



Survey of international activity in the oil and gas sector 2016/17



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David Rennie Head of oil and gas Scottish Enterprise

Scottish Enterprise foreword

Given that the latest edition of our annual survey covers the 2016/17 period, which was very much the eye of the storm of the global oil and gas slowdown, it is not surprising that the level of both total and international related supply chain sales showed a decline from the previous year. However, within the overall headline figures, there are a number of interesting trends to note.

Firstly, while the total level of sales from the sector fell, the international related share of the total rose to almost 55%. This reinforces the view that although the slowdown was global in nature there were still opportunities to be found out there. The Scottish oil and gas sector has been international in its mindset for many decades and I have no doubt this will continue.

It is also interesting to note that within the overall total of international related sales, direct export sales rose slightly.

In terms of geographical trends, while North America and Europe remain the dominant markets, the Middle East continues to be an area with significant growth opportunities; this has been a trend for some years.

Lastly, perhaps one of the most welcome findings from the survey is in terms of business optimism. The share of companies feeling more confident about sector prospects is the highest for a number of years. This aligns with evidence from elsewhere and there is a sense that while the industry and the supply chain continue to face challenges, trading conditions have improved somewhat and the phrase currently being used, of 'determined optimism' is a very appropriate one.

At Scottish Enterprise and our international arm, Scottish Development International, we more than recognise the challenges that the sector has faced and indeed continues to face. Therefore, we continue to offer a range of services and support to help companies trade overseas and attract investment to Scotland. We continue to see the sector as a key one for Scotland and are working with partners and industry in a number of ways, such as our approach to Subsea Engineering.*

Finally, can I take this opportunity to thank the Chamber for their work in producing the survey and those companies who took the opportunity to help us by completing the survey information. We really do appreciate it.

Executive summary

For the last 17 years, Scottish Enterprise has benchmarked international activity in the Scottish oil and gas supply chain. This research report is independently administered by the Research Unit at Aberdeen & Grampian Chamber of Commerce (AGCC). Fieldwork was undertaken between November 2017 and January 2018 with the financial data relating to the 2016/17 financial year.

Main findings

EXAMPLE 10 Control of Control



111 countries companies reported

operating in across the globe



Top growth countries

United States, Norway and the United Arab Emirates



54.5%

International activity in 2016/17 accounted for 54.5% of total Scottish supply chain sales

8/10

businesses are 'very' or 'somewhat' optimistic about the next two years

Forecasts for the next five years:

22% forecast growth in Scottish domestic oil and gas sales
26% forecast growth in Scottish oil and gas direct export sales
12% forecast growth in sales via international subsidiaries

1. Introduction

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1. Introduction

This report provides an overview of Scotland's international oil and gas activity. It is based on detailed financial data and a far-ranging review of the sector. This year's report is shorter, quicker to the point and has plenty of industry reflections.

First of all the financial data assesses the scale of the sector during the financial year of 2016/17¹. However most useful for you will be the wider analysis including:

- · International markets and target countries in the future
- · How companies have approached diversification
- · Reasons for any market withdrawal
- · How the industry sees supply chain competitiveness
- · Forecast growth over the next two and five years

We would like to thank the companies who have responded to this survey representing **31,000** employees across the sector. In total our surveys and desk research cover over 250 companies in the subsectors shown in **Figure 1**.



urvey of international activity in the oil and gas sector 2016/17

2. The scale of the sector in 2016/17

2. The scale of the sector in 2016/17

Each year we measure sales from the Scottish supply chain. The chart below shows the data we assess.

Figure 2: Break down of supply chain sales in 2016/17 Source: AGCC

Total sales by Scottish oil and gas supply chain companies						
Total international sales						
Overseas subsidiaries (sales made overseas from a subsidiary registered in another country)	Exports (to companies		Domes sales (compa	to UK		
Not broken down	Sales to other sectors	Oil and gas sales	Sales to other sectors	Oil and gas sales		

Having shown how we break down the sector and its sales, the results of our analysis are shown on page 9.

Figure 3 shows the breakdown of this data in financial results.

Figure 3: The scale of the sector in 2016/17 Source: AGCC

Total sales by Scottish oil and gas supply chain companies 2016/17 £19.1bn					
Of which of sales	are	Of which total international sales are £10.4bn			
		Exports an £4.		Overseas subsidiaries	
Of which oil and gas sales are £6.8bn	Of which other sales are £1.9bn	Of which oil and gas sales are £3.5bn	Of which other sales are £0.96bn	account for £5.9bn	



Trends over time

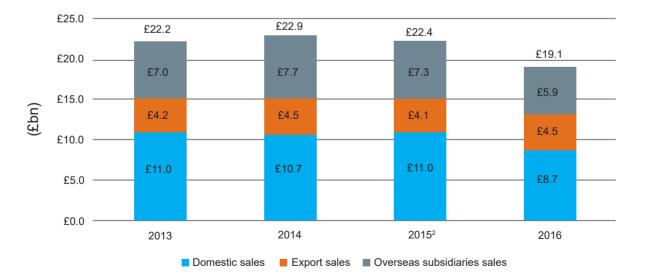
One of the benefits of this study is that it has tracked performance over a number of years; 2016/17 is only a snap shot in time. We all know the scale of the sector fluctuates, influenced by global oil and gas capital investment. However, the most recent period has also seen changes in the type of business that companies have done and recently that has meant a more diverse mix of income. The charts below show some of these trends.

