



Scottish Council for
Development and Industry

POLICY SUBMISSION

UK OFFSHORE OIL AND GAS

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SCDI is an independent and inclusive economic development network which seeks to influence and inspire government and key stakeholders with our ambitious vision to create shared sustainable economic prosperity for Scotland.

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UK Offshore Oil and Gas

1. SCDI welcomes the opportunity to comment on the inquiry by the Energy and Climate Change Committee into UK Offshore Oil and Gas and the contribution that it can make to the UK's future energy needs. SCDI looks forward to the meeting between the Committee and SCDI members in Aberdeen on March 19th.
2. SCDI is an independent membership network that strengthens Scotland's competitiveness by influencing Government policies to encourage sustainable economic prosperity. Its membership includes business, trades unions, local authorities, educational institutions, the voluntary sector and faith groups.
3. SCDI and Scottish Enterprise produce the only annual report into Scotland's *International Activity in the Oil and Gas Sector*. SCDI has regularly commented on the North Sea Fiscal Regime in submissions to the UK Government, most recently on the consultation from HM Treasury and HM Revenue and Customs on *Supporting investment: a consultation on the North Sea fiscal regime*. It has also hosted a meeting for the Scottish Affairs Committee and SCDI members in Aberdeen to discuss its inquiry into *Effects of tax increases on the oil industry*.

Summary of Domestic and International Benefits of Investment in UKCS

Security of Supply

4. Even with ambitious efficiency efforts, global energy demand is expected to increase significantly between now and 2030. While the UK Government is establishing ambitious targets for the growth of renewable energy by 2020, decarbonising heat and, especially, transport will take longer than electricity, and oil and gas will still account for a growing portion of the UK's energy supply. Attracting significant investment into conventional energy sources will therefore also be needed. Current business plans will see the UKCS only providing about 12% of the nation's oil and gas demand in 2020. However, with sustained investment, this could increase to 40%. Thus, maximising UKCS output is critical to generate more investment for exploration, production and help sustain assets in a mature, high cost province competing for mobile international investment.

Economic Benefit

5. UK unemployment is expected to increase sharply this year, and there is widespread agreement that the current recession demonstrates the need for the UK to rebalance its economy more towards production, manufacturing and exporting. The UK oil and gas industry provides employment for 450,000 people. Oil and gas producers invested £5.7bn of capital in 2006, 37% of the total by production and manufacturing industries. Recent work reported in the Oil & Gas UK Economic Report 2008 demonstrated that each £1 billion of investment provides employment for around 20,000 across the supply chain. Any fall off in investment will have a consequential impact on employment by the industry.
6. The latest *Survey of International Activity in the Oil and Gas Sector* shows that total sales by Scotland's oil and gas supply and service specialists increased by 9.9% to reach £14.2 billion in 2007/08, more than double the value in 2000. International sales were 19.5% higher, while, in comparison, domestic sales were only 4.3% higher. International activity accounted for 40% of the Scottish supply chain sales total. This compares to 27% in 2000 and 32.2% as recently as 2005. This latest research recorded sales activity in 103 different markets across the world, the highest number of different destinations recorded in the history of the research. This is powerful recognition of the increasing international capability of the oil and gas supply chain which has been built over the last 30-40 years.
7. Sustaining activity in the UKCS is critical because it still provides the majority of sales by the supply chain and also to anchor this economically important industry in the UK as international

activity becomes a greater proportion of its total sales. The *Annual Survey* identified that the value of total international sales recorded into Norway in 2007 was £351m, an increase of £75m since 2006 and a figure which represents a record for revenues generated from this market. There is increasing cross border collaboration on major projects that straddle or are close to the North Sea boundary line between Scotland and Norway which is enabling Scottish companies to capture a greater range of opportunities in the Norwegian market than they have in the past. Sustaining UKCS activity will support the supply chain in accessing opportunities around the European Continental Shelf.

Tax Revenue/ Balance of Trade

8. Tax payments to the Treasury for 2008-09 should be around £13.3bn, more than double those of 2004-05, despite the declining trend in production and higher capital and operating costs. The UK's balance of trade in goods and services would have been £-78bn last year had it not been for the production of North Sea oil and gas. The industry has shown that effective tax incentives will lead to larger returns for the Exchequer. It is especially important to sustain activity in the UK oil and gas industry as the financial services industry retrenches and public finances are rebuilt over the next five years. It is also important that HM Treasury considers the multiplier effect from supply chain companies. Taxation on the burgeoning profits which they are generating is an important source of revenue. Oil & Gas UK has estimated that the Exchequer benefits by around £5-6 billion a year in corporation tax, payroll taxes and national insurance contributions from the supply chain, in addition to the tax revenues generated by exploration and production companies in the UKCS. Sustaining activity in the UKCS and anchoring the supply chain in the UK will sustain the benefits to the Exchequer.

