

# Oil & Gas diversification opportunities: Life & Chemical Sciences



Life and chemical sciences are large, established, highly competitive industries that present diversification opportunities in emerging areas. Scotland's fast growing industrial biotechnology sector is the most likely point of entry for Scottish oil and gas companies, although there may also be opportunities in international markets.

## Key Facts:

- Scotland's life sciences sector generated turnover in excess of £3.5bn in 2013. Scotland's chemical sciences sector generated turnover of £8.7bn in 2011.
- The turnover of Scotland's industrial biotechnology subsector grew from £189m in 2012 to £230m in 2015, and is forecast to grow to £900m by 2025.
- Scotland's chemical sciences exports were valued at £3.8bn in 2013, making it the second largest sector in terms of exports after food and drink.
- The UK life sciences sector regularly generates turnover in excess of £50bn per annum and accounts for more business-based R&D than any other manufacturing sector.
- The UK chemical sector regularly generates turnover of around £60bn per annum and is one of the country's largest manufacturing industries.
- Global pharmaceutical sales are predicted to grow 4.3% per annum between 2015 and 2019, and reach £1.1 trillion by 2019.
- The global chemical sciences market is predicted to grow 4.1% per annum between 2015 and 2020, to reach £2.8 trillion by the end of the decade.

## UK Opportunities

Life and chemical sciences represent more challenging diversification prospects than many other sectors; however, there may be opportunities for the oil and gas supply chain to support the growth of industrial biotechnology (IB) in Scotland. As a comparatively new industry, IB is not yet well established in Scotland, the UK or elsewhere, but is becoming increasingly recognised for its potential to create new manufacturing systems, bring down manufacturing costs, and mitigating greenhouse gas emissions. Scotland's 'National Plan for Industrial Biotechnology' sets out ambitions to grow the number of Scottish IB companies from 50 in 2015 to 200 by 2025, through increasing the uptake of IB across Scotland's manufacturing sectors. The recently established Industrial Biotechnology Innovation Centre in Glasgow aims to drive the growth of Scotland's IB sector by facilitating collaboration and promoting cross-sector adoption.

## International Opportunities

While the UK's established life and chemical sciences markets may prove difficult to access for new entrants, fast growing international markets may present more accessible opportunities for the oil and gas supply chain. Asia is the largest and fastest growing market for chemicals, accounting for 53% of global sales in 2015. The region is predicted to account for 62% of the global market by 2035 as emerging economies like India and China aim to become increasingly self-sufficient in chemical manufacturing. China is in the process of planning and building an array of chemical parks, while India is investing heavily in the manufacturing of speciality chemicals.

Area	Skills & Expertise Required
Industrial Biotechnology	The oil and gas supply chain may be able to play a role in helping to scale-up IB processes through partnering with the emerging manufacturing base or taking a stake in promising IB businesses. The development of bio refining and biochemical facilities in Scotland may also require goods and services that can be supplied by the oil and gas supply chain.
Energy Storage	The emergence of new energy storage vectors, such as hydrogen, may present opportunities for oil and gas participation in UK test and demonstration projects. Major engineering and construction opportunities may emerge over the longer term as the UK seeks to integrate new energy storage infrastructure.
International Markets	Scottish oil and gas companies with a presence in Asian markets may be able to take advantage of the growth in new manufacturing facilities, providing electrical and hydraulic engineering equipment and services, or support services such as project management.

## Market Entry

Scottish oil and gas companies may find it very challenging to enter the life and chemical sciences sectors due to well established, incumbent supply chains. New entrants should consider:

- Exploring opportunities in the emerging Scottish industrial biotechnology sector through engagement with the Industrial Biotechnology Innovation Centre, Oil & Gas Innovation Centre, or Scottish Enterprise;
- Partnering with or investing in IB businesses to support their plans for growth and expansion;
- Entering into joint ventures with international companies to support 'new-new' investments in Scotland;
- Joining industry associations such as the Scottish Life Sciences Association and Society of Chemical Industries; and
- Exploring opportunities in international markets through engagement with Scottish Development International.

## Further Information & Support

Scottish Enterprise has developed a range of information and support to help companies take advantage of opportunities in life and chemical sciences. This includes guides and case studies, a Scottish chemical science supply chain directory, and R&D support for eligible businesses. Further information is available from: [www.scottish-enterprise.com/industry-support/chemical-sciences](http://www.scottish-enterprise.com/industry-support/chemical-sciences)

Additional information on life and chemical sciences opportunities is available from:

- Industrial Biotechnology Innovation Centre: [www.ibioic.com](http://www.ibioic.com)
- Scottish Life Sciences Association: [www.scottishlifesciencesassociation.org.uk](http://www.scottishlifesciencesassociation.org.uk)
- Society of Chemical Industries: [www.soci.org](http://www.soci.org)