Total supply chain sales



(a fall of 14.4% since 2015)

Figure 4: Total sales by Scottish oil and gas supply chain companies Source: AGCC



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Figure 5: Total international sales (exports plus subsidiaries) by Scottish supply chain companies 2016/17 Source: AGCC

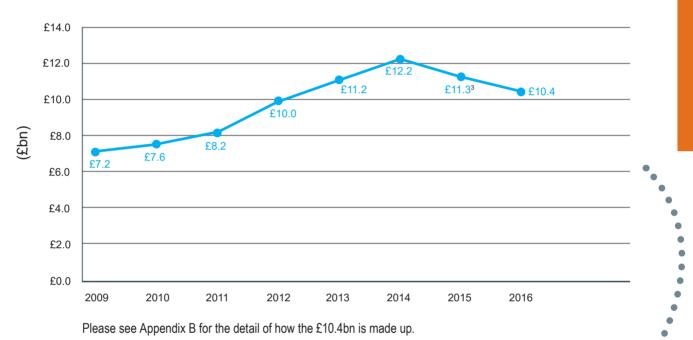
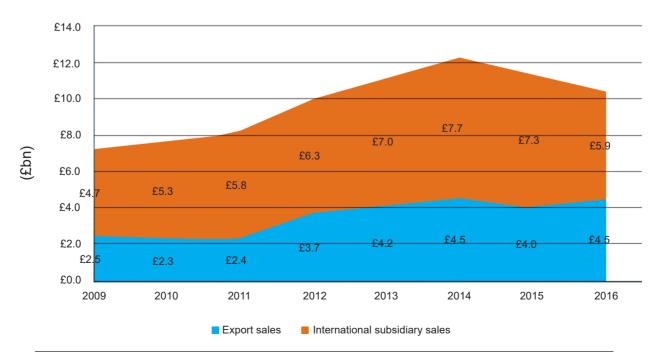


Figure 6: Total international sales (by sales type)

Source: AGCC



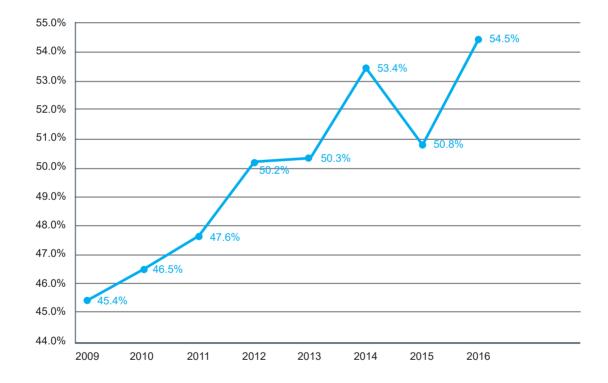
³Exact number in 2015 £11.335bn

*Numbers may not always sum due to rounding

Total supply chain international sales



Figure 7: International sales as a percent of total sales Source: AGCC



Key fact

The 54.5% of international sales came from 111 countries that supply chain companies are working in across the globe.

Diversification - it's not just oil and gas

Over the last four years the sector has made efforts to diversify its income base, although the focus of the survey remains companies that primarily focus on oil and gas. This year the percentage of sales from non-oil and gas sources remains constant.



Appendix A details a breakdown of non-oil and gas sales from 2016/17 and whilst the percentage diversifying has remained consistent, the mix of sub-sectors has changed only slightly.

Figure 8 indicates the main reasons that companies have diversified away from oil and gas and for the significant share (5 out of 10 companies) this is to grow the business rather than as a replacement for lost income. This was a surprise to us and suggests that most companies are not doing this as an impact of the oil and gas downturn.

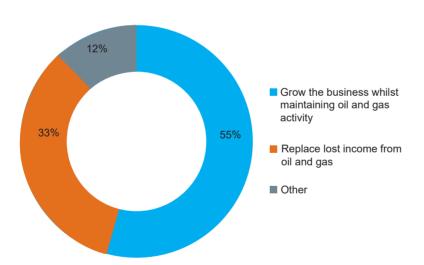


Figure 8: Reasons for diversifying from oil and gas Source: AGCC

Companies appear to be moving more into renewables and reported a lower proportion of their sales in 'general engineering'

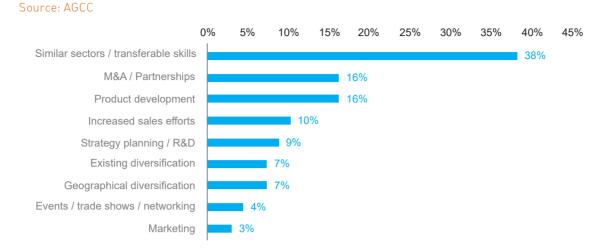
'Other' responses fell under two key themes: mitigating commercial risk and diversification activity that was already ongoing within the company.

When we asked companies how they have approached diversification most cited simply moving into similar sectors where the company's expertise or existing equipment could be used in a different way.

Diversification was most commonly into renewables (particularly offshore wind) and decommissioning.

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Figure 9: How have companies diversified?



We've invested significantly in educating other sectors about the value of our service, increased sales presence, attended and

exhibited at alternative trade shows.

The company had always had a certain amount of power generation work and over the years has built this up. The power generation market is more stable and has greater long term potential than oil and gas for our services, giving greater certainty for future growth. At the same time, we have not neglected oil and gas and despite the downturn have continued to be active in oil and gas markets worldwide. We have also used our long term experience in decommissioning to increase our profile in this market.

We have merged five businesses and are now cross selling into new sectors. We have opened a new base in Abu Dhabi and plan to open a base in the Gulf of Mexico. Our joint venture has expanded in Australia so lots of geographical diversification. We are also developing new products and services.

We have pushed to become a qualified supplier to other companies and industries.

We have used our expertise in the oil and gas industry to apply high standards of safety to other industries. Renewables, power generation, nuclear and offshore wind in particular have all benefitted from the downturn in the oil and gas industry because of companies like ours.

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Case study Blaze Manufacturing DIVERSIFICATION



What do you do and what makes you different?

Blaze Manufacturing Solutions is a family business run by Howard and Ann Johnson, established in 2006 to provide technical safety and loss prevention solutions predominantly to the brownfield oil and gas market.

Fully resourced in-house, we provide a complete engineering, procurement, installation, commissioning and maintenance package from design through to build and supply, including the ongoing maintenance of systems. The Blaze team includes highly skilled engineers, developers and installers with a collective experience of over 400 years in the energy sector.