Affordability of Supply

9. The view of a number of people in the industry is that the next spike in the oil price when global economic activity eventually picks up again – especially in Asia - may be even higher than in July 2008, which would lead to higher electricity, gas and fuel prices, and more people suffering from fuel poverty. Maximising UKCS output would add 600m barrels of oil and gas per year to the production base and make a contribution to ensuring that global supply can meet growing global demand, and that fossil fuel price inflation is controlled as far as possible.

How can the UK's remaining offshore oil and gas reserves be exploited most effectively? What barriers are there to exploiting such reserves? What steps need to be taken to unlock resources west of Shetland?

Effectively Exploiting the UK's Remaining Offshore Oil and Gas Reserves

10. It is generally recognised that the UK still has a possible 25 billion barrels of oil equivalent (boe) left to produce. The top priority for the UK has to be maximising economic recovery. This requires investment in new field developments, incremental projects and exploration to turn remaining potential into discoveries.
11. There is still a broad range of commercial opportunities which could attract investment in the right circumstances. Despite being a mature basin there is little doubt that the UKCS remains an attractive region to do business. It is characterised by political stability and does not have the security issues prevalent in many other emerging oil and gas provinces. The results of the latest *Survey of International Activity in the Oil and Gas Sector*, which cover 2007/08, demonstrate a period of further steady growth in sales into the UKCS market. Sales rose from £8,146.6m in 2006 to £8,497.2m in 2007, an increase of 4.3% over the period. The international growth in the same period was 19.5%, but it must be remembered that the actual level of domestic sales remains higher than international, £8.5 billion compared with £5.7 billion. Companies continue to show willingness of companies to invest in the region. 2007 saw the highest number (111) of offshore exploration and appraisal wells drilled since 1996 (112). The ongoing interest and potential of the UKCS was further reflected in the summer announcement by the Department for

Business Enterprise and Regulatory Reform that 193 applications had been made by a total of 131 companies for licenses in the 25th Offshore Licensing Round. This represents the highest number of applications ever made and a 31% increase on the number of applications made in comparison with the 24th Licensing Round. In mid November 2008 the Department of Energy and Climate Change (DECC) announced a very positive set of results for the 25th licensing round, with 171 new licenses were offered to 100 companies covering 257 blocks of the North Sea. This included successful bids from eight companies new to the North Sea.

12. Oil & Gas UK has said that if investment were to be sustained at around £5 billion a year over the next five years the production decline rate would average 4.5% per annum, compared to the natural decline rate of the basin of 15% per annum. If all the investment projects which have identified could be delivered, 16 new fields could be brought on-steam in 2011, rising to 20 in 2012. In its 2008 Activity Survey, Oil & Gas UK has also found that new projects which start-up in 2015 and beyond ultimately boost production in the later half of the next decade by 250,000 boepd compared with last year's survey. However, it noted that that half the projected production in 2014-5 comes from investments which are yet to be sanctioned. This underlines the need for current investment to be sustained and for the UKCS to be an attractive location for a broad range of companies.
13. An extra one billion barrels of reserves could be recovered from existing and new UKCS fields though the use offshore of new forms of technology, such as "tight" gas production. This technology and other technologies are at present used onshore, but are still regarded as uneconomic for offshore application. The UK has a supply chain which is at the cutting edge of technological development and, as the latest *Survey of International Activity in the Oil and Gas Sector* demonstrates, is exporting around the world. It needs to be anchored in the UK.

