jurisdictions. It is also consistent with the approach taken in 1999 to determine the boundary between Scotland and the rest of the UK for fishery demarcation purposes.

²² For a further discussion of oil and gas reserves in Scotland see the Scottish Government March 2013 Oil and Gas Analytical Bulletin.

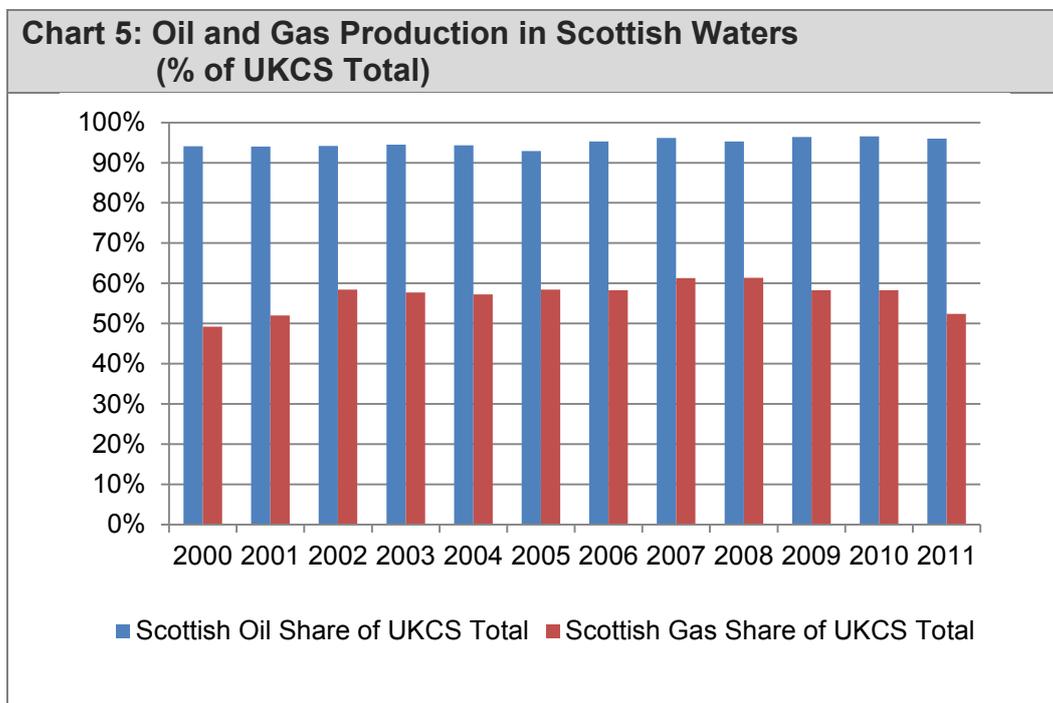
²³ Source - German Mineral Resources Agency (2012) - Reserves, Resources & Availability of Energy Resources 2011 and Scottish Government analysis. For further analysis of Scotland's remaining oil and gas reserves see the March 2013 Scottish Government Oil and Gas Analytical Bulletin <http://www.scotland.gov.uk/Topics/Statistics/Browse/Business/Energy/OilGas>

3.17. Other alternative methods of demarcation, such as the Civil Jurisdiction Order 1987, could result in a more favourable allocation for Scotland. However, the amount of hydrocarbon reserves that would belong to Scotland remain broadly consistent regardless of which of these boundaries is applied. Analysis by Wood Mackenzie concluded *“that the bulk of UK oil and gas reserves (circa 85%) lie in Scottish waters, and an independent Scotland would control the vast majority of production as well as the most prospective acreage”*²⁴.

3.18. Kemp and Stephen’s latest estimates are for 2011, where they estimate that Scotland's share of total UK oil and gas production was 96% and 52% respectively. This means that Scotland's share of total hydrocarbon production was approximately 78% in 2011. In terms of future production, Kemp and Stephen estimate that 98.8% of total oil production and 60% of total gas production over the next thirty years from 2011 will come from Scotland’s geographical share of the UKCS.²⁵

Production

3.19. Since the 1970s, over 40 billion boe have been extracted from the North Sea.



²⁴ <http://www.woodmacresearch.com/cgi-bin/wmprod/portal/corp/corpPressDetail.jsp?oid=10852502>

²⁵ Alex Kemp, 'North Sea Oil and Gas'. in A Goudie, Scotland's Future: The Economics of Constitutional Change. Dundee University Press, 2013, page 251.

3.20. Production levels peaked in 1999, but have declined in subsequent years. This reflects a number of factors including subdued investment and production efficiency between 2002 and 2008 – due, in large part, to poor investor confidence following numerous changes to the fiscal regime by successive UK governments during the previous decade. As noted within the Oil and Gas UK 2013 Activity report, *“Taking into account the two to three year average time lag between investment decisions and first production, the lack of new fields coming on-stream can be attributed to the damage done to investors’ confidence by the numerous adverse tax changes in the early and mid-2000s.”*²⁶

3.21. The most recent example of this fiscal instability was the 2011 UK Budget where changes to the North Sea fiscal regime were announced with no prior consultation with the industry. The key change announced was an increase in the Supplementary Charge which was increased from 20% to 32%. Tax relief for decommissioning expenditure for Supplementary Charge was also capped at 20%.

3.22. These changes had a substantial impact on the industry by making North Sea projects less competitive than in other areas of the world, and increasing the sense of fiscal instability in the North Sea resulting in an uncertainty in investment decisions. These issues are discussed in more detail in Chapter 5.

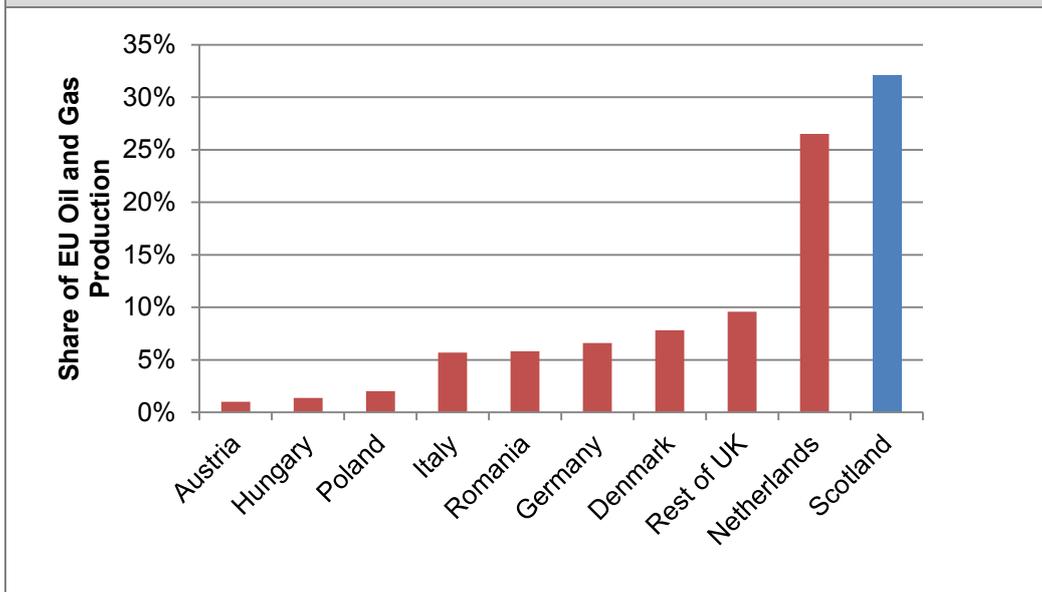
3.23. Despite these challenges, the North Sea still produces 1.5 million boe a day, with Scotland remaining the largest producer of hydrocarbons in the EU. In 2011, Scotland accounted for 60% of EU oil production and approximately a third of EU total hydrocarbon production²⁷ (Chart 6).

3.24. As an illustrative example, current production from the Scottish portion of the North Sea alone is enough to meet current Scottish domestic oil demand six times over, and current Scottish gas demand three times over. This demonstrates the huge export potential of Scottish oil and gas production.

²⁶ Oil and Gas UK 2013 Activity Survey, (page 26).