Tell us about your international capability and where you are based.

Blaze has offices in Laurencekirk and Netherton, Aberdeenshire, and a satellite office in Great Yarmouth. We also have an agent in the Democratic Republic of Congo.

Can you tell us about how your company has diversified internationally?

During the oil and gas downturn we made the decision to pursue new markets, diversifying into sectors and countries focused on high asset value sites implementing layers of protection to mitigate hazards.

By offering safety critical solutions for early intervention and hazard mitigation, we moved from being an oil and gas Original Equipment Manufacturer (OEM) into providing solutions to onshore and offshore renewable energies, including transformer platforms, waste to energy and biomass. As well as the mining, commercial and industrial sectors.

Today we have projects in the Democratic Republic of Congo, Brazil, Denmark, Belgium and Germany to name a few.

What made you decide to do this? What market research did you carry out?

Our strategy is built on a programme of innovation and diversification. We conducted research and development of our products to see where our experience could be applied to other markets. By looking at those with similar asset characteristics to oil and gas we were able to see opportunities to transfer innovations and practices.

What has been your biggest business challenge when working internationally and how have you overcome this?

Operating in market sectors with different working terms and conditions has been a challenge. Renewables for example has different contract terms, warranty bonds and payment terms. Also, in some EU countries, our contracting staff must be EU nationals to carry out their work.

We retain legal representation to ensure that all contracts work for both parties.

What are your company's plans for the next couple of years?

By continuing with a strategy of innovation and diversification, Blaze aims to achieve:

- Annual EBITDA growth greater than 10%
- · A diverse customer base across three or more markets
- No single customer or market segment providing more than 40% of overall revenue
- A turnover of £20million within three years

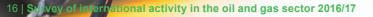
This will be achieved through market expansion and targeting customers of 'high asset value facilities' including but not limited to:

- Offshore oilfield facilities, production, drilling and accommodation
- · Oil and gas receiving/storage terminals
- · Renewable energy facilities
- · Mining/mineral conservation facilities
- · Public sector facilities
- Nuclear equipment installations

Blaze also has an IP strategy which will focus on the implementation of patented technologies.

What one piece of business advice would you give to companies looking to get into an international market?

Ensure that you are clear about the differences of working in that country. Take legal advice where you can and be prepared to be on the telephone at odd hours of the day and night.



3. Future growth

3. Future growth

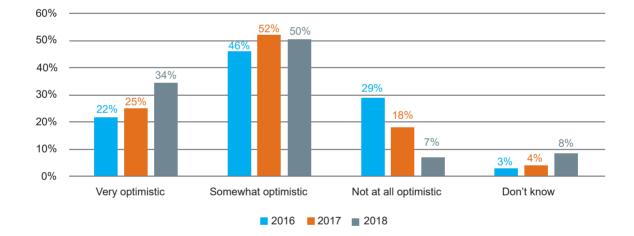
We asked companies a number of questions to assess growth aspirations for the future. These include:

- · Business optimism (in the next two years and next five years)
- · Growth forecasts for domestic, export and subsidiary sales
- Potential growth markets by sub-sector (in the next two years and next five years)
- · Intentions of companies not currently operating internationally

Business optimism

Business optimism over the next two years has improved, with 84% of companies reporting that they are 'somewhat' or 'very optimistic' and only 7% reported that they are 'not at all optimistic'. These are the most positive results in the last three years.

Figure 10: Optimism within supply chain companies – next two years⁴ Source: AGCC



8 out of 10 companies are 'somewhat' or 'very' optimistic about their future over the next two years (7 out of 10 in the last survey).

Key fact

80% of responding companies already operate internationally. Of those that don't, 59% have no plans to in the future (down from 94% in 2015), 22% will be looking to internationalise within the next 12 months and the remaining 19% have longer term plans.

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The results are similar to previous years. Taking the last five years together, 84% were optimistic (53% very, 31% somewhat).

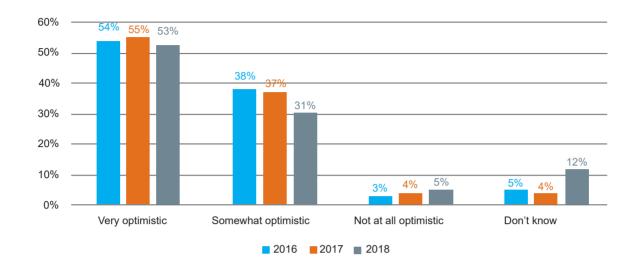


Figure 11: Optimism within supply chain companies – next five years

Business forecasts

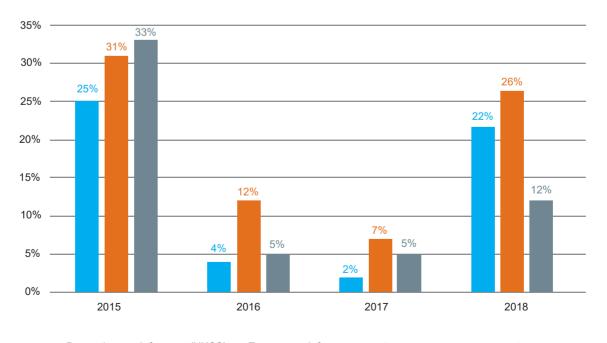
Source: AGCC

Optimism provides an interesting sentiment measure but financial forecasts are more tangible, so we asked companies for an assessment of future sales for domestic, export and subsidiary business over a five year period. Companies forecast:

- · 22% growth in the Scottish domestic oil and gas sales
- 26% growth in Scottish oil and gas direct export sales
- 12% growth in sales via international subsidiaries

Figure 12: Growth forecasts

Source: AGCC



Domestic growth forecast (UKCS) Export growth forecast Overseas subsidiary growth forecast

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4. Analysis of future markets

4. Analysis of future markets

A total of 75 different priority countries were mentioned by respondents when asked where they would be focusing their efforts. Table 1 reveals the top rankings by region and the change over the last three years.