Barriers to Exploiting the UK's Reserves

14. The UK oil and gas industry has been investing at high levels to recover the 16 to 25 billion barrels which is estimated to remain in the UKCS. Oil and Gas UK figures show that, in 2007, expenditure by the upstream industry was £12.4bn, including more than £1bn per year to extend the life of existing offshore assets and onshore plants. The Well Services Contractors Association noted in its most recent annual report that new capital investment in 2007 was over 300% higher and new technology spend was estimated to be over 470% higher than in 2000. But massive additional investment is needed if recovery from the UKCS is to be maximised. The natural decline rate of the basin is 15% per annum. UKCS production was 2.63 million boepd (1 billion boe) in 2008, 5% lower than in 2007. Production is estimated at 2.5 million boepd per day in 2009, 5% lower again than in 2008. Oil production alone was down 5.2%, whilst gas production fell by 4.8%. The overall production decline rate has slowed to 5% from the 7.5% seen over the period 2002-7, in part responding to increased capital investment.
15. This is a global challenge. A recent presentation by the Chairman of Simmons & Company International, an independent investment bank specialising in the energy industry, suggests that the fundamentals of the oil and gas industry have fundamentally changed since 1997. He highlights that exploration and production spending grew from less than \$100bn to \$400bn in the decade to 2007, there were major technological advances which allowed deepwater/ ultra deepwater exploration and greater amounts of trapped oil to be drained and, by 2008, every quality drilling rig (and other oil service assets) were being used. Despite this, while demand for oil and gas grew by 12.7 MMB/D, production grew by only 7.3 MMB/D and OECD total petroleum stocks fell from 56 days use to 52 days use. He warns that almost all the super-giant oil fields are "mature" and past-peak, and that: "The era of band aids is over, the era to rebuild the entire infrastructure has to begin ASAP." He says that the total cost could exceed \$100tr and manpower needs may top 500,000 to 1m engineers and construction workers.
16. Even with the exceptionally high oil prices of the first half of last year, there were question marks over whether the required level of investment in the North Sea could be sustained under the current fiscal regime. Rising costs were putting intense pressure on the economics of the mature

oil and gas provinces. It now costs nearer five times as much to develop each barrel of oil or gas as it did in 2001, while operating costs per barrel have more than doubled. The average technical cost for projects coming on-stream between 2008 and 2010 rises to \$29 per barrel. The break-even point for new field developments in the North Sea is now averaging above \$40/bbl. It will take time for operating expenditure to react to the falling price of oil. The cost inflation associated with rising oil prices up to July 2008 and the subsequent shuddering correction has therefore exposed the UKCS's declining competitiveness compared with lower cost regions.

17. At current prices, most of the new categories of hydrocarbon resources are not economic to develop and that the most significant declines in demand are expected in mature offshore basins (along with North American drilling and Russian oil production enhancement). The recently published 10th Aberdeen and Grampian Chamber of Commerce Oil and Gas Survey found that 75% of operators expect a reduced trend in total activity in 2009 (25% of operators expect a level trend with none expecting an increase). All reported being less confident as to the business situation than a year ago and the majority expect to reduce employment levels in 2009. Oil and Gas UK's 2008 Activity Survey anticipates that capital investment will fall from £4.8bn to £5bn in 2008 to £3.5bn to £4.5bn in 2009 and £2.5bn to £4bn in 2010. While it was predicted a year ago that 113 wells would be drilled in 2009, 77 wells are now planned and only 34 have a drilling rig committed. For 2010, planned wells have fallen from 30 to 10.
18. These projections are consistent with experience in the late 1990s. Investment fell by half in 1998 - 2000, with exploration spend was cut by two thirds, and employment was reduced across the industry. Recovery in investment took six years and another one or two years in the supply chain, but the loss of capacity has remained a constraint on the UKCS. Moreover, it must be remembered that the big difference is that production peaked in the late 1990s where as it is now declining at 5% per annum which pushes up operating costs. If investment drops off, production will be affected and the decline rate will again accelerate post 2010 and unless infrastructure is kept active, decommissioning will be brought forward which will prevent the recovery of future reserves from within their area. Some 45% of the infrastructure in the UKCS could be decommissioned by 2020.

West of Shetland

19. Around 16% of the UK's proven and probable oil and gas reserves are located to the west of the Shetlands. Limiting the decline rate in UK offshore oil and gas production depends on commencing from West of Shetland by 2013/14. However, this assumes that infrastructure is put in place within this timeframe. This is by no means guaranteed, especially at the current oil and gas prices. It has been estimated by the UK Government that the cost may be over £4 billion.
20. In *Incentivising Investment in the UKCS*, Professor Alexander G. Kemp and Linda Stephen demonstrate that a large value allowance is required to have a worthwhile effect on investment west of Shetland. At prices of \$60/bbl, 50p/ therm, a value allowance of £250 million is shown to incentivise 3 extra projects. But the reduction or the removal of the Supplementary Corporation Tax on the oil and gas industry would be the most effective step to unlock these resources.

What can be done to minimise the environmental impact of exploiting the reserves? How should this be encouraged and/ or financed?