²⁷ Scottish Government analysis based on Eurostat Energy Statistics Database

Chart 6: Share of EU Combined Oil and Gas Production by Country (2011)



3.25. With the correct incentives, the North Sea will remain a significant source of oil and gas production for years to come. For example, Oil and Gas UK's chief executive, Malcolm Webb, states that through further changes in the fiscal and regulatory regime we will be able to: "...make the most of this valuable national asset, the products of which are essential to our daily lives and can underpin our prosperity for many decades yet to come."²⁸

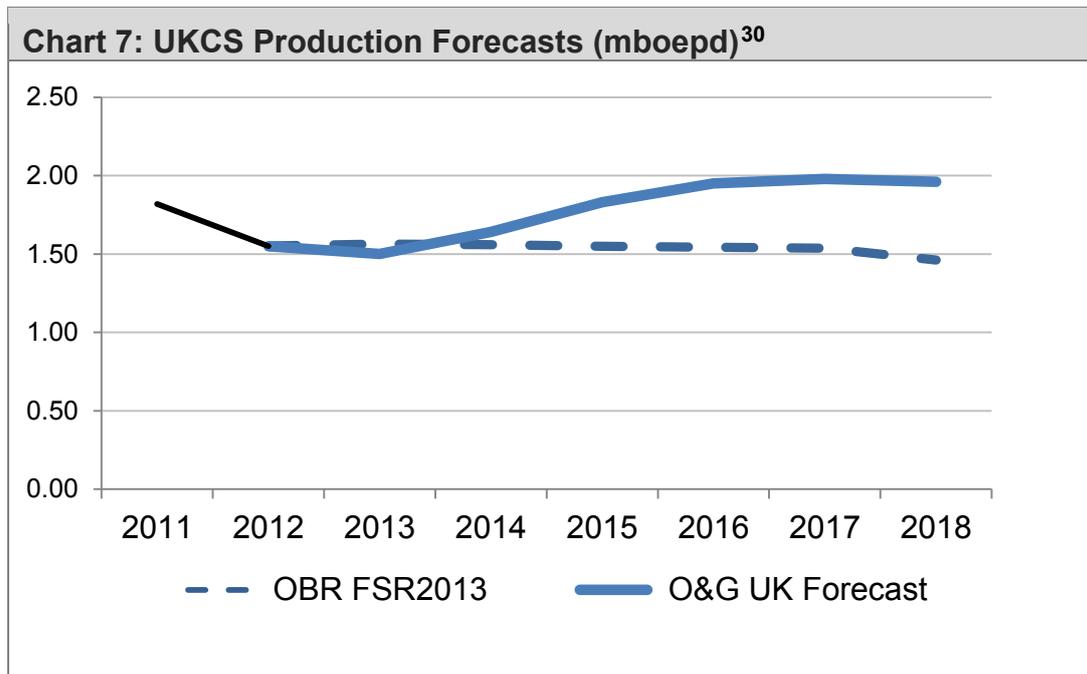
3.26. New fields continue to be found, and there remains significant interest in North Sea licensing rounds. Recent technological advances and high oil prices also mean that many fields are now more commercially viable than in the past.

3.27. This is reflected in recent developments in the industry which point towards a strong recovery in investment. The latest Oil and Gas UK Activity Survey reports that field investment in the North Sea in 2012 was £11.4 billion, the highest level for thirty years²⁹. This is a significant increase from 2009, where field investment was around £5 billion. This is expected to increase to at least £13 billion in 2013 and future investment in companies' plans is now estimated to be worth at least £100 billion.

²⁸ <http://www.oilandgasuk.co.uk/news/news.cfm/newsid/824>

²⁹ Oil and Gas UK 2013 Activity Survey

3.28. This investment is expected to boost North Sea production in the coming years. Oil and Gas UK estimates that production could reach 2 million boe a day by 2017. As illustrated by Chart 7, this would represent a 30% increase on current production levels. In comparison, even with the recent recovery in investment in the North Sea, the OBR assume that production broadly remains flat until 2017-18.

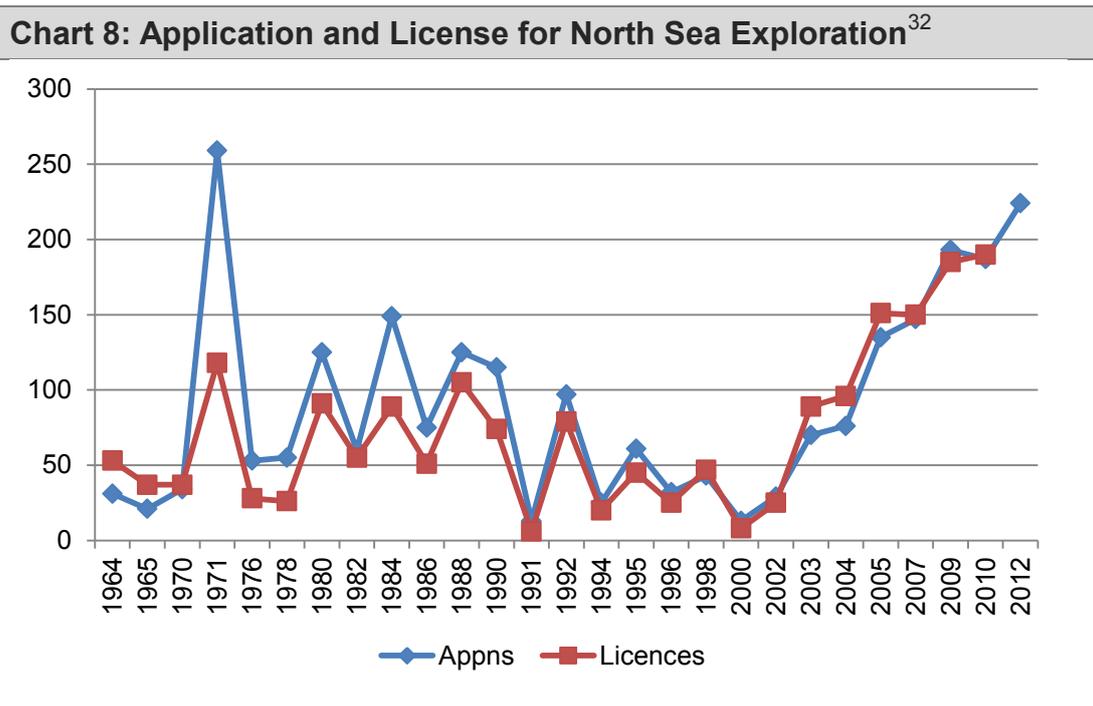


Exploration

3.29. The North Sea is also experiencing a revival in exploration activity which will help to increase recoverable reserves and prolong production into the future. The 27th licensing round attracted 224 applications, covering 418 blocks – the largest number since such rounds began in 1964³¹.

³⁰ Oil and Gas UK 2013, Activity Survey, OBR Fiscal Sustainability Report (July 2013).

³¹ <https://www.gov.uk/government/news/record-breaking-north-sea-licensing-round>



3.30. Exploration activity has also increased with operators drilling 26 exploration and 25 appraisal wells in 2012 which led to the discovery of over 200 million boe. Oil and Gas UK forecasts a further increase in exploration activity in future years, with over 130 wells forecast to be drilled between 2013 and 2015. This would make the next three years the most active for exploration in the past fifteen years.

Oil Price Outlook

3.31. There is variation between forecasters on future oil prices. Some, such as the Office for Budgetary Responsibility (OBR), expect prices to fall gradually in the coming years to approximately \$93 a barrel in 2017-18³³. Over the last two years there has only been one month when prices have fallen below \$100 a barrel. The OBR assumption is based upon a methodology which uses the prices implied by futures markets. Others, such as the US Energy Information Administration and the International Energy Agency, predict that oil prices will rise in future years.^{34,35}

³² DECC License data, <https://www.gov.uk/oil-and-gas-licensing-rounds#past-licensing-rounds>

³³ OBR, Economic and Fiscal Outlook, March 2013

³⁴ http://www.eia.gov/forecasts/aeo/topic_prices_all.cfm#price_cases

³⁵ IEA, Oil Market Report, <http://omrpublic.iea.org/>

Finally, some organisations predict that prices could rise sharply in future years. For example, analysis published by the OECD in March 2013 suggests that rising demand in East Asia and continued tight supply could result in oil prices rising above \$150 by 2020³⁶.

3.32. In recent years, oil prices have exceeded many initial forecasts. For example, in 2010, futures markets implied an oil price of around \$85 a barrel in 2011 and 2012. Actual prices over this period averaged more than \$110 a barrel. Some forecasters expect this trend to continue. For example, the IMF's October 2012 World Economic Outlook stated that the risks to oil prices are "*tilted to the upside*" and "*cannot be easily dismissed*".³⁷

3.33. The Scottish Government Oil and Gas Analytical Bulletin, published on 11 March 2013, provides a detailed outlook for the oil and gas sector, including an assessment of future oil prices. The analysis in the Bulletin assumed that oil prices remained at \$113 in cash terms over the forecast period, this was based on the average price over the 24 months prior to publication³⁸.

³⁶ OECD Economics Department Working Paper No. 1031 - The Price of Oil - Will It Start Rising Again? – Page 6

³⁷ IMF (2012) – World Economic Outlook October 2012, Pages 39 and 40.

³⁸ <http://www.scotland.gov.uk/Topics/Statistics/Browse/Business/Energy/OilGas>

4. Scotland's Oil and Gas Strategy

Chapter Summary

The central objective of Scotland's Oil and Gas Strategy is to maximise economic recovery through:

- Developing the domestic and international supply chains
- Supporting industry in exploiting new market opportunities in new sectors
- Encouraging more rapid commercial deployment of innovative technologies
- Improving skills provision – attracting young people to the industry
- Promoting the industry and Scotland's place as a destination for new investment.