Table 1: Change in growth regions – immediate future Source: AGCC

Region	2016 report ranking	2017 report ranking	2018 report ranking
Middle East	1	1	1
EU	2	3	2
Africa	3	2	3
North America	2	4	4
Non EU	10	5	5
Asia Pacific	6	7	6
Caspian	7	7	7
South-East Asia⁵	4	6	8
Australasia	9	10	9
South America	8	9	10

Up in ranking

Down in ranking

Stayed the same

There is consistency in the top regions for immediate growth when compared to previous years, with the Middle East remaining the top region for growth. This is followed by the EU, Africa, North America and non-EU, all of which also featured in the top five in the previous report.

This year the USA was rated as the top growth country for the immediate future, overtaking Norway which ranked top last year. However, both countries saw a small decline in the percentage of companies who listed them as a country of interest in the immediate future. In terms of change, Qatar is a new country to feature in the top 10 markets for growth in the immediate future.

For more detail see Appendix D.

⁵As in previous years, the Asia Pacific and South-East Asia regions have been grouped in the subsequent figures.

Regional and country growth - five years

Over a five year period the Middle East tops the list of regions identified as a growth opportunity over the next five years (see Figure 13).

Figure 13: Percentage of companies reporting the region as a growth opportunity in the next five years Source: AGCC

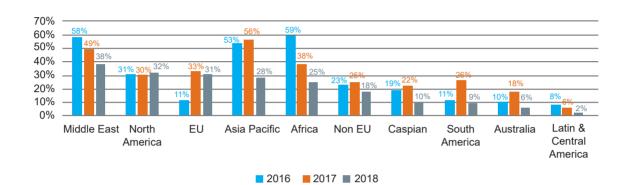


Figure 14 also reveals which countries are a focus over the next five year period.

30% 25% 19% 20% 16% 15% 11% 11% 11% 10% 5% 4% 0% SaudiArabia UAE Azerbaijan Hounay Kalakistan JSA Canada Malaysia máia ustralia China Oatar RUSSIQ 2016 2017 2018

Figure 14: Percentage of companies reporting country as a growth opportunity in the next five years Source: AGCC

Have a look at where the sub-sector focus is forecast to be in the future.

Figure 15: Drilling and wells growth ambitions Source: AGCC

Immediate future

Immediate future

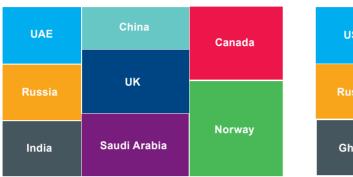




Figure 16: Marine, subsea and pipeline growth ambitions Source: AGCC





Next five years



Figure 17: Integral and support services growth ambitions Source: AGCC

Immediate future

Ireland	Australia	UK		
Oman	Saudi Arabia	UN	Netherlands	
Germany	Malaysia	UAE		
Kazakhstan	Middle East	L	ISA	

Next five years

Singapore	Holland	Kazak- hstan	Middle East	Canada
Qatar	UK			
Nigeria	Denmark	Brazil UAE		Norway
Malaysia	Saudi Arabia			

Case Study: ICR NEW INTERNATIONAL MARKETS

What do you do and what makes you different?

ICR is a global maintenance and integrity support company providing pipeline and structural maintenance, integrity, corrosion and repair solutions. We offer an integrated and efficient approach to asset integrity management.

We preserve, repair and reinstate assets, providing smarter integrated or stand-alone solutions to extend asset life. We believe that no other service company offers such an approach to pipeline and structural maintenance in-house like ICR.

Our growth strategy harnesses the integration and strength of five specialist integrity related businesses combined with investment in new geographies and technologies.

Tell us about your international capability and where you are based.

ICR has an expanding footprint with an extensive global network to support our operations around the world.

We physically integrated six bases to our new headquarters in Aberdeen, consolidating our operations in the city. ICR is further supported by bases in England, Norway, Australia, UAE and shortly the Gulf of Mexico. We also have representation in wider regions including Canada, Africa, South Africa and Columbia through our agents and distributors.

We hear that you have just opened a new office in Abu Dhabi; tell us about this. What prompted this expansion?

The Abu Dhabi branch opened in November 2017 and, working with partners NAMA Development Enterprises, now delivers pipeline and structural maintenance, integrity, corrosion and repair solutions at a local level to Oil & Gas and industrial sectors in the Middle East.

We are working hard to help our global clients overcome integrity challenges and have been supporting maintenance programmes in Abu Dhabi, Iraq, Qatar, Oman, Kuwait and Saudi Arabia for a number of years.

ICR.

What made you choose this market? What market research did you conduct beforehand?

The Middle East was a natural choice for ICR as we already had an established client base which could only strengthen commitment through at a local level. The UAE was ranked 8th largest global oil producer in 2016 and 94% of proven oil reserve is located in Abu Dhabi, which drove our decision to position ourselves there.

There is ever increasing investment in greenfield projects and that combined with ongoing brownfield maintenance campaigns and an upturn in OPEX made it an obvious decision for us.

What has been your biggest business challenge when working internationally and how have you overcome this?

The biggest challenge for us has been centred around logistics and being as responsive as possible to support our clients. This has been a big part of what led us to continue expanding our global reach in key energy hubs around the world and now having an operational presence in the Middle East means we are better placed to react quickly to requests for our services.

What are your company's plans for the next couple of years?

We will continue to broaden our client base through cross selling into new markets and geographies, opening new bases around the world as well as investing in the development of new technologies. This diversification will provide a platform for growth.