21. Minimising the environmental impact of exploration and production has been a high priority for the oil and gas industry for a number of years. The UKCS is at the forefront of the development, utilisation and export of subsea technology, which has enabled the more environmentally sustainable exploitation of reserves.
22. *The Race to Capture the Carbon Pound: The UK's place in the global market for low carbon innovation* published by Shell Springboard highlights that improvements can only be achieved through technological innovation and by creating the right conditions for innovative companies to bring their ideas to fruition. Government intervention is critical, but there is still significant

uncertainty about the policy framework for reducing carbon emissions in the medium-to-long term and international co-operation in policy, technology and ideas, rather than national or even regional action, is important. Access to finance is essential and governments must help to create the market. The total annual cost of reducing CO₂ emissions in 2030 is estimated at between £420m and £2,100bn per year.

23. Access to finance is an increasing problem for low carbon SMEs. Overall investment from venture capital and private equity in these companies was \$854m in 2007, over twice the \$342m invested in 2006. But, following the onset of the credit crunch in the first quarter of 2008, investment dropped to \$108m.
24. SCDI believes that it is critically important that tax relief should be available for the reuse of existing oil and gas infrastructure for Carbon Capture and Storage (CCS) and, indeed, other forms of offshore energy production. This will support the effective exploitation of the UK's remaining offshore oil and gas reserves in a more environmentally sustainable manner. The early deployment of CCS is important if the essential contribution of fossil fuels to the security of UK energy supply is not to result in higher emissions. In the North Sea, it has one of the world's best locations for CO₂ storage and SCDI anticipates that a study for the Scottish Government to be published imminently will demonstrate its potential. However, the challenge cannot be underestimated and there is increasing uncertainty about its development. Existing technologies have to be scaled up by 50-100 times, there are rising engineering and construction costs and significant investment is needed in pipelines within the UK and offshore in the North Sea. CCS cannot currently be regarded as economic without further financial support.
25. SCDI was disappointed that delays in support from the UK Government prevented the realisation of the BP Miller Field CCS Project. This was a missed opportunity for the UK. It is concerned that delays in the UK Government's CCS competition are further harming the UK's competitive position in this emerging industry and would welcome a decision to support more than one demonstrator project and technology. It believes that appropriate financial arrangements need to be put in place to enable the re-use of the infrastructure and maximise the opportunity. Tax relief for well drilling costs associated with CCS are absolutely necessary for industry and, in respect of gas storage, industry needs to secure an acceptable tax treatment for cushion gas. SCDI is generally content with the UK Government's proposals to remove fiscal barriers to change of use. It has also suggested that the UK Government considers if the proposed incentives for the oil and gas industry should be extended to utility companies involved in CCS.
26. Environmental regulations for the UKCS should not simply displace oil and gas activity to other competing provinces at the expense of the UK security of supply and economic and employment benefit, and with no overall global carbon emission reduction. In particular, the inclusion of the North Sea industry within phase three of the European Emissions Trading Scheme for electricity generation on offshore platforms would substantially increase its costs and make it less competitive for mobile international investment. The industry believes that this could result in the failure to develop up to 1 billion barrels of oil from the UKCS. This shortfall would be made up from production in provinces outside the EU which, with transportation, would actually increase global carbon emissions.

How effective is the current fiscal and regulatory regime in which the industry operates?

Fiscal Regime

27. North West Europe is one of the most expensive oil and gas regions in the world. The UKCS is also one of the most highly taxed provinces, with the oil and gas industry paying 20% more in corporation tax than any other UK industrial sector.
28. SCDI believes that it is right that the UK should fairly benefit from the profits generated by oil and gas production in the UKCS. However, the top priority for the UK has to be maximising economic recovery and the overall UKCS fiscal regime is increasingly inappropriately balanced. Oil prices

are now back in the same range as in 2004 when the supplementary corporation tax was half what it is today. Last year saw unprecedented price volatility and there is evidence that this is a general trend. International investors regard the fiscal regime as increasingly unsustainable for a mature, costly and challenging province, and there is a danger of 'resource flight', including skills, to other areas. This is within a global context where the fundamentals of the industry may have fundamentally changed, with a new order of investment needed in exploration and production, technological advances and the rebuilding of an entire global infrastructure.

