

# Innovation & Investment in Energy

## Oil and Gas



### Overview and Key Facts

- The North East England oil and gas industry built around a leading research base, design engineering, high technology companies and infrastructure offers attractive investment opportunities. Growth in the sector is at an all time high as North East companies respond to global demand for their services.
- The region is a global centre of excellence for the subsea industry driven by over 50 companies with a combined turnover of over £1bn in one of the fastest growing technology markets globally.

- Europe's largest concentration of design engineering companies who design and build new infrastructure and bring new technologies to market.
- Specialist sub-sectors in the region include flexible products / pipelines, subsea fabrication, subsea renewable energy, pipeline engineering, subsea inspection robotics, deposition and burial services, cable / pipeline trenching and subsea ploughs / trenchers.

### Research and Training

- The School of Marine Science and Technology at Newcastle University is the largest marine school in the UK, engaged in marine engineering, marine science, naval architecture, offshore engineering, coastal management and small craft technology. A dedicated centre offers industry services and research in different aspects of pipeline engineering.
- The School of Engineering at Durham University has developed expertise in pipeline bristle tractor technology and runs development projects with its successful spin out Durham Pipeline Technology (DPT), a supplier of innovative technical solutions for pipeline access, inspection and cleaning based on cutting edge patented bristle tractor technology.
- The Virtual Reality Centre at Teesside University specialises in computerised training that is able to simulate hazardous and complex training environments. One example of this is a simulation of a subsea marine environment.
- South Tyneside College is a National Centre of Vocational Excellence for Marine Engineering and Nautical Science offering courses in fabrication, welding and offshore induction and emergency training.
- New training and research programmes are being developed including industry led skills and education programmes focused initially on the subsea sector.



### Industry Support

- NOF energy is a business development organisation with over 200 members representing and supporting companies who supply to the oil and gas, marine and associated energy industries. NOF is active in encouraging members to diversify into other energy related sectors such as renewable energies and nuclear decommissioning.
- Subsea North East is a regional industry group led by an Executive Committee chaired by Wellstream and includes heads of DUCO, The Engineering Business, BEL Valves, SMD Hydrovision, Penspen Integrity, Shepherd Offshore, CTC Marine, Perry Slingsby, Durham University and Subsea UK.
- The New and Renewable Energy Centre (NaREC) is a Centre of Excellence that can fast-track concept evaluation, carry out feasibility studies and prototype evaluation and testing through to early commercialisation. The Marine Test Facility consists of three seawater docks with a wave maker and access to pumps to emulate a tidal wave. Services include assistance in design and fabrication of prototype models, data acquisition processing and analysis, electronic control and instrumentation technical support and an offshore testing environment including a simulated seabed.



## Companies

Companies in the region involved in the oil and gas industry include:

Organisation	Activity
<b>DUCO</b>	Manufactures the heaviest umbilicals.
<b>Wellstream International Ltd.</b>	Leading manufacturer of deepwater flexible pipe. First to provide piping solutions at 2000m water depth.
<b>CTC Marine Projects</b>	Leading in offshore trenching technology breakthroughs.
<b>SMD Hydrovision</b>	Designed and built the world's first remote controlled subsea pipeline ploughing system.
<b>The Engineering Business</b>	Leading supplier of innovative marine systems.
<b>Hereema Fabrication Group</b>	Builds large complex infrastructure for the oil and gas industry such as offshore modules and jackets.
<b>AMEC</b>	A global offshore engineering design company.



## Case Study – Wellstream International

Wellstream is a leading manufacturer of unbonded flexible pipe solutions for the oil and gas industry. Since locating to the North East in 1996, and inaugurating its Tyneside plant in 1997, the company has manufactured over 1,000km of flexible pipe from its state of the art manufacturing facility on the banks of the River Tyne. In this time it has developed products to operate in water depths up to 2,000 metres and address increasing pressure and sour service requirements. Its business is truly international with over 95% of its production being exported as far a field as Brazil, Angola and Australia.

Looking back, one of the key factors leading to Wellstream coming to the North East was the availability of heavy engineering skills and an experienced workforce. Since then links with the regions universities have been strengthened, not only on the recruitment of new graduates in engineering and business disciplines but also in research and development (R&D) programmes and PhD sponsorship linked to the future development of materials.

## Key Opportunities

A wide range of North East companies are involved in this buoyant sector. The region is benefiting from increasing investment in technology areas where the NE based companies are able to capture a particularly large share of value. We have identified four such areas for investment focus:

- Development of subsea engineering and marine deployment systems is a recognised strength. Emerging markets are being developed including offshore wind, wave and tidal power through bringing design, fabrication and O&M knowledge from the oil and gas sector;
- The NE has extensive skills in subsea processing and deepwater technology increasingly important as previously marginal oil reservoirs are being exploited;
- The regions proximity to the North Sea and to oil and gas infrastructure is bringing significant new investment in refining and processing. A proposal to use this infrastructure and skills base for carbon capture and storage linked to enhanced oil recovery is being explored with a number of commercial partners;
- Another technology platform is remote intervention technology with a leader global company in SMD Hydrovision developing remote operated vehicles in the region.

## Contact Details:

To discuss the service further, or to receive an initial response to an investment proposal, please make contact by phone, e-mail or post today.

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