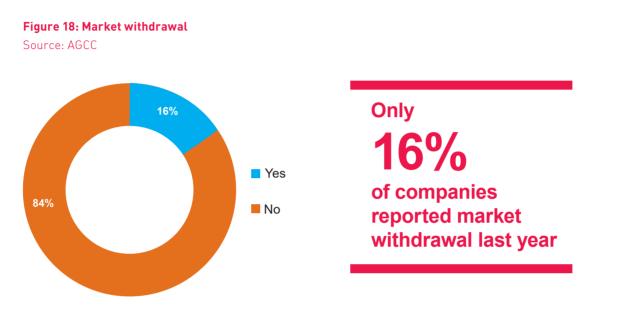
What one piece of business advice would you give to companies who might be looking to get into an international market?

Ensure you carry out sound market research. This includes CAPEX and OPEX data, trends, the key players, target markets, demographics and competitor analysis. It is equally as important to thoroughly research set-up costs and commercial and legal requirements of entering the market, which differs around the world.

5. Is the sector fit for the future?

5. Is the sector fit for the future? Challenges and constraints to realising growth

This part of the report provides analysis on what companies told us about the sector and whether it is ready to respond to recent and emerging challenges.



A small percentage of companies reported market withdrawal in the past year, a reduction from previous years. Of that small number **28%** reported USA as a market they have withdrawn from, followed by **22%** reporting Norway and **11%** reporting Australia. **38%** of companies reported various Asian countries or regions and **11%** reported African countries.

The reasons for withdrawing from these markets fell under at least one of the following themes: financial difficulties, low activity levels or contract / partner issues.

Reasons for market withdrawal – what the sector is saying

"Local conditions and payment problems."

"Mothballed our subsidiary after 2 years of trying to break the market. Now selling via third party licensing."

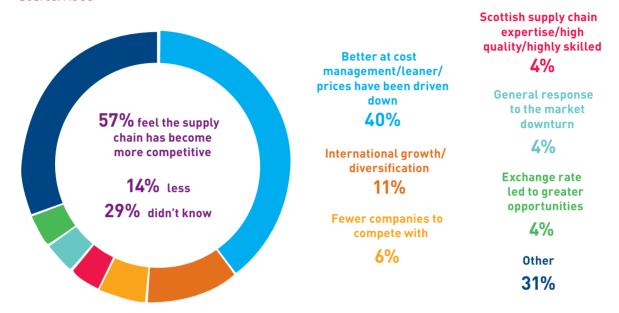
"Low volume and price opportunities over cost and investment needed to access market."

"Due to contracting strategies of operators with EPCs and the requirement to be linked with an installation contractor."

Supply chain competitiveness

Over half of companies feel that the supply chain has become more competitive (57%) over the past 12 months in an international context. We have explored the reasons for this below.

Figure 19: Reasons why the supply chain has become more competitive Source: AGCC



The main reason the supply chain has become more competitive is reportedly due to better cost management and having adapted to a new leaner way of working. This has been due to necessity rather than out of choice. Comments spanned all elements of the business world from staffing levels to expenses and benefits to overheads. Some of these comments included:

"Downturn has forced a focus on cost effectiveness and innovative approaches."

"Companies are striving to survive and under cutting at almost no profit to ensure they are still in business."

"Scottish companies have had to adapt to tighter cost and margin controls in the domestic market, which has enabled them to be more competitive internationally."

"Whilst the supply chain has had to react to the market, in many cases being forced by the majors to reduce rates, it remains uncertain whether the cost savings demanded are sustainable in the long run."

The survey results also revealed that the supply chain felt it has become better at diversification and expansion into new markets which had served to increase its competitiveness:

"Companies diversifying away from the North Sea has been positive."

"The lack of work in the UKCS has forced companies to look overseas and price competitively to win work." "As the downturn has continued more locally based companies have turned to the international market and as a result we are seeing companies which were previously very North Sea focused repositioning themselves to compete in the international arena."

There was also positivity surrounding the Scottish supply chain expertise in international markets and in particular the skilled nature of the workforce allowing firms to retain their competitive advantage.

For the 14% who felt the sector was less competitive there were polarised opinions. Some felt that cost cutting has led to a loss of skills and irreplaceable knowledge within the sector. This in turn has made the sector less competitive:

"...the recovery, when it comes, will be just as difficult as the majors realise that they have effectively removed significant and, in many cases, irreplaceable knowledge and service providers from the supply chain during the downturn."

6. Concluding remarks from industry

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6. Concluding remarks from industry

We asked companies, "What one aspect of your business would you most like support with?"

Similar themes emerged this year with many looking for specific 'incountry' support alongside other guidance.

Financial support (16 comments)

Aid in the form of funding is always beneficial but with limited spare cash to invest it is hard to even part fund some business development opportunities overseas.

Funding to explore new opportunities

Travel expense support for trade fairs and general assistance with international business development.

Asset based funding for internationally mobile assets - UK banks won't lend against assets where security can't easily be enforced.

Money - to reduce the risk of time and travelling.

Financial support and funding for international market development and research.

Business development support and introductions (14 comments)

Facilitated introductions and connections.

Contacts mechanisms into international operators. We have a great product and when we get a conversation with the right individual it lands well, but it is often a challenge to engage with the right person.

Direct access to relevant decision-maker contacts in target Operators, OEMs, and service groups.

In-country specific support (10 comments)

Find a bank able to process payments with Iran.

Guidance on exports to Russia e.g. sanctions.

Specific support with opportunity pursuit in (for example) Brazil and China.

Contacts in country who are able to support us with the cultures. Particularly in the Middle East we find that there are major cultural differences and it would be really useful to have a better understanding of these in advance.

Support with market information and identification (10 comments)

Having a resource to do proper market research screening before investing time and money in developing new markets.

Detailed and current export intelligence on sanctions, business visas and local tax advice.

Specialist market research.

Global oil and gas guides

In response to calls from the industry for specific market intelligence and in-country guidance, Scottish Enterprise developed a number of 'in-country' reports which have recently been updated with the latest guidance (Summer 2017). 54 guides are available to download from here:

https://www.scottish-enterprise.com/knowledge-hub/articles/guide/oil-gas-global-opportunities

Home or away?