29. This challenge can only be addressed in the UKCS by progressively reducing the overall tax burden on the industry. This would be simple, effective and predictable, send a message that the UK is committed to a commercially viable UKCS and greatly increase its competitiveness in attracting mobile international investment. But time is of the essence if recovery of the resources available is to be maximised before decommissioning of the infrastructure begins in earnest.
30. SCDI has welcomed the Treasury's plans to introduce incentives for the industry, but it believes that these should be made available to existing and new fields.
 - **Existing Fields** – Declining investment in exploration and R&D, ageing infrastructure, and problems in raising development capital all increase the importance of investment for production from existing fields. The UK Government may need to revisit the assumption that smaller new entrants will pick up and maximise the assets of the oil and gas majors. Bigger players, which often have more specialised expertise, will need incentives too. The latest survey by Aberdeen and Grampian Chambers of Commerce found that, based on operators' plans in 2007, 54% of future investment will be targeting extensions to existing fields, up from 33% of investment in 2006. But SCDI understands that the current 'low oil price world' requires a stimulus to keep the ageing infrastructure competitive and combat depletion. The UK needs to do this now before the existing North Sea infrastructure becomes too costly to maintain.
 - **New Fields** - Exploration is the seedcorn for extending the productive life of the UKCS. Half of all potential new field developments are less than 15m barrels in size, which were challenging to develop even in the higher oil price business climate. Innovation and ability of the sector to compete globally in small field development and subsea technology are essential to the long-term prospects of the UKCS. These activities depend on confidence among operators and contractors in the future and access to investment funding. But, as Aberdeen and Grampian Chambers of Commerce found, the recent collapse in the oil price, continued uncertainty and limited access to working capital and long term loans means that spending on R&D is expected to decline over the next two years.
31. SCDI has argued in its submission to the Treasury on *Supporting investment: a consultation on the North Sea fiscal regime* that the proposal from the oil and gas industry, similar to the proposal which has since been announced by the Netherlands, for a 25% uplift on capital investment would be effective through:
 - Promotion of the recovery of the UK's oil and gas reserves.
 - Sustaining the competitiveness of the UKCS.
 - Upfront acceleration for investment while infrastructure is still available.
 - Simple and consistent application e.g. across new and brownfield development.
32. HM Treasury has, however, said that it prefers a value allowance proposal. Detailed modelling in *Incentivising Investment in the UKCS* by Professor Alexander G. Kemp and Linda Stephen has shown that, particularly in the current market conditions, the introduction of the value allowance can make a positive contribution to enhancing field developments and that the greater the value allowance, the greater the activity increase. The oil price is also an influence. The modelling found that a value allowance in the £50 million - £100 million range could have very substantial effects under the \$60/bbl, 50p/ therm price scenario.

33. SCDI would therefore support the introduction of a value allowance, provided it is easy to implement, the benefits are easy to assess at the point when decisions on investment are being made and that it is significant enough to be attractive and provide a material stimulus in the short-term. SCDI would support the proposal that there should be larger value allowances for bigger fields. It would accept that there should be a ceiling on value allowance, but believes that the tax system should support the commercial viability of many projects as possible.
34. SCDI considers that, at the very minimum, the scope of HM Treasury's proposals on Value Allowance needs to be extended to cover all new fields West of Shetland. The modelling by Kemp and Stephen indicated that substantial allowances were required to make a worthwhile impact on the number of viable new developments given the relatively high costs per boe of undeveloped fields.
35. SCDI agrees that the types of field which should receive an incentive include:
- Small developments of less than 25m barrels.
 - High Pressure High Temperature projects.
 - Heavy oil.
 - Challenged gas.
36. In addition, if workable proposals are made, it should be extended to:
- Incremental projects in existing fields.
 - All future UKCS exploration.
 - West of Shetland projects.
37. SCDI welcomes the launch of a joint government and industry working group on Enhanced Oil Recovery (EOR). It believes that the group should examine proposals for incentives which encourage investment in new EOR projects, while avoiding retrospective tax changes which could increase the perception of uncertainty in investing in the UKCS and disadvantage existing EOR schemes.
38. SCDI has previously expressed the view that fields which are "never payers" should be removed from the Petroleum Revenue Tax (PRT) regime, and that access to PRT relief should be maintained and improved for decommissioning costs. It understands that exempting investments in unprofitable parts of older fields from PRT would significantly enhance the attractions of investment in incremental projects, particularly at this time, and could liberate at least an additional 20,000 barrels of oil per day over time. However, SCDI appreciates that the industry itself has not reached a collective view on a buy-out proposal.