4.1. In May 2012, the Scottish Government and its agencies published Scotland's Oil and Gas Strategy to 2020. This strategy was developed in collaboration with the industry, and clearly sets out the Scottish Government plan to support the long term development and sustainable growth of the offshore sector in Scotland³⁹.

4.2. The economic benefits to Scotland of maximising resource recovery are hugely significant. At present, recovery rates in the North Sea average around 40%⁴⁰. In Norwegian fields the equivalent recovery rate is 48%. If recovery rates in Scottish fields could be increased to the level achieved in Norway, this would lead to a substantial increase in output, jobs, and tax revenues.

4.3. Maximising economic recovery in the UKCS will play a key role in extending the lifespan of the North Sea and the tax revenue from production. Oil and Gas UK estimates that Improved Oil Recovery (IOR) – through optimal management of reservoirs, wells and facilities - could add between 1 and 4 billion boe. In addition, it is estimated that Enhanced Oil Recovery (EOR) techniques could add 6 billion boe⁴¹.

³⁹ Oil & Gas Strategy 2012-2020: Maximising our Future

⁴⁰ Oil & Gas Strategy 2012-2020: Maximising our Future

⁴¹ Oil & Gas UK 2012 Economic Report

Progress

Supply Chain

4.4. The Scottish Government is making substantial progress on delivering our strategy commitments to industry. For example, we are committed to further developing the supply chain with a view to it becoming increasingly focused on the opportunities of resource recovery and more aware of innovation to drive company growth. That is why we are:

- increasing the number of companies our agencies directly account manage, supporting industry to make the developments and connections which will allow them to expand and become more productive; and
- continuing to work with operators and contractors to identify further supply chain opportunities across all parts of Scotland, and we continue to work with trade associations and others to identify additional candidates for account management.

Internationalisation

4.5. Companies based in Scotland have opportunities to utilise their knowledge and products on a global stage, given the world-class expertise and comparative advantage which resides in Scotland's oil and gas sector. The Scottish Government wants to support increased opportunities for growth in overseas markets, while also ensuring that Scotland remains a primary location for future investment. That is why we are:

- increasing our presence in a number of potential growth markets for oil and gas, including Brazil, Norway, Canada, Australia and West Africa; and,
- continuing to engage with companies on investment and reinvestment opportunities, which includes potential locations across Scotland.

Innovation

4.6. The Scottish Government views innovation as central to a more prosperous and productive oil and gas sector. Through the development of new products and new processes, the industry can not only meet the specific challenge of enhanced

and improved oil recovery, for example, but it can also strengthen Scotland's comparative advantage. That is why we are:

- progressing with a series of planned calls for our £10 million innovation fund. The second call has been announced on Well Integrity – with the first call on Asset Integrity receiving 20 applications currently being assessed;
- working with the Funding Council to develop an Oil and Gas Innovation Centre; and
- continuing to work with the private and public sectors to develop a framework for a more coherent approach to provide support for oil and gas technology.

Skills

4.7. The Scottish Government believes that the sector provides many opportunities for our young people. Therefore, to ensure the sector attracts young people and the industry communicates a clear and strong message on future skills needs, we have launched Energy Skills Scotland, which will work directly with employers and education providers to ensure a cohesive response to the demand for a skilled workforce. Energy Skills Scotland will:

- support the establishment of a new Oil & Gas Academy of Scotland (OGAS) – a collaboration between Aberdeen University, Robert Gordon University, Banff and Buchan College and Aberdeen College;
- work with businesses, colleges and universities across Scotland to address a range of skills needs in the energy transmission, renewables and carbon capture and storage industries; and
- provide a focal point for industry to access skills support for oil and gas, renewables, thermal generation, grid transmission and carbon capture and storage (CCS). It will build on activities already developed from the Energy Skills Investment Plan and work with employers and partners across the sector to identify and address emerging skills priorities.

Oil and Gas Production in Scotland's Low Carbon Future

4.8. The twin Scottish Government objectives to develop a low carbon economy and maximise resource recovery in the North Sea are complementary over the long-term. A successful oil and gas sector is a prerequisite for the diversification of the energy supply and the growth of the market for low carbon goods and services.

4.9. As countries such as Denmark show, there is no contradiction between making use of substantial, in its case, gas reserves, while leading the transition to a low carbon economy. The oil and gas industry has an important role to play in that transition, and the hydrocarbon-rich nations have a responsibility to lead the transition to a low carbon economy. The Masdar city in Abu-Dhabi provides an example of how low carbon objectives can be supported.

4.10. In terms of skills we also have a unique opportunity in Scotland where the expertise gained from half a century of exploitation of oil and gas in the waters around Scotland gives a particular advantage in the development of offshore renewable technology.

Collaboration with Industry

4.11. The Scottish Government's way of working is built on listening, engaging and responding to the needs of individuals, communities and businesses. In every area of policy, the government is strengthening opportunities for partnership so that everyone can benefit from increasing sustainable economic growth.

4.12. Productive links between the Scottish Government and the oil and gas industry are an example of our approach to government, and are an essential component of the sector's development in Scotland. The First Minister has established the Scottish Energy Advisory Board (SEAB) for open and informed engagement between Scottish Ministers, the energy industry and other relevant bodies. An Oil and Gas Industry Leadership Group reports to the SEAB on progress on the six priorities of the Oil and Gas Strategy. This will continue to provide the apparatus for meaningful discussion of both fiscal and oil and gas policy issues post-independence.

5. Policy Framework in an Independent Scotland

Chapter Summary

- Our engagement with the oil and gas industry has been successful to date, despite our limited powers. However, with full policy levers we would ensure industry has optimum conditions to innovate, grow and thrive.
- We are committed to maximising economic recovery rates, improving production efficiency, maintaining first class health and safety standards, driving forward further exploration on the North Sea, improving asset integrity of critical infrastructure and incentivising industry to develop enhanced oil recovery techniques.
- The Scottish Government believes that there should be three overarching principles which underpin the oil and gas fiscal regime under independence:
 - The fiscal regime must support and incentivise production.
 - There should be long-term stability and certainty in the fiscal and regulatory regimes, and specific clarity on the fiscal treatment of decommissioning costs.
 - There are efficient fiscal incentives to maximise economic recovery rates.

5.1. The Scottish Government has achieved significant successes to date in our engagement with the oil and gas industry. Through working in partnership and by being open to learning from other countries, our approach to government is making a real difference to tackling long-term challenges.

5.2. However, what we have achieved has been done against the backdrop of a limited set of powers. With access to a full range of policy levers, the Scottish Government would be in the position to do more to meet the needs of Scotland's oil and gas sector, ensuring that the industry has the optimum conditions to innovate, grow and thrive in an increasingly globally competitive environment.

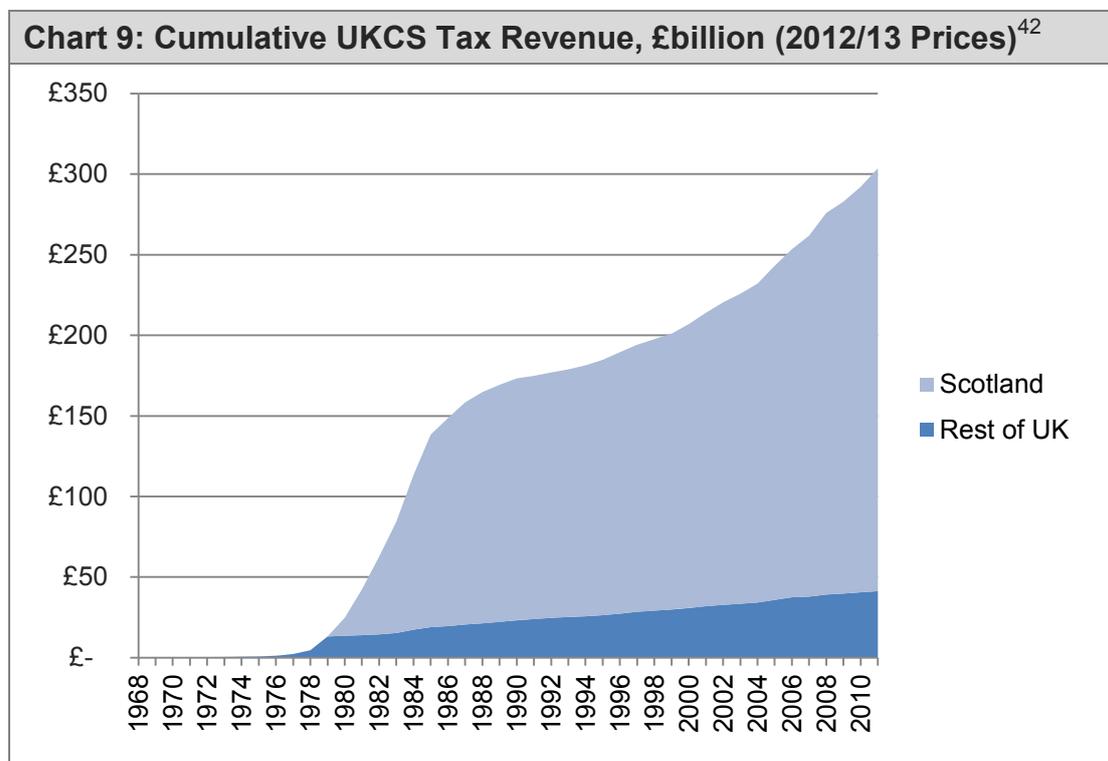
A Prosperous Future

5.3. The oil and gas sector has a vibrant future ahead of it, and Scotland's Oil and Gas Strategy underpins this government's long-term approach in support of the sector.