Businesses were also asked what one thing would help them to ensure their base remained in Scotland and encouragingly, the largest proportion of answers came from those who said they had no intention to move (17%).

Others cited a variety of factors but a number of key themes emerged:

Keeping people and skills in the region

The experience, knowledge and expertise within North East Scotland which can be exported to all oil and gas territories

For market conditions to pick-up/a more active North Sea (also including continued support from the Operators)

Increase in market activity in drilling operations in the North Sea and across the Europe region

Oil price and development in the North Sea. Also better integration and cooperation with Tier 1's and Operators

For Government support (including clarification on BREXIT and Tax breaks/incentives)

Continued support by Government for SMEs, and ease of doing business in EU post-BREXIT, specifically having agreements in place for freedom of movement for conducting work within EU countries

Government treatment of SMEs (taxation)



7. The detail

Appendix A – Sales in other subsectors

Table 2: A breakdown of non-oil and gas sales 2016/17Source: AGCC

Sub-sector	2013	2014	2015	2016
	£bn	£bn	£bn	£bn
Other general engineering	1.16	0.41	1.28	0.65
Power generation	0.36	0.47	0.04	0.12
Defence	0.17	0.23	0.29	0.30
Renewables	0.15	0.45	0.08	0.49
Other civil engineering	0.09	0.00	0.00	0.12
Carbon capture and storage	0.00	0.01	0.00	0.00
Nuclear	0.12	0.20	0.20	0.04
Decommissioning	0.00	0.00	0.06	0.02
Offshore wind	0.00	0.00	0.19	0.08
Unconventional gas	0.00	0.00	0.01	0.00
Hydrogen	0.00	0.00	0.00	0.00
Other	0.00	0.14	0.03	0.04
Offshore wind	2.04	1.90	2.18	1.87

Appendix B - Country level analysis – how is the £10.4bn made up?

Some of you will be interested in the detail and this appendix provides an assessment of where the £10.4bn of international sales comes from around the globe.





Country	Overseas
	sales
USA	£1.8bn
Norway	£0.55bn
UAE	£0.45bn
Nigeria	£0.43bn
Angola	£0.39bn
Malaysia	£0.39bn
Canada	£0.33bn
Kazakhstan	£0.33bn
China	£0.32bn
Qatar	£0.32bn
India	£0.31bn
Netherlands	£0.30bn
Germany	£0.30bn
Saudi Arabia	£0.29bn
Brazil	£0.25bn
Australia	£0.25bn
Iraq	£0.24bn
Kurdistan	£0.21bn
Singapore	£0.20bn
Azerbaijan	£0.19bn

Table 4:Country rankings 2016 vs 2015 Source: AGCC

	USA	Norway	UAE	Nigeria	Angola	Malaysia	Canada	Kazakhstan	China	Qatar
2016 financial year ranking	1 Same	2 Same	3 Up	4 Up	5 Up	6 Up	7 Down	8 Up	9 Up	10 Up
2015 financial year ranking	1	2	11	Out of top 30	12	16	5	24	28	19

The countries falling out of the top 20 list include Russia (now 22nd), Equatorial Guinea (now 41st), Azerbaijan (now 64th) and Denmark (now 29th).

The full list of countries is shown overleaf.

Algeria Andorra Angola Argentina Armenia Australia Austria Azerbaijan Bahrain Bangladesh Belgium Benin Bermuda Bolivia Botswana Brazil Brunei Bulgaria Cambodia Cameroon Canada Chad Chile China Colombia Congo, The Democratic Republic Cote D'Ivoire Cyprus **Czech Republic** Denmark Ecuador Egypt Equatorial Guinea Estonia Finland France Gabon Germany Ghana Greece Greenland Guatemala Hong Kong Hungary

Iceland India Indonesia Iran Iraq Ireland Israel Italy Japan Jordan Kazakhstan Kenya Korea, Republic of Kuwait Libyan Arab Jamahiriya Luxembourg Malaysia Mauritania Mexico Mongolia Morocco Mozambique Myanmar Namibia Netherlands **Netherlands Antilles** New Zealand Nigeria Norway Oman Pakistan Panama Peru Philippines Poland Portugal Qatar Romania **Russian Federation** Rwanda Saudi Arabia Senegal Sierra Leone Singapore

Solomon Islands South Africa South Korea Spain Sri Lanka Sweden Switzerland Taiwan, Province of China Tanzania, United Republic of Thailand Trinidad and Tobago Tunisia Turkey Turkmenistan Uganda Ukraine United Arab Emirates United States of America Uruguay Uzbekistan Venezuela Vietnam Yemen

Regional sales

Each year we present an aggregate assessment of the regions in which the Scottish supply chain secures business. While data varies on a country by country basis there have been relatively stable levels by wider geographical region over the last four years.

Table 5: Sales by region

Source: AGCC

Rank	Region	Value £bn 2016	Value £bn 2015
1	North America	2.89	2.58
2	Europe inc non-EU	1.60	1.18
3	Africa	1.35	0.95
4	Middle East	0.88	0.38
5	Asia Pacific	0.70	0.54
6	Caspian	0.66	0.12
7	South-East Asia	0.51	Not measured
8	Australasia	0.41	0.26
9	South America	0.34	Not measured
	Other not allocated	1.06	
	Total	10.4	

Appendix C – Description of sector

Figure 20: The oil and gas supply chain

Source: AGCC

Figure 2: The oil and gas supply chain (Source: adapted from oil and gas UK)

Operators arrange the financing, licensing, and organisation of a project. They vary in size and in-house capability and thus in how they use the supply chain. This segment provides support and services directly to both operators and contractors. This can range from the specific (e.g. offshore catering and specialist training) to the generic (e.g. recruitment and IT support)