Regulatory Regime

39. SCDI has long called for a single Department of Energy, headed by a Secretary of State for Energy, to be re-created. It warmly welcomed the announcement by the UK Government of a Secretary of State for Energy and Climate Change.
40. The UK and Scottish Parliaments are both considering Marine Bills which would create separate Marine Maritime Organisations. There is a risk of duplication or a lack of co-ordination between the new regimes, and joined-up approach will have to be taken, especially in relation to key strategic industries like North Sea oil and gas. Westminster is responsible for licensing, exploration and regulating development of the industry. It will be important that this is co-ordinated effectively with Holyrood's maritime planning and nature conservation powers.
41. SCDI supports the three main regulatory initiatives which are being pursued to promote the exploitation of the UK's remaining offshore oil and gas reserves – Fallow Field, Infrastructure Code of Practice and Stewardship. These should be pursued vigorously. It understands that the voluntary Infrastructure Code of Practice between companies is still not working fully efficiently

and it is important that this is rectified as in a mature province with smaller discoveries and an ageing infrastructure more fields need to be brought on stream and more quickly. SCDI would hope that the Stewardship initiative can demonstrate that it is improving the average recovery rate from fields by another 10 to 15% by encouraging the greater use of enhanced recovery technologies offshore.

What effect is the recession and the credit crunch having on the industry? What is the impact on the financing of exploration and development?

42. The latest forecast from Energy, Metals and Mining industries consultancy and research services company Wood Mackenzie estimate that global GDP will contract by 0.6% in 2009, leading to significantly lower global oil demand of 84.3m barrels per day (b/d) for 2009, a decline of 1.5 million b/d compared to 85.3 millions b/d in 2008. This would be the first drop in demand since 1982 and Wood Mackenzie also says that the outlook is the weakest for decades. The changes to 2010 are bigger still with modest growth of 0.7%, or 0.6 million b/d, and world demand now expected to be only 84.9 million b/d, but this is a “significant” 2.1 million b/d lower than expected as recently as October 2008.
43. The biggest revisions are in Asia-Pacific. In Europe, demand is expected to be 15.3 million b/d in 2009, a fall of 3.9%, while demand in 2010 is forecast at 15.0 million b/d, a further drop of 2.2%. Aside from GDP declining, the factors impacting on European demand include: falling car sales and a changing structure of car sales with less fuel efficient 4x4 vehicles being particularly hit, and air travel shrinking significantly, leading to drop in jet kerosene demand.
44. In response, OPEC has been reducing production. In late December 2008 OPEC agreed a cut of 2.2 million barrels per day from Jan 1 2009 in the volume entering the market and further cuts may follow if revenues continue to decline. But these production cuts have had little effect and there are doubts about whether it can effectively police and maintain them among its membership.
45. The problems are exacerbated by the credit squeeze which has developed in the second half of 2008. This has already impacted on the ability of some of the smaller independent oil companies which moved into the UKCS to raise the capital required to proceed with drilling and field development programmes. Much of the exploration in the UKCS is undertaken by these medium and small companies and their exploration budgets are currently very likely to be reduced. The well-known problems in the financial markets have reduced the availability of both debt and equity capital for companies requiring external capital. In the latest Aberdeen and Grampian Chamber of Commerce survey 50% of operators and 54% of contractors rated access to capital and loans as very important. All operators and 87% of contractors shared the view that the current credit issues would lead to more mergers and consolidation in the UKCS and all believe it will have an adverse effect on working capital and activity, leading to the deferment and cancellation of capital expenditure. The prevailing view is that this much tighter lending environment is likely to persevere for some time. Globally, the credit squeeze and global economic downturn have resulted in key projects being postponed and cancelled, in drilling rigs being laid down and in new rigs facing credit problems with shipyards. Rating agency Moody's has changed its outlook for the global oilfield service sector to “negative” because it expects a substantial and potentially prolonged downturn in demand for drilling and oilfield services. It predicts that a rebound in demand would lag behind an improvement in commodity prices until producers – particularly independents – are confident that price increases are sustainable with sufficient visibility in demand trends.
46. In addition, the pound has weakened considerably against the US dollar in 2008. The combined impact of this is likely to affect profit margins in the industry and with the late 2008/early 2009 oil price considerably reduced from recent peaks it is likely that sustaining recent investment levels will be highly challenging.

47. Exploration activity is the pipeline for future development. The effect of the recession and the credit crunch makes clear the need for fiscal incentives. Where companies which were successful in the 25th licensing round are no longer in a position to develop the blocks at this time, the UK Government and the industry should discuss proposals to extend licenses or transfer them to other companies.
48. Over the last three years decommissioning dates have moved out as a result of the rise in oil prices. However, there is a risk that lower oil and gas prices will now bring decommissioning dates forward. Banks have also supported companies with decommissioning liabilities, but in the current credit squeeze, it seems possible that they may charge them more and, eventually, stop. This would also have the result of making earlier decommissioning more likely.

How are the skills needs of the sector being met? How transferable are those skills?