5.4. Chapter 2 provided a comprehensive overview of the importance of the North Sea oil and gas sector and its contribution to the Scottish economy. The following

section outlines how this sector will continue to be a major source of income to an independent Scotland for decades to come. Oil and gas production in Scottish waters generated £10.6 billion in tax revenue during 2011-12, equivalent to £2,000 per person in Scotland. This is a significant national asset which must, and will be, claimed for the benefit of the Scottish people.

5.5. Since 1976 the UK Government has raised approximately £180 billion in direct tax revenue from oil and gas production. Adjusted for inflation, this is equivalent to approximately £300 billion at 2012-13 prices. These revenues have gone directly into the UK Exchequer, with successive governments failing to invest the windfall for the long-term.



5.6. To date, around 90% of total UKCS tax revenue has been generated in Scottish waters. Annual tax revenues from oil and gas production in Scottish waters have averaged over £1,500 per person since 1980.

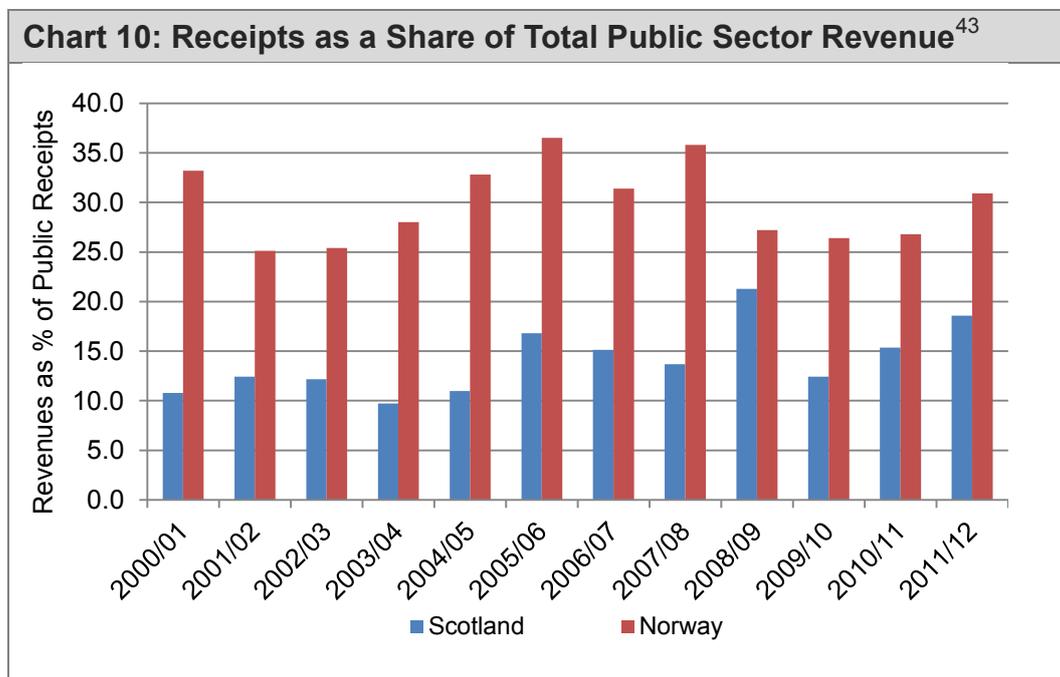
5.7. A detailed account of the outlook for the oil and gas sector was set out in the Scottish Government Oil and Gas Analytical Bulletin, published on 11 March 2013. It

⁴² Note, at present, data for Scotland is only available from 1980 onwards.

found that given recent trends in investment and prices, the oil and gas industry could generate between £41 and £57 billion in tax revenue over the six years to 2017-18. This highlights that North Sea revenues are expected to remain significant in the years ahead.

5.8. Based on the evidence above, it is clear that the oil and gas sector is a major asset to Scotland. However, whilst oil and gas receipts represent an important source of Scottish tax revenue, they account for a smaller proportion of revenue than in some other major oil and gas producing countries.

5.9. As an illustration, Chart 10 shows the proportion of total public sector revenue attributable to oil and gas production in Scotland and Norway, the largest oil and gas producer in Europe. As the chart demonstrates, oil and gas production accounts for a higher proportion of public sector receipts in Norway compared to Scotland. In Norway, oil and gas production accounted for an average of 30% of public sector receipts between 2000-01 and 2011-12. In comparison, over the same period they accounted for around 15% in Scotland.



⁴³ <http://www.scotland.gov.uk/Publications/2013/06/9241/4#chart3.6>

5.10. Government has a critical role to play in improving the conditions for the industry to thrive. Within this context, the Scottish Government is committed to delivering a safe and productive environment which will:

- continue to enhance the first class health and safety standards already in existence;
- maximise economic recovery rates;
- improve production efficiency;
- drive forward further exploration in Scotland's waters;
- improve asset integrity of our critical infrastructure; and
- incentivise the industry to develop enhanced oil recovery techniques.

5.11. Safety in the oil and gas industry is of paramount importance and has improved massively since the recommendations made in the Cullen report into the Piper Alpha disaster. The Scottish Government will work with all interested parties to ensure a rigorous, renewed and well-funded North Sea safety regime. As a starting point there will be a presumption in favour of adopting all other existing aspects of the world leading health and safety standards. This is not just a question of ensuring a rigorous safety regime and renewing infrastructure, but also ensuring we have a properly-resourced coastguard on call to save lives and making certain our public services are funded properly. See Box 1.

Box 1: North Sea Health & Safety

Health and safety continues to be the highest priority for the offshore oil and gas industry. Safety in the North Sea has improved massively since the recommendations of the Cullen Inquiry were published in 1990. All Lord Cullen's 106 broad-ranging recommendations were accepted by the industry – with the separation in the regulatory function between licensing and safety a major enhancement. The Scottish Government will maintain this separation.

Step Change in Safety was founded in 1997 by the oil and gas industry trade associations to continue the post-Piper Alpha improvements, further enhancing safety and delivering greater workforce involvement. Membership now includes the unions and the UK Health and Safety Executive (HSE).

HSE regulates the risk to health and safety arising from activities on the UK continental shelf. *Step Change in Safety's* current five year strategic plan sets out how it will make the North Sea the safest oil and gas province in the world.

Future Challenges and Opportunities

Exploration

5.12. Over the past ten years, it is estimated that around 2.5 billion boe have been discovered through exploration activity, with significant volumes of oil and gas reserves remaining in the North Sea. Indeed, on top of known reserves, Oil and Gas UK believes that between three and nine billion boe have yet to be discovered⁴⁴. Therefore, in order fully realise the potential benefits from the North Sea, it is essential that every encouragement is given to incentivise further exploration.

Infrastructure

5.13. Existing infrastructure is a key reason that future North Sea opportunities continue to be viable. However, in order to realise the opportunities of maximising existing recovery and supporting further exploration, it is imperative that investment is secured to maintain and enhance vital infrastructure.

5.14. As the largest and lower-risk field prospects have already been targeted, a proportion of the remaining resources are located in smaller and more challenging environments. Many new extraction technologies rely on the maintenance of existing

⁴⁴ Oil and Gas UK 2012 Economic Report, page 14

installations as a 'hub' for new fields in the vicinity. This is critical since it is these structures which enable smaller discoveries to reach commercialisation. Many of these developments would not be large enough to support infrastructure in their own right.

Access to Finance and Barriers to Entry

5.15. In order to realise the benefits from either smaller or more mature fields, it is vital not only that the extensive network of infrastructure in the North Sea is sustained, but that every encouragement is given to attract new entrants.

5.16. Access to finance for new entrants will also be a key issue if we are to increase exploration of harder and more difficult to access fields. With suitable access to capital, these companies will play an important role, tackling specific and smaller-scale fields and contributing to the overall value of the industry and infrastructure.

5.17. The financial sector and the oil and gas industry should be working in partnership, raising awareness in the industry of the different types of incentives available to ensure that operators continue to explore within the UKCS.

Innovation

5.18. Improving extraction rates rests on the implementation and deployment of new technologies at scale. For example, maximising the extraction of oil and gas from the North Sea will require a variety of enhanced oil recovery techniques.

5.19. Through the development and deployment of innovative techniques, it is estimated that Improved Oil Recovery (IOR) can add between one and four billion boe, whereas Enhanced Oil Recovery (EOR) can add up to six billion boe⁴⁵. With effective use of these techniques, as well as further innovative developments, the total recoverable resource could be substantially higher than currently estimated.