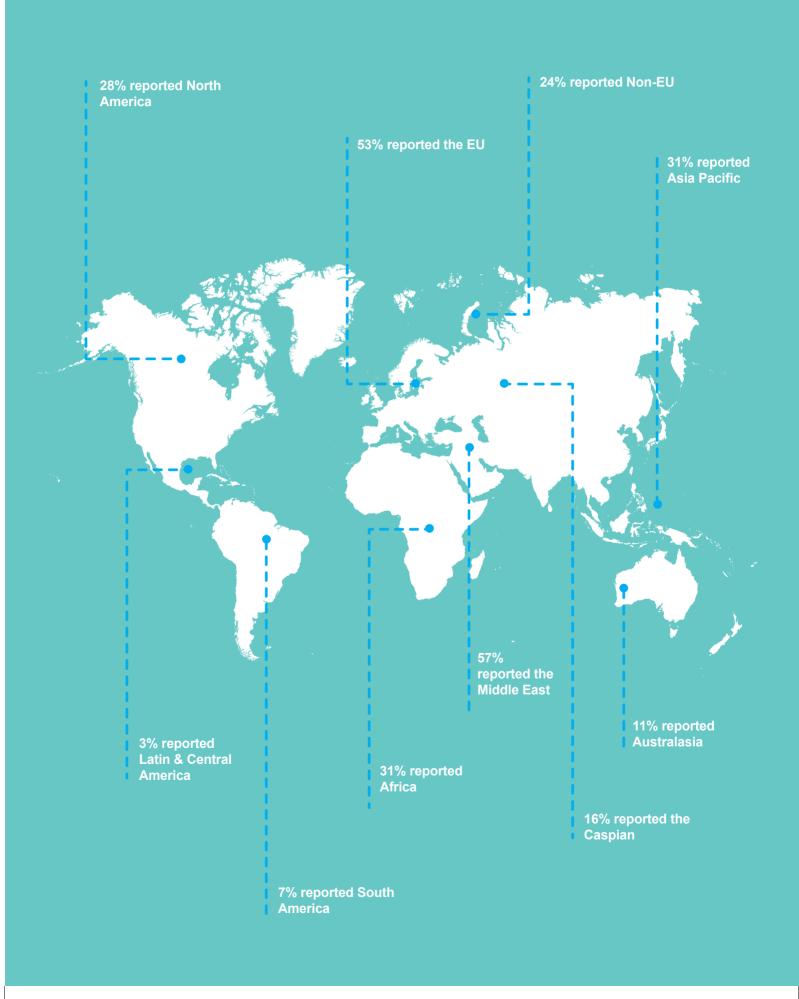
	Operators (Tier 1) All types of explore majors, large and s operating compan	Integral and Support Services			
	Reservoirs	Drilling and Wells	Platforms and Topsides	Marine, Subsea and Pipelines	Catering facility management Sea/Air transport
Tier 2 Main contractors and consultancies	Reservoir engineering/ management consultancies Seismic data acquisition & processing contractors	Well services contractors Drilling contractors Well engineering consultancies Cement contractors	Engineering, operation, maintenance and ddecommissioning contractors Engineering consultancies Structure and topsides design and fabrication	Marine/subsea contractors Heavy lift contractors Pipelay contractors Floating production storage units	Warehouse/ logistics Communications Recruitment Training Health, safety and environment services Medical services Banking/finance Legal
Tier 3 Products and services suppliers, components sub- contractors and sub-suppliers	Geoscience consultancies Data interpretation consultancies Seismic instrumentation Data storage IT/Hardware software	Drilling & well equipment design and manufacture Drilling tubulars Laboratory services	Machinery/ plant design and manufacture Engineering support contractors Specialist engineering services Inspection services Specialist steels and tubulars	Subsea manifold/ riser design and manufacture Marine/subsea equipment Subsea inspection services	Insurance Accountancy Energy consultancies

The data contained in this report excludes both Operators (Tier 1) and some support organisations. To ensure that the research only reflects companies that only operate in oil and gas we used financial data where firms reported that at least 30% of revenue came from within the sector.

Services and products provided to the upstream oil and gas industry can generally be segregated into 5 sectors. It should be noted that many multi-service companies straddle more than one category

The supply chain includes all companies involved in a project including the end user (e.g. the operator). The nomenclature typically refers to the operator as tier 1, the main contractors as tier 2 and subcontractors as tier 3. Companies can straddle more than one tier

Respondents growth in the immediate future



Appendix D – the detail on target growth countries The immediate future – further analysis

Figure 21: Percentage of companies reporting region as a growth opportunity in the immediate future Source: AGCC

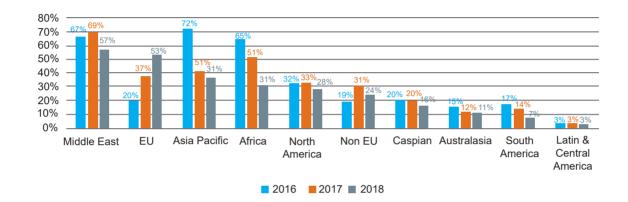


Figure 21 displays the percentage of companies reporting a region as having opportunities. Although the Middle East remains the top region identified for immediate growth, the percentage of respondents mentioning this region has declined compared to previous years (i.e. a drop from 69% to 57%). In contrast, Europe has seen an increase in the proportion of respondents considering this region as a growth country (i.e. up from 37% to 53%).

Figure 22 displays the top countries identified as growth opportunities for the immediate future based on the percentage of respondents naming each country.

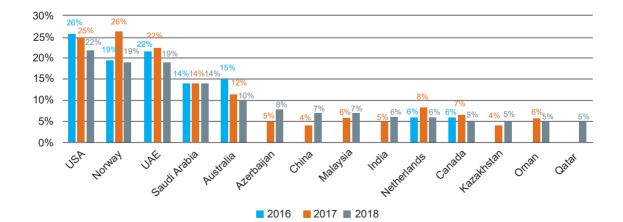


Figure 22: Percentage of companies reporting country as a growth opportunity in the immediate future Source: AGCC

Middle East

After appearing consistently among the top growth opportunities in recent years, the Middle East ranked top this year for both immediate and longer-term growth. The region has overtaken Asia Pacific which was ranked the top future growth region for the past four years.

