

Oil & Gas diversification opportunities:

Water & Wastewater

Global demand for water is predicted to grow to 30% between 2014 and 2030, driven by population growth, urbanisation and climate change. The Scottish oil and gas chain can play a role in supporting water technology innovation in the UK, and has potential to tap into infrastructure opportunities in the £500bn global water and wastewater market.

Key Facts:

- The size of the water and wastewater sector in Scotland was estimated at £1.8bn in 2014.
- Scottish Water plans to invest £3.5bn in upgrading Scotland's water and wastewater infrastructure between 2015 and 2021.
- The English and Welsh water utilities are forecast to spend £44bn on improving water services, improving resilience and protecting the environment between 2015 and 2020.
- The UK water technologies market was worth £1.5bn in 2014, but is predicted to be worth as much as £8.8bn by 2030.
- The global water resources and effluent treatment market was worth an estimated £500bn in 2016.
- The cost of achieving comprehensive access to safe water and sewerage for the global population by 2050 is estimated at over £6,000bn.

UK Opportunities

The UK benefits from water and wastewater infrastructure that supplies clean water and high standards of sanitation across the nation. However, much of this infrastructure was built in the Victorian era and the ongoing programme of repair, replacement and upgrades presents significant contract opportunities for UK supply chain companies. The UK water supply chain is already well established, but the increasing focus on innovation in water technologies may present an opportunity for new entrants from an oil & gas background. A number of water technologies are being developed and tested in Scotland that exhibit clear crossover with oil and gas, include sensors, instrumentation, robotics, water recycling and membranes for water treatment. Scotland is therefore well placed to capture a share of the growing UK water technologies market, which is forecast to be worth up to £8.8bn by 2030.

International Opportunities

Although some Scottish companies are already exporting goods and services to international water and wastewater markets, the UK supply chain as a whole has limited international reach and captures only 3% of the global water technologies market. However, the Scottish Government's Hydro Nation Strategy and associated Water Innovation Service seek to develop Scotland's supply chain capabilities and maximise its export potential. Research undertaken as part of the strategy identified the key international opportunities as being: sensors and monitoring equipment in the Far East, North America and Western Europe; water supply and wastewater treatment in Central Europe, Asia and Africa; and temporary water solutions in Africa and the Middle East. The most significant export opportunities were identified as being in Canada, India, Poland, Singapore, Malaysia and Thailand.

Discipline	Skills & Expertise Required
Image Processing	Image processing technology from the oil and gas sector could be applied to automated inspection robots or intelligent CCTV systems for use in industrial plants.
Maintenance & Cleaning	The technologies and techniques developed for oil and gas pigging could have applications in process industries for maintaining and cleaning pipelines and process piping.
Studies & Surveys	Oil and gas expertise in geoscience data acquisition and analysis may be applicable to the identification of groundwater aquifers for potential abstraction.
Drilling	The oil and gas supply chain may be able to provide drilling machinery and equipment to international markets.
Project Management	The oil and gas supply chain may be able to undertake the design and management of major infrastructure projects in international markets.

Market Entry

Water and wastewater presents significant opportunities, but also significant barriers to entry in established markets and higher levels of risk in some emerging markets. Scottish oil and gas companies with an interest in the sector may wish to consider:

- Exploring opportunities to collaborate with the existing water supply chain and research base in order to adapt specific technologies or niche services for the water sector. Scotland's enterprise agencies together with the Hydro Nation Water Innovation Service provide information, guidance and support for companies looking to develop innovative solutions for the water sector and can help to facilitate collaboration.
- Seeking out contract opportunities arising from the construction of new infrastructure or major infrastructure upgrades in international markets. This approach would work best for organisations that already have a presence in these markets and can deliver specific capabilities directly or through the existing supply chain.

Further Information & Support

Scottish Enterprise offers a range of information and support for companies considering diversification opportunities in the water and wastewater sector. This includes a guide to Scotland's capabilities in water and wastewater, as well as case studies on companies that have developed innovative solutions for international markets. Further information is available from:

www.sdi.co.uk/trade/sectors/renewables/water-and-wastewater

Additional information on water and wastewater opportunities is available from:

- Hydro Nation Water Innovation Service:
www.hnwis.scot
- The UK Water Partnership:
www.theukwaterpartnership.org