5.20. Scottish Enterprise estimates that the highest rates of EOR deployment offshore would bring £2.7 billion in Gross Value Added (GVA) to the Scottish economy,

⁴⁵ Oil and Gas UK 2012 Economic Report, page 13

relative to a scenario where the oilfields are decommissioned⁴⁶. In addition, the research identified that the supply chain opportunities for Scottish businesses from the projects initiated by the early 2030s would boost employment and provide opportunities for global exports of the skills, knowledge and techniques developed in Scotland.

Box 2: Potential of Carbon, Capture and Storage (CCS)

Scotland has many natural competitive advantages for the development of the Central North Sea as a storage hub for Carbon dioxide. For example, there is potential to make best use of the existing infrastructure from the oil and gas industry, there are clustering opportunities available within the central belt, and there is also the potential for linking CCS to enhanced oil recovery, as CO₂ is widely regarded as an efficient agent for extracting hard-to-extract oil reserves.

The potential benefits for Scotland in using captured CO₂ for enhanced oil recovery are substantial. A recent report by Scottish Enterprise⁴⁷ outlined that through the development and deployment of new technology there is the potential to unlock three billion barrels of hard-to-reach oil from the North Sea.

Another factor of equally high importance is the fact that EOR could provide a means of reducing the cost of CCS, which would help accelerate the commercial deployment of this important technology. CCS deployment in our industrial and power sectors is a key technique which could provide the reliable source of CO₂ required to make EOR in the North Sea a commercial reality.

Scotland currently has one project in the DECC run CCS Commercialisation Programme Competition – the Peterhead CCS Project. A second Scottish project – the Captain Clean Energy Project – has been placed on a ‘reserve bidder’ list. Both projects are of prime importance to Scotland, not least given the fact that both have EOR as a central element of the project.

However, in order for a vibrant CCS industry to be developed in Scotland that can provide the volumes of CO₂ required for commercial CO₂-EOR, both Scottish projects and, indeed, a stream of projects would be required across these islands. The Scottish Government will continue to push for a partnership of industry and government to see our CCS and enhanced oil recovery ambitions become a reality.

⁴⁶ [http://www.scottish-enterprise.com/~media/SE/Resources/Documents/DEF/Economic Potential of CO₂ EOR in Scotland.pdf](http://www.scottish-enterprise.com/~media/SE/Resources/Documents/DEF/Economic_Potential_of_CO2_EOR_in_Scotland.pdf)

⁴⁷ Economic impacts of CO₂-enhanced oil recovery for Scotland, Scottish Enterprise, July 2012

Unconventional Oil and Gas

5.21. New global opportunities have emerged around the recovery of unconventional oil and gas. Given the skills, technology and expertise which resides in Scottish companies, the development and recovery of these resources could potentially offer significant benefits for the Scottish oil and gas supply-chain. However, it will also be important to develop an improved insight into the wider economic impacts of global unconventional reserves on conventional markets.

Summary

5.22. Given this range of issues, a key long-term challenge will be to ensure the longevity of the North Sea production for decades to come. The latest Oil and Gas UK Activity report points to a recent rebound in investment levels with new developments and brownfield redevelopments coming on-stream, which will boost production in the coming years. At this crucial time, what investors need above all from governments, is long-term commitment and clarity of vision.

5.23. Investment is key to the future of the offshore industry, and the Scottish Government recognises the need for stability and long-term planning, particularly in areas such as:

- the fiscal regime; and
- the licensing and regulatory framework.

5.24. Furthermore a key challenge will be the increasing number of structures that potentially face the threat of decommissioning due to declining output and revenues. This is why it will be essential that the policy framework in Scotland supports production – avoiding premature cessation of production – and also mobilises the industry in Scotland to be a key player in the global opportunities from decommissioning activity. Decommissioning is explored further in paragraphs 5.49–5.65.

The Current UKCS Fiscal Regime

5.25. There are three main elements to the North Sea tax regime; Petroleum Revenue Tax, Corporation Tax and the Supplementary Charge.

- Petroleum Revenue Tax is charged at 50% on profits from some fields given development approval prior to March 1993. It is levied on the adjusted profits for the field, rather than the company.
- Corporation Tax is levied at 30% of profits net of any petroleum revenue tax payments. Oil and gas production profits are ring fenced for corporation tax purposes. As such, companies cannot offset losses incurred through other business activities against their ring fence tax liability.
- The Supplementary Charge acts as an effective increase in the rate of corporation tax⁴⁸. It is currently set at 32%.

5.26. The overall tax rate faced by North Sea operators is 81% for fields given approval prior to March 1993, and 62% for fields given approval after this date.

5.27. The oil and gas sector has numerous unique characteristics which differentiate it from other sectors in the economy and this has implications for policy and taxation. These include:

- Exploration periods with long time-lags and significant up-front costs;
- Highly capital-intensive development requirements;
- Significant geological, technical and economic risks;
- Sophisticated business structures and specialised technology; and
- High costs of decommissioning.

5.28. The North Sea fiscal regime has to reflect these unique characteristics. Expenditure and field allowances are an example of policy levers which are designed to overcome some of the specific investment challenges this sector faces.

5.29. These allowances are provided to support the development of commercially marginal fields which meet certain criteria by reducing the amount of profits on which the Supplementary Charge is levied. Box 3 provides some examples of current field allowances.

⁴⁸ Note - Loan interest is not deductible for Supplementary Charge.

Box 3: UKCS Field Allowances

Some allowances available on the UKCS include⁴⁹:

- **Small Field Allowance:** Originally introduced at Budget 2009, this was increased at Budget 2012 from £75 million to £150 million. Fields with up to 6.25 million tonnes are able to receive the full allowance (tapered to zero at 7 million tonnes, compared with 3.5 million tonnes previously).
- **Large Deep-water developments:** An allowance worth £3 billion for particularly deep fields (>1000 meters) with sizeable reserves (minimum reserves 25 million tonnes). Targeted at developments in the West of Shetland.
- **Shallow-water gas field developments:** a £500 million field allowance for large shallow-water gas fields. Like the deep-water allowance, this uses the tax regime to address the high up-front capital costs to develop such fields. To qualify fields must have a water depth less than 30 meters and reserves must be more than 10 bcm and less than 20 bcm.
- **Brown Field Allowance:** On 7 September 2012, the UK Government announced that a new allowance to unlock marginal investment in existing fields would be introduced. This allowance differs from the others as it targets fields that are already in production. The maximum allowance is £250 million in non PRT-paying fields and £500 million in PRT-paying fields.⁵⁰
- Field Allowances are also available for:
 - Ultra heavy oil fields;
 - Ultra high pressure / high temperature (HP/HT) fields; and
 - Remote, deep-water gas fields.
- **Oil allowance** - to encourage recovery from challenging assets that would otherwise remain undeveloped, some fields which received their original production consent before March 1993 are granted an 'Oil Allowance'. This provides fields that would usually be liable to PRT a certain allocation of hydrocarbons that can be recovered before PRT is payable.

⁴⁹ Note – field allowances must be spread over 5 years.

⁵⁰

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/71239/BFA_guide_v6b.pdf

5.30. Another policy that is designed to address the unique characteristics of the oil and gas sector is decommissioning tax relief. This is where companies are able to claim tax relief against the cost of decommissioning North Sea facilities. Any losses made in decommissioning can also be carried back for a number of years and offset against previous tax payments. Decommissioning relief for Petroleum Revenue Tax and Corporation Tax are provided at the full rate of 50% and 30% respectively. However, decommissioning relief provided for the supplementary charge is restricted to 20%, and not at the full 32% rate.

5.31. As outlined above, the offshore oil and gas sector has a number of characteristics which differentiate it from other sectors of the economy. This includes the significant upfront costs associated with new investments and the long lead time for investments to move into profit. These characteristics mean that operators place a premium on operating under a stable and predictable tax regime so that the post-tax returns from investments can be appropriately evaluated.

5.32. In recent years the UK North Sea fiscal regime has not provided such certainty. Over the past decade there have been 16 substantive changes to the fiscal regime, including the introduction and two subsequent increases of the supplementary charge and restrictions on tax relief for decommissioning costs.⁵¹

5.33. Research from Oil and Gas UK demonstrated that the Budget 2011 increase in the Supplementary Charge damaged investor confidence. The business confidence index fell by 25 points on a 100 point scale – this was the greatest quarter on quarter decrease since the index began.⁵² There was also a direct impact on the competitiveness of the UKCS, it was estimated that around 25 new project developments were sufficiently affected by this policy and that their probability of proceeding was reduced to less than 50% and there were also a number of existing fields, where decommissioning could potentially have been accelerated by between one and five years.⁵³ As a result of the negative impact that these changes had on the sector, the UK Government subsequently introduced additional reforms and new field allowances to boost investment.