Skills

49. The offshore industry has expanded by 30% in the last couple of years. It is therefore unsurprising that shortages of key skills have been a constraint and have impacted on the industry's ability to fully capitalise on projects and investment opportunities which have been facilitated by the buoyant oil price.
50. The latest survey by Aberdeen and Grampian Chambers of Commerce showed that among operators the strong demand for staff continued through 2008 with 50% of operators reporting total hours worked being above planned levels and 29% reporting rising, and 57% a level trend, in total employment over the last six months. Among contractors, 51% report increasing, and 43% a level trend, in permanent staffs and slightly more than 37% of contractors reported hours worked being above, and 47% at, planned levels in 2008. Some easing in demand is generally anticipated by operators in 2009 with only 16% expect to increase and the majority expect to reduce total employment levels in 2009. The rising trend in permanent employees is expected to level off in 2009 and the current level trends in the employment of temporary and contract staffs are expected to turn downwards in 2009. Nevertheless 40% of operators still expect total hours worked to be above planned levels. The strong demand for staff from contractors is expected to continue at only slightly reduced rates. In contrast the current modest rising trends in the use of contract and temporary staffs is expected to end as 32% expect to reduce the use of temporary, and 31% the use of contract staffs in 2009. The trend of actual hours worked being above planned levels is expected to continue by 23% compared to 61% for at planned levels.
51. Overall, the major difference in industry barriers to previous surveys by the Chamber of Commerce is the declining importance attached to skill shortages. This undoubtedly reflects the slowdown in activity. However, in SCDI's view, the industry must not lose sight of the need to continue to invest in people and skills. Reactionary cost cutting would be extremely detrimental to the industry's long term reputation and health. The skills challenge will not go away and the considerable efforts that have been brought to bear on this issue over the last couple of years by the industry need to be maintained to nurture the talent for the future. While the average age for the whole offshore workforce has been found to be 41 years, the expected average of a workforce generally in the range from 20 to 60 years old, there remains concern about the pipeline of skills into the industry and the ability of the UKCS to access highly-mobile international talent.
52. The recently-published survey *Trends in International Mathematics and Science Study*, which compared primary and secondary school standards in more than 60 countries and regions found that Scotland's performance in maths and science subjects is deteriorating alarmingly and is now nearly bottom of the OECD class. The study also highlighted that only 51% of P5 pupils and 68% of S2 pupils in Scotland were taught science by a teacher who felt "very well" prepared.
53. The industry has collectively invested around £6 million to set up OPITO- The Oil and Gas Skills Academy, an organisation which is industry owned and run and is working on identifying and

tackling key skills gaps, as well as providing cross-industry training programmes and working with UK schools and universities to ensure a constant feed of new entrants to the industry. Opito and a number of oil and gas companies are among the principal supporters of SCDI's expanding network of Young Engineers and Science Clubs in schools around Scotland. But the Scottish Government and the education system, with strong support from business, clearly need to address this problem as a matter of real urgency.

54. The industry spends millions every year training and developing employees. For example, since 2001 it has invested £60 million in its modern apprenticeship scheme. In addition, due to the ongoing skills shortages within the industry, 'fast-track' promotion systems are now common within certain occupations, as companies intensively train less experienced employees in order to fill the senior level vacancies across the industry. Employment conditions within these companies are extremely attractive, with salaries well above the UK average. The annual Hewitt salary survey shows that annual salary increases within the oil and gas sector have continued to show growth well above inflation each year.
55. Despite these efforts, companies have reported that a range of vacancies were very difficult to fill, primarily in Engineering and Science/Technology fields. This has increased recruitment costs and staff overtime. In some cases, the shortage of skills for these key positions had led to the abandonment of projects.
56. The oil and gas industry is one which can require very specialist skills in some areas, which are often not easily transferable from other sectors. It is vital therefore that the UK encourages continued investment by promoting an environment in which industry can access the skilled labour it needs from around the world. The UK is already one of the most expensive oil and gas provinces. Pressures on the supply of skilled workers will risk reducing the attractiveness of the province to larger multinationals, make it harder to recover from the downturn and ultimately harm the industry's long term sustainability. The latest *Survey of International Activity in the Oil and Gas Sector* identifies activity by the supply chain in 103 different country markets and the success of this UK industry depends in part on the international mobility of the workforce. The Migration Advisory Committee is scheduled to undertake a review of the Engineering sector for its revision of the Shortage Occupation List later this year. It should consider how the industry can access the skills its needs to sustain activity.
57. In the competition for highly-mobile international talent, it is important that the UK remains an attractive and well-connected location. Aberdeen is the hub of the UKCS and the supply chain based in the city needs access to global markets. The expansion of Heathrow Airport is necessary to ensure that flights from Aberdeen retain their slots and businesses can interline via the UK's hub airport.