The UAE continues to be a popular growth country within the region, although the number of respondents reporting this as a country of interest in the next five years has dropped. On the other hand, interest in Saudi Arabia has increased meaning that it now joins the UAE as a top country in the region for future growth.

North America

The USA remains the most popular market for future growth, with one in five respondents identifying the country as a growth area over the next five years.

Canada has moved up the rankings from tenth place to fifth place, with one in ten identifying the country as a future growth market.

EU

The EU has moved from fourth to second place in terms of regions for immediate future growth, however the percentage reporting this as a market for growth over the next five years has declined slightly.

Asia Pacific

Asia Pacific has dropped in the ranks from first to fourth place in terms of interest, with a drop in the percentage reporting that this is a future growth market over the next five years.

In terms of the percentage of respondents reporting interest in specific countries, interest in India, China and Malaysia has decreased.

Norway

Although there has been a slight drop in the percentage of respondents reporting Norway as a growth country in the immediate future (down from 17% to 14%), the country ranks second in terms of markets for growth over the next five years. This is up from third place last year.

Looking at the immediate and future growth markets, the USA and Norway rank top over both periods. Similarly, the UAE and Saudi Arabia feature in the top four for both periods.

About Scottish Enterprise

Scottish Enterprise is Scotland's main economic development agency and aims to deliver a significant, lasting effect on the Scottish economy. Our role is to help identify and exploit the best opportunities for economic growth. We support ambitious Scottish companies to compete within the global marketplace and help build Scotland's globally competitive sectors. We also work with a range of partners in the public and private sectors to attract new investment to Scotland and to help create a worldclass business environment.

There is an opportunity to increase Scotland's impact in overseas markets and by aligning our trade and investment activities with the work of our partners, we can maximise Scotland's international presence and visibility.

We achieve this through Scottish Development International (SDI), which is a partnership between the Scottish Government, Scottish Enterprise and Highlands and Islands Enterprise and its work is guided by the Scottish Government's strategy for economic development in Scotland.

SDI International Activities and Support

SDI works to attract inward investment and knowledge to Scotland to help the economy grow. It also helps Scottish based companies to trade overseas and promotes Scotland as a good place to live, work and do business.

SDI has a network of over 40 overseas offices in over 20 countries across the globe, staffed by a mixture of local and expatriate staff. Its offices are a key entry point and interface into local companies and economies within a country or region. SDI also collaborate with its partner organisation, the Department for International Trade, in regions where SDI does not currently have an office to ensure that in-country support is available in those areas.

For companies that engage with us in the oil and gas sector, SDI undertakes a series of targeted oil and gas focused missions and exhibitions that are designed to match company capabilities within country opportunities.

If detailed information is required on the business environment in a particular region, then we can rely on the support of a network of GlobalScots who hold positions of influence within international companies. They can provide valuable insights into the operating landscape in their respective regions and industries.

Comment from the Chamber of Commerce

Russell Borthwick *Chief Executive Aberdeen & Grampian Chamber of Commerce*

Another year and once again this report reveals some fascinating findings as well as the continued interesting tracking of financial results of the sector.

Special thanks go to the contributors this year. We know companies have been stretched and individuals feel busier than ever in slimmed down company structures. We couldn't write this report without your survey responses.

The results are a stark reminder for many of us of how hard 2016 felt as capital budgets fell across almost all international markets. The main piece of reassurance is that the share of international business held strong and that retention ensures that we are well placed in Scotland from any uptick. However, our own research at AGCC has shown that the contracting community have historically overestimated growth and we shouldn't assume the bold growth targets will be achieved across the board.

The range of markets continues to amaze us at AGCC and we hope we can play our small role in the continued success of the sector.

Disclaimer

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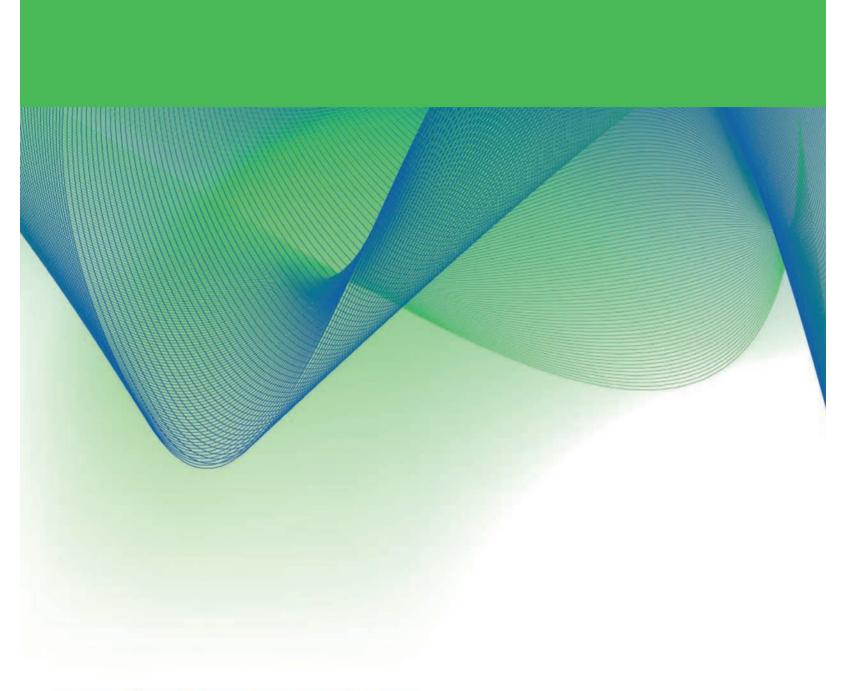
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