⁵¹ <http://www.oilandgasuk.co.uk/templates/asset-relay.cfm?frmAssetFileID=1296>

⁵² <http://www.oilandgasuk.co.uk/cmsfiles/modules/publications/pdfs/EC033.pdf>

⁵³ Oil and Gas UK - 2011 Oil and Gas UK Activity Survey, May 2011 Update

5.34. In general, the effect of frequent changes, and, in some cases, a lack of prior consultation, has earned the UK a reputation for fiscal instability, damaging the competitiveness of the province and inhibiting new investment. This is hugely damaging to the Scottish economy. It has decreased the life-span of some fields and limited the recovery of future reserves.

Fiscal Regime in an Independent Scotland

5.35. The Scottish Government believes that there should be three overarching principles which underpin the oil and gas fiscal regime under independence:

- i. The fiscal regime must support and incentivise production.
- ii. There should be long-term stability and certainty in the fiscal and regulatory regimes, including the commitment to formal consultation prior to future reforms, and specific clarity on the fiscal treatment of decommissioning costs.
- iii. There are efficient fiscal incentives to maximise economic recovery rates.

5.36. The following points provide an overview of the framework for the Scottish Government's approach to the fiscal regime in an independent Scotland:

- The need for stability will underpin the taxation and regulatory regime for oil and gas production in an independent Scotland.
- There will be a presumption in favour of adopting existing aspects of the North Sea fiscal regime as it is currently administered to support stability in the province.
- An independent Scotland will deliver a tax regime that *supports* production, in line with the Scottish Oil and Gas Strategy's central objective of maximising economic recovery rates.
- Scottish Ministers are clear that there are no plans to increase the overall tax burden on the industry and that no changes will be made to the fiscal regime without consultation. This will provide North Sea operators and investors with certainty about the fiscal regime they will face, whilst ensuring that the industry continues to make a fair contribution to Scotland's public finances.

- Legislation issued by the European Union also affects the UK oil and gas industry. As a member of the EU, an independent Scotland will seek to ensure that any future European legislation is proportionate and reflective of the unique nature of the offshore oil and gas industry.
- There will be a step-change in the manner in which the government engages with industry, reinforcing Scotland's reputation as the best place to do business.
- The Scottish Government will consider options to deliver this engagement framework and guarantee predictability. These could include introducing a statutory procedure for a mandatory consultation period with the industry before making any future changes to the North Sea fiscal regime. The Scottish Government will also consider options to provide greater contractual certainty over taxation policy in the Scottish portion of the North Sea.
- The Scottish Government is willing to consider further evidence around other types of marginal projects that might require additional fiscal support in the future and would work with the industry to ensure that the range of field allowances are fit for purpose.
- Encouraging exploration activity will be a key objective of the fiscal regime. The Scottish Government wishes to explore how exploration could be best supported in an independent Scotland. To provide context, an example of how exploration is incentivised in Norway is set out in Box 4.
- Finally, the Scottish Government will provide the tax relief associated with decommissioning North Sea facilities in Scottish waters. The Scottish Government welcomes the long-term certainty provided by the introduction of Decommissioning Relief Deeds and will provide similar contractual certainty for decommissioning relief with respect to production undertaken post-independence.

Box 4: Incentivising Exploration in Norway

Exploration is essential to extending the life of production on the UKCS, but it has declined in recent years. Between 2005 and 2008, 33 wells were drilled per year on average in the North Sea. However, only 21 wells were drilled per year on average between 2009 and 2012. While there is evidence of a rebound in exploration activity, ensuring that the correct fiscal incentives are in place to maximise exploration is a priority. In this regard, it is helpful to consider the differences between the UK and the Norwegian tax regime, noting that there are a range of differences including the headline tax rates and field allowances available.

Under the current North Sea Fiscal Regime, any costs a company incurs whilst exploring for oil and gas can be offset against profits generated elsewhere in the North Sea. Companies can also offset losses against any profits made in the North Sea in the previous year and receive a tax refund. This means that incumbent operators can claim full relief on their exploration expenditure in the year it occurs, regardless of the outcome of their drilling. However, new entrants or smaller companies may not have sufficient taxable profits to offset this exploration expenditure against. They have the option to carry forward the losses to future years and offset them against any future profits which are generated. In doing so, they can claim Ring Fence Expenditure Supplement (RFES) which increases the value of the loss being carried forward by 10% a year for a maximum of six years. However in the short run they must incur the full cost themselves, and if a company's exploration does not produce any viable wells it must incur the full cost of its exploration activity. This is only one aspect of the complex taxation regime on the UKCS, which includes a range of field allowances that will influence the viability of E&A activity and investment over the lifecycle of the project.

As a comparison it is helpful to consider the Norwegian approach. The Norwegian Ministry of Finance concluded in the early 2000s that the existing tax system in Norway favoured well established companies with producing fields and taxable income against which to offset exploration costs. In response, new legislation was introduced in 2005 to allow companies, instead of carrying forward deficits with interest, as is the case in the North Sea, to seek reimbursement of the tax value of exploration costs. This means that companies in and outside tax positions are treated equally as regards exploration costs. This makes it easier for companies that are not in a tax position to finance exploration activity. This was one of a series of changes introduced by the Norwegian Ministry of Finance that were designed to increase competition on the NCS by reducing the entry barriers and reforming the licencing process. Due in part to this combination of reforms, there has been a substantial increase in the number of exploration licenses awarded in Norway, and the number of new entrants into the industry. During the period 2000 to 2011, 241 production licenses were awarded to new players on the NCS, of which 67% of these are operated by new companies. New players now possess about half of all areas covered by licenses in Norway.⁵⁴

⁵⁴ http://www.regjeringen.no/pages/35278666/PDFS/STM201020110028000EN_PDFS.pdf (p.95)

Providing Long Term Fiscal Stability

5.37. Scottish Ministers are clear that the need for long term stability should underpin the taxation and regulation of oil and gas production in an independent Scotland. This will be important for all future investment decisions in Scotland irrespective of the sector. However, given the significant up-front costs and long lead times associated with oil and gas projects the Scottish Government is aware of the need to provide investors with an early outline of the fiscal and regulatory regime which will operate in an independent Scotland.

5.38. As part of this outline, the Scottish Government has considered examples of international best practice. Box 5 provides a case study with a brief assessment of some of the features of the Dutch fiscal regime for oil and gas, which is considered by investors to offer a more stable investment environment.

Box 5: The Netherlands Fiscal Regime

Netherlands is cited as an example of a stable fiscal regime for the extraction and production of oil and gas⁵⁵. Some key aspects of the Dutch system are as follows.

Fiscal Regime

Oil and gas extraction and production (E&P) activities in the Netherlands are taxed in accordance with the Mining Act of 1 January 2003⁵⁶. The fiscal regime consists of a combination of the following:

- a corporate income tax (CIT) - for 2012, the statutory CIT rate is 25%;
- a state profit share (SPS) levy - the Mining Act provides for an SPS levy of 50% on income resulting from mineral production activities; and
- a surface rental tax.

These payments are calculated in combination, the SPS is deductible from the CIT and the CIT is allowed as a credit against SPS. The total effective rate is currently 50%, however, the average percentage actually paid is lower because of the 10% cost uplift that can be applied when calculating SPS.

⁵⁵ <http://www.oilandgasuk.co.uk/cmsfiles/modules/publications/pdfs/EC024.pdf>

⁵⁶ http://www.nlog.nl/resources/Legislation/Mining_Act_English_Translation_2_jan_2012.pdf

Consultation with Industry

The Dutch government is pursuing a policy to “*position the Netherlands as the Northwest European Gas Hub*” and to promote gas-related investments⁵⁷. As part of this process the Dutch government has established a robust framework for engagement with the industry. A Gas Hub Consultative Platform was established, which provides a forum for the Dutch government and the gas industry to align and discuss new initiatives and strategic issues. One of the working groups in this platform is responsible for investigating possible opportunities for improving the E&P investment climate. This working group, involves cooperation between EBN⁵⁸, the industry, TNO and the Ministry of Economic Affairs. The platform is currently examining further options to improve the E&P tax system.

This framework demonstrates how a fiscal authority can engage with the industry and other stakeholders to deliver a coherent and stable policy environment and fiscal regime.

Other tax measures and initiatives

Companies are also given assurance that financial conditions that are laid down in Royal Decrees for offshore licences – and attached to onshore concessions – will remain unchanged during the lifetime of a production licence⁵⁹. In 2003 these financial conditions were incorporated into the Mining Act. This reduces uncertainty and risk and can make investment more attractive.

5.39. To deliver long-term stability, the Scottish Government will deliver a step-change in the way government engages with industry to promote a stable fiscal regime; working with industry to form a new partnership.

5.40. This would help to establish and maintain trust and confidence between industry and the government, and will enhance the credibility of any future tax changes. The Scottish Government is also willing to consider further evidence around other types of marginal projects that might require additional fiscal support in the future and would work with the industry to ensure that the range of field allowances are fit for purpose.