Transferability

58. The skills and expertise of individuals and businesses in the oil and gas industry are, along with its world-leading technology, a major competitive advantage for the UK in building an international class renewables industry, especially offshore.
59. The *Annual Report of Scotland's International Activity in the Oil and Gas Sector 2007/08* identified a substantial level of activity undertaken within non oil and gas sectors with a total of £797.4m recorded during the latest survey, compared with £678.7m in the 2006 survey. The major key sector for this activity by far was Non Oil & Gas Energy, which accounted for 46.7% of the total by value. This sector relates principally to power generation. Respondents specifically identifying the Renewable Energy market as a source of diversified income equated £10.8m by value. It might have been anticipated that this figure would have been higher given the ongoing focus for the supply chain to diversify into renewables, and it should be expected that more companies will become involved in the future.

What are the implications of an ageing existing infrastructure on the security of supplies from the North Sea?

60. In the North Sea there are almost 600 platforms and 54% of these are more than 15 years old. The average age of platforms decommissioned in the North Sea is 17 years old – though this average increases to 20 years if platforms that have a life of less than 10 years are excluded from the analysis. There remains a general reliance on existing, ageing infrastructure throughout the UKCS, as commercial discoveries are too small to support their own. Oil & Gas UK state that capital and operational expenditure in asset and process integrity has exceeded £1 billion a year in each of the last three years, and will reach an estimated £1.2b to £1.5 billion in each of the next three years in a variety of ways including replacement or refurbishment of safety critical equipment and improvements to management systems. Significant investment has also been made in safety training for all staff on the importance of asset integrity. In consequence, over the last decade there has been a steady fall in the frequency of major and significant leaks from oil and gas processing plant and pipelines.
61. With an ageing, interconnected infrastructure there is the danger that the shutdown of one major pipeline could impact on numerous fields. Conversely, this established network improves the commercial viability of developing smaller prospects. This can only be achieved if investment is sustained in asset integrity and an increasingly collaborative approach is taken to the operation of fields.

Is the right policy framework in place to manage the decommissioning of that infrastructure as resources are depleted?

62. Higher oil prices and ways of extending the production lives of fields have delayed decommissioning in recent years. But the enormous challenge that the process poses to the entire supply chain – including technological constraints, availability of large heavy lift vessels and the need for suitable onshore facilities – has also been a factor. The latest report for Scottish Enterprise on the *Decommissioning Market* by the energy business analysts Douglas-Westwood Limited which was published last year highlights that for many platforms installed in the North Sea, particularly the larger platforms in water depths beyond 100m, there is currently little or no decommissioning experience to aide operators with their task. There are almost 70 platforms with a total substructure and topside weight of over 20,000 tons currently installed in the North Sea – all of which will inevitably present unique challenges when they are finally decommissioned. Innovation will continue to enhance the industry's ability to extend the production lives of fields. But there is a risk that lower oil prices will reduce the incentive and bring forward the timescale in which these challenges need to be addressed.
63. In the North Sea the decommissioning process typically takes 4 to 6 years from the decision to initiate a study to decommission a platform to gaining all the necessary approvals and actually removing the facilities and carrying out final surveys. Within the UKCS legal requirements are determined by the OSPAR Convention, national regulatory frameworks and licensing agreements which, following the OSPAR Decision 98/3, collectively exceed global standards through a requirement for the total removal of offshore structures in all but a few cases.
64. Decommissioning liabilities are a barrier to the transfer of fields between the majors and smaller and medium sized companies. One potential solution is a Decommissioning Trust Fund into which regular payments are made while the field is producing, but the Treasury has refused to make them tax deductible. The Government has also encouraged the use of corporate covenants of investment grade companies and bankers' letter of credit to identify and secure liabilities against default. However, as previously mentioned, the credit crunch is leading to banks increasing their charges, and limiting or refusing to provide security. The UK Government should change the tax system to ensure that companies have sufficient funds to invest and that payments into trust funds are tax deductible.

65. Substantial decommissioning is currently scheduled to begin around 2013 and the total spending on decommissioning of the UKCS through to 2040 is now forecast to reach £23 billion, 15% higher than was expected a year ago. This is clearly a significant market opportunity for UK companies. However, at present Norwegian shipyards appear to be better placed to take advantage of the work. The planning system should enable the development of competitive UK facilities.

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