⁵⁷ http://www.ebn.nl/Actueel/Documents/ebn_focus_on_dutch_gas_2012.pdf

⁵⁸ EBN is the Dutch State owned, non-operating oil and gas exploration and production company. EBN holds a central position in the Dutch gas industry, participating on behalf of the Dutch State in exploration, production, storage and sale of Dutch oil and natural gas.

⁵⁹ http://www.clingendael.nl/publications/2008/20080600_ciep_briefingpaper_upstream.pdf

5.41. This approach will strengthen the process of engagement between government and the industry. It will also provide a credible commitment to fiscal stability in the long-term, which will extend beyond the duration of the current government and parliament.

The Licensing and Regulatory Regime

5.42. A range of rules comprise the licensing and regulation regime for exploration and extraction in the North Sea – and the related safety and environmental issues. Offshore oil and gas regulation is spread over three authorities: the Health and Safety Executive (HSE), Department of Energy and Climate Change (DECC), and the Maritime and Coastal Agency (MCA).

5.43. The responsibility for oil and gas operations on the North Sea is carried out under the terms of petroleum licenses granted by DECC. DECC is responsible for awarding licences to oil companies to produce hydrocarbons from specific areas and regulates how much they can produce over what period.

5.44. The Petroleum Act (1998) bestows all rights to UK's petroleum resources within Crown land. The UK Government is then able to grant licences to operators that confer exclusive rights to 'search and bore for and get' petroleum. Each of these provides certain rights over a limited area and for a limited time period.

5.45. DECC generally holds both onshore and offshore licensing rounds on a yearly basis, with the last round (27th) launched in February 2012, with an announcement in October 2012 that initial offers for 167 production licenses had been made.

5.46. The UK Government has recently announced that Sir Ian Wood will undertake a review of offshore oil and gas recovery. The review will examine a range of issues including; declining exploration and production rates, ageing infrastructure and declining production efficiency, and the risk of premature decommissioning of key infrastructure. As set out in the 'Future Challenges and Opportunities' section of this paper, the Scottish Government is aware that these are key issues for the industry and will continue to input into this work.

5.47. Despite these challenges, in general, the current licensing and regulatory regimes in operation on the North Sea work well and the intention of the Scottish Government is to adopt their current operation.

- Under the principle of ‘continuity of existing law’, existing energy licences will continue to be in force in an independent Scotland.
- The Scottish Government will honour all licences granted by the UK Government in areas of the North Sea which form Scotland’s geographical waters after independence.
- There will be a presumption in favour of adopting all other existing aspects of the offshore regulatory regime, in particular the world leading health and safety standards, as it is currently administered.

5.48. Box 6 highlights the oil and gas policy and regulatory resources in Scotland.

Box 6: Oil and Gas Policy and Regulatory Resources

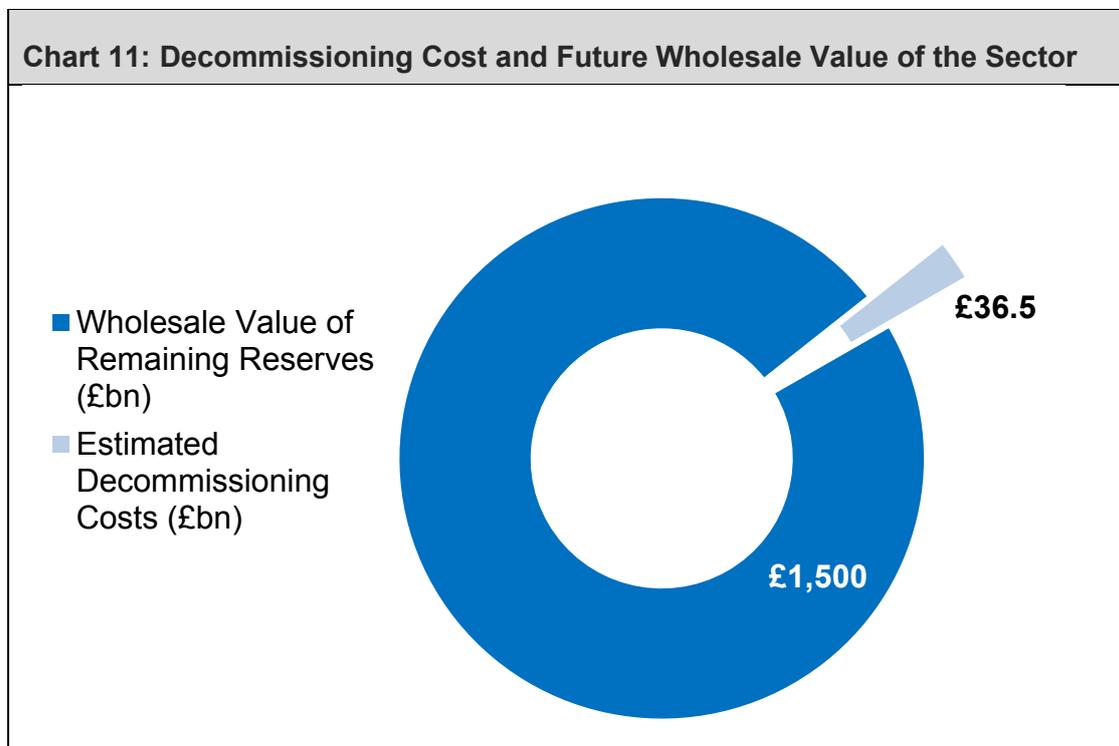
The Scottish Government is examining the implications of the transfer of legal and regulatory oversight of the North Sea to Scotland.

These could include the formation of a Scottish oil and gas office in Aberdeen, based on the government functions that are already located in Scotland. There are already around 200 government staff based in Scotland, including 106 Scottish Government staff working on energy policy, and a significant number based in Aberdeen. The Scottish Government has built strong relationships with the industry and believes that the physical proximity of civil servants working with the industry would further enhance these relationships.

Decommissioning

5.49. Decommissioning in the North Sea oil and gas sector presents a vast opportunity for the Scottish economy. In order to reflect the challenges of decommissioning, the Scottish Government is committed to ensuring the highest standards of health and safety. This commitment will be reflected in funding for a high-quality coastguard service, both in terms of infrastructure and manpower.

5.50. The estimated cost of decommissioning will be £36.7 billion (2012 prices)⁶⁰ over the period to 2050. HMRC estimates that the cost to the government in relief against Petroleum Revenue Tax and Corporation Tax will be around £20 billion (2011 prices).⁶¹ However, decommissioning costs should be seen in the context of the vast reserves estimated to remain in the North Sea. There are estimated to be up to 24 billion barrels of oil remaining with a potential wholesale value of £1.5 trillion. To extract these oil and gas resources the industry will face a range of exploration, development, and operating costs. However, to put future decommissioning costs in context, Chart 11 illustrates that the cost is equivalent to less than 2.5% of the wholesale value of reserves.



5.51. Furthermore, in the short-term decommissioning expenditure is relatively small in comparison to forecast tax revenue. For example, Oil and Gas UK estimates that over the next five years decommissioning expenditure could average between £800 million and £1 billion per year.

⁶⁰ Alex Kemp, 'North Sea Oil and Gas'. in A. Goudie, Scotland's Future: The Economics of Constitutional Change. Dundee University Press, 2013, page 255.

⁶¹ HMRC Annual Report and Accounts 2011/12, <http://www.hmrc.gov.uk/about/annual-report-accounts-1112.pdf>,

5.52. There will also be wider spill-over effects associated with the innovation and development of products and processes required for successful decommissioning; strengthening Scotland's comparative advantage and position as world-leader in this sector. The North Sea oil and gas industry has the potential to become an international leader for decommissioning activity and expertise. The UKCS is not the only basin that requires significant investment in decommissioning activity, with considerable expenditure required on the Gulf of Mexico, west of Africa, and the South China Sea. The skills and experience gained through decommissioning projects in the North Sea could result in a demand for the export of these services in decades to come.

5.53. Oil and Gas UK estimates that around 470 installations, 10,000km of pipelines, 15 onshore terminals and 5,000 wells will eventually have to be decommissioned on the UKCS⁶². In some cases, the structures have been operating for forty years. A challenge remains around improving asset integrity and extending the life-cycle of many of these structures, which would be essential to maximise the economic recovery of existing resources.

5.54. Nonetheless, it is anticipated that many of these structures are coming to the end of their lifespan, with in some cases, structures becoming redundant and required to be decommissioned, and government, in collaboration with industry needs to develop solutions.

5.55. A major issue that requires government and industry collaboration is the avoidance of premature Cessation of Production (COP). This is closely related to the overarching principle set out earlier in this paper to maximise economic recovery of oil and gas fields. This is a key issue that requires industry and government to work together to deliver optimal results. For example, the introduction of the brownfield allowance on the UKCS is an important policy development that will unlock marginal production from existing fields.

5.56. Another issue where the government may have a key role is to support and encourage coordination of decommissioning activity within the industry. This could

⁶² http://www.oilandgasuk.co.uk/2012economic_report.cfm

benefit from economies of scale and synergies through collaboration between companies. This could improve the efficiency of decommissioning and reduce the costs. The Scottish Government is keen to consider options to promote the decommissioning of projects in tandem - either at the same time - or as part of coordinated projects.

5.57. Within this context, the Scottish Government is committed to providing certainty and stability on the long term treatment of decommissioning relief, and will continue to engage with the industry on future reforms. We believe that a transparent and consistent approach will result increased stimulation in the mergers and acquisitions market for mature fields, which will help to maximise recoverable reserves and extend the life of infrastructure hubs.

5.58. This is critical to delivering a dynamic and forward looking industry. We believe that this is of critical importance to ensure the long term viability of North Sea oil and gas production.

Decommissioning Tax Relief

5.59. At present, North Sea operators are able to claim tax relief against the cost of decommissioning offshore facilities at the point when the decommissioning occurs.

5.60. The Scottish Government is committed to providing certainty and stability on the long-term treatment of decommissioning relief, and will continue to engage with the industry on future reforms.

5.61. In order to provide long-term certainty for the industry the Scottish Government will assume responsibility for meeting all existing and future obligations stemming from the tax relief associated with decommissioning facilities in Scottish waters and will guarantee to underwrite these costs. Successive UK Governments have accrued £300 billion in tax receipts from oil and gas production in the North Sea, therefore the Scottish Government will seek a contribution to this cost from the UK Government. This will be the subject of a negotiation between the two governments, however, the outcome of these negotiations will have no impact on the value of relief received by operators.

5.62. Post-independence decommissioning relief will be provided in the manner, and at the rate currently provided through the current North Sea fiscal regime.

5.63. In March, the UK Government introduced the Finance Bill 2013, which will give the UK Government authority to sign contracts with companies operating in the North Sea to provide assurance on the relief that they will receive when decommissioning an asset. The UK Government expects to sign contracts (Decommissioning Relief Deeds) with industry later this year.

5.64. Scottish Ministers have repeatedly called on the UK Government to provide long-term certainty in the provision of decommissioning relief, and the measures set out in the Finance Bill 2013 are welcome progress on this issue. The Scottish Government recognises the importance of ensuring that the Decommissioning Relief Deed effectively reduces the costs of the provision of financial security from a pre-tax to post-tax basis. The reduced costs should facilitate the easier transfer of mature assets to those companies wishing to invest in incremental projects. The Scottish Government will provide similar contractual certainty for decommissioning relief with respect to production undertaken post-independence.

5.65. Providing decommissioning stability is critical to delivering a dynamic and forward looking industry. We believe that this is of critical importance to ensure the long term viability of North Sea oil and gas production.

UK Government use of Oil Revenues

5.66. Unlike other sources of a nation's wealth, oil and gas reserves are non-renewable. By their very nature, once a barrel of oil or cubic metre of gas has been produced, they cannot be re-produced in the future. To a certain extent, current production levels can be maintained by exploring for, discovering and developing new reserves, but ultimately, with continued production, a point will be reached when all oil and gas reserves have been exhausted.

5.67. Key principles should be observed when determining how tax receipts generated from the production of oil and gas should be used. For example, the creation of an oil fund should be encouraged to transfer a share of the wealth

generated from oil and gas production to a separate fiscal account (i.e. an oil fund) where it can be saved and invested over the long-term for future generations rather than consumed immediately.

5.68. The concept of an oil fund is not new or unique to Scotland. Indeed the UK sits as an outlier in this respect. Virtually all countries with major oil and gas reserves have already created oil funds, into which they have invested a share of the returns from their oil and gas reserves, as outlined in Table 1 below. It is also interesting to note that many new oil funds have been established in recent years. Of the 36 commodity based funds monitored by the Sovereign Wealth Fund Institute, 23 were created post-2000.

Table 1: Sovereign Wealth Top-10 Rankings⁶³

Country	Sovereign Wealth Fund Name	Assets (\$Billion)	Inception
Norway	Government Pension Fund Global (NPFGB)	715.9	1990*
UAE – Abu Dhabi	Abu Dhabi Investment Authority	627.0	1976
Saudi Arabia	SAMA Foreign Holdings	532.8	n/a
Kuwait	Kuwait Investment Authority	342.0	1953
Russia	National Welfare Fund	175.5	2008
Qatar	Qatar Investment Authority	115.0	2005
Algeria	Revenue Regulation Fund	77.2	2000
UAE – Dubai	Investment Corporation of Dubai	70.0	2006
UAE – Abu Dhabi	International Petroleum Investment Company	65.3	1984
Libya	Libyan Investment Authority	65.0	2006

* First payment into the NPFGB was made in 1996

5.69. The benefits of an oil fund are starkly illustrated when the different approaches to managing oil wealth adopted by the UK and Norway are compared. Norway established its oil fund in 1990, although it did not start transferring money into the fund until 1996, when an initial transfer of 2 billion NOK (£220 million) was made. The fund is now worth £450 billion, equivalent to £90,000 per person in

⁶³ <http://www.swfinstitute.org/fund-rankings/>

Norway, and is the largest Sovereign Wealth Fund in the world. The fund is forecast to grow further and is expected to reach \$1 trillion by the end of the decade.⁶⁴

5.70. In contrast, successive UK Governments have used Scotland's oil wealth to fund government spending across the UK. One long term implication of this approach has been that whilst the IMF estimates that UK general government net debt now stands at around 75% of GDP, Norway has accumulated public sector net assets equal to 168% of GDP.

Box 7: The UK Government's Missed Opportunity

The decision by successive UK governments to spend all of the oil revenues rather than investing some of them, has resulted in a lost opportunity for Scotland.

Analysis by the Fiscal Commission Working Group concluded that if the Scottish Government had the opportunity to invest the net fiscal surpluses achieved since 1980, it could have accumulated assets equivalent to between 62% and 84% of GDP.⁶⁵ In cash terms, this would be equivalent to between £17,000 and £23,000 per person in Scotland.

5.71. An independent Scotland would use its oil and gas reserves far more responsibly. The Scottish Government would establish an oil fund, once fiscal conditions allow. As outlined in Box 8, the Fiscal Commission Working Group has also recommended that there would be merit in establishing a stabilisation fund in the short term. The development of an oil fund for Scotland would promote economic responsibility and stability and would ensure that the tax revenue accrued from the remaining 24 billion barrels of oil in the North Sea provides a long term benefit to Scotland's population.

5.72. The Fiscal Commission Working Group was established by the Scottish Government to oversee the technical work being taken forward by the Scottish Government to design a macroeconomic framework for Scotland post-independence. The on-going work of this group is detailed in Box 8.

⁶⁴ <http://www.nbim.no/en/Investments/Market-Value/forecast-for-the-size-of-thefund/>

⁶⁵ Fiscal Commission Working Group, Box 8.03

Box 8: Fiscal Commission Working Group

The Working Group's first report highlighted the importance of oil and gas revenues and set out a number of recommendations and proposals in relation to a Scottish oil fund⁶⁶.

"In principle, the Working Group sees clear merit in investing at least a proportion of the receipts from North Sea revenues into an Oil Fund to invest for future generations. This would ensure that a share of the wealth generated from oil production is transferred to a separate fiscal account where it can be saved and invested over the long-term."

Fiscal Commission Working Group, First Report, Paragraph 8.60

The Working Group also recommended that the Scottish Government should seek, in principle, to establish a stabilisation fund to help manage its natural resources and to enhance future economic resilience. In the short-run, such a mechanism could be established even if there is borrowing. The fund could be used to smooth expenditure and borrowing during economic shocks.

"Given the importance of oil and gas revenues, a stability fund to manage oil revenues should be established, with the government planning budgets on a cautious estimate for revenues and then investing any upside variability in a fund to guard against future unexpected falls in revenue or asymmetric shocks."

Fiscal Commission Working Group, First Report, Box 9.01

Drawing on Scotland's financial strengths relative to the UK, such an approach would offer a credible way to ensure predictability in the budget process and in the setting of policies and spending programmes.

5.73. The Fiscal Commission Working Group will continue to build on the work undertaken in its first report by setting out more detailed analysis and recommendations on the design of a robust fiscal framework. This will focus on key aspects, such as options to establish fiscal rules and a stabilisation fund for Scotland.

⁶⁶ <http://www.scotland.gov.uk/Publications/2013/02/3017>

Conclusions

5.74. A key long-term challenge for the Scottish Government is creating the conditions that allow North Sea production to thrive for decades to come.

5.75. Through the work of the Scottish Oil and Gas Industry Leadership Group (ILG), we are already working closely with industry on a range of issues which are of critical importance. This complements our work with PILOT and the Industry Council, where we are committed to engaging positively with the UK Government on issues where we have a common interest.

5.76. The Scottish Government values independent advice while refining its final proposals for the operation of the offshore fiscal, regulatory and licensing regimes in an independent Scotland.

5.77. The Oil and Gas Expert Commission will build upon the approach and overarching principles set out in this paper, and provide advice on the technical application of the policy framework, which would underpin Scottish Government policy in an independent Scotland.



**The Scottish
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Riaghaltas na h-Alba

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