# Continuous evolution of lower-carbon oil and gas

Subsea7 is playing a significant role in the offshore energy transition, enabling lower-carbon oil and gas through the continuous evolution of subsea and conventional developments, life-of-field services and the electrification of offshore facilities.

Integrated SPS-SURF solutions \$400 Awards net to Subsea7 since January 2020

**Carbon Estimator** 



Studies that included an emissions assessment

## Our ambition for the continuous evolution of lower-carbon oil and gas

## Subsea and Conventional developments

Subsea7 is a global leader in the provision of subsea installation services. We design and install subsea systems that leverage pioneering enabling products, digitalisation and lower-carbon intensity solutions to deliver optimal field architectures. In addition to standalone SURF services we offer an integrated SPS-SURF package though Subsea Integration Alliance, our partnership with SLB.

During 2022, we agreed to invest in the new subsea hardware joint venture between SLB and Aker Solutions that will become our new partner in Subsea Integration Alliance. The transaction is expected to close in 2023. Subsea Integration Alliance will continue to focus on utilising new technologies to deliver optimal subsea performance while reducing carbon emissions, including digitalisation of subsea projects, and the incorporation of carbon capture.

## Electrification of offshore facilities

Offshore electrification, including subsea power distribution and host facility electrification, are transformative solutions in the drive to produce lower-carbon oil and gas. Clean power can be sourced from onshore grids or direct from offshore renewable energy sources such as offshore fixed and floating wind. Combining our ability to assess greenhouse gas emissions using our Carbon Estimator, coupled with over a decade of experience in offshore wind, we are well positioned to bring traditional and new energy systems together. During the year we installed inner-array cables on the Hywind Tampen floating wind project, which will supply clean energy to the Snorre and Gullfaks fields in the North Sea.

In early 2023 we agreed with Siemens Energy to jointly develop electrification solutions for floating wind developments.

### Life-of-field services

Subsea7 provides fully-integrated solutions, engineering services and enabling products that protect the integrity and optimise the performance of subsea infrastructure throughout the life of a field.

Working together with our autonomous subsidiaries, 4Subsea and Xodus, we are developing digital solutions for asset integrity management, condition monitoring and remote operations.

Our combined capabilities allow clients to maximise recovery rates across the life of a field, enabling the highest levels of uptime and availability, at an optimised cost.

 Leveraged the tightening market for our engineering, project management and vessels to improve the pricing and payment terms of our subsea contracts

Our progress this year

- Agreed to take a 10% stake in the new subsea hardware joint venture between SLB and Aker Solutions and extend the Subsea Integration Alliance partnership to 2033
- Advanced our digitalisation strategy with the roll-out of digital fuel systems and the development of digital twins
- Delivered a strong safety performance with one lost-time injury during the year (2021: 14)

### Strategic priorities for the year ahead

- Continue to improve future profitability through selective tendering
- Closely monitor and manage the subsea supply chain
- Execute major EPCI projects of Subsea Integration Alliance including Bacalhau, Sakarya, Sangomar and Scarborough
- Optimise fleet utilisation and reduce emissions by dedicating vessels to specific regions, reducing transit times, and transiting in 'eco mode'
- Restart of the Ubu spoolbase to service the Brazilian market



### Project at a glance

Delivering the first offshore oil development in Senegal, enabled through our core strategies of early engagement and alliances.

- Subsea Integration Alliance responsible for the full subsea scope for the 23-well development, with a complex field layout including 44 flowline structures
- Senegalese team and suppliers established to develop local expertise and deliver comprehensive local content
- One year of continuous offshore operations with strategic assets Seven Vega, Seven Oceans, Seven Seas and Seven Sisters

### **Digitalisation of Sangomar**

- Leveraging vessel and environmental data and analysis to enhance vessel uptime and operability during the installation phase
- Working towards the creation of a Digital Twin, including as-built (Project Twin) and life-of-field (Service Twin) data covering pipelines, to enable optimisation and streamlining of maintenance and to reduce outages
- Using digital flowmeters to provide real-time fuel consumption data from our vessels to remote dashboards, enabling analysis and optimisation

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# Enabling the growth of renewables and emerging energy

Subsea7 is making renewables and emerging energy possible by enabling the change and innovation required to deliver projects in offshore wind, carbon capture and hydrogen.

**Offshore wind** 

10.5GW

Cumulative installations supported by year end 2022

Hydrogen studies



# Our ambition for enabling the growth of renewables and emerging energy

### Offshore wind

Seaway7, part of the Subsea7 Group, is a leader in fixed offshore wind with over 10 years' experience in delivering offshore wind projects. To date, it has contributed to the production of 10.5GW through the installation of foundations and inner-array cables in Europe, Asia and the US. Seaway7 is recognised as one of the most experienced partners for clients working on either a full 'engineer, procure, construct and install' basis or on a 'transport and install' scope.

Separately, Subsea7 has executed several floating wind cable lay projects, has invested in floating wind technology and continues to develop cost effective innovative solutions.

## Carbon capture, utilisation and storage

Carbon capture, utilisation and storage (CCUS) will be essential to the world's drive to reduce CO<sub>2</sub> in our ecosystems.

In 2022, Subsea7 began work on a contract for Equinor's Northern Lights project that will involve the installation of a pipeline supporting the storage of 1.5mt CO<sub>2</sub> per year.

Xodus is currently supporting clients in the evaluation of carbon capture projects in the UK, Europe and Australia and our in-house Field Development Group has a number of early engagement scopes underway with clients on carbon capture projects.

Subsea Integration Alliance is actively developing integrated solutions that include CCUS.

### Hydrogen

Subsea7 aims to play a key role in making offshore hydrogen possible, supporting the delivery of i) optimised and integrated solutions used in wind-to-hydrogen, ii) offshore CCUS to support onshore hydrogen and ammonia production and iii) offshore transportation of hydrogen.

In 2022 our Field Development Group completed our first client studies and patents in hydrogen.

Through Xodus, we are providing consulting services for hydrogen projects in a number of regions.

We will continue to work to build our position for this future market.

### Our progress this year

- Reached 97% completion of the \$1.4 billion Seagreen fixed offshore wind project on time and on budget
- Awarded preferred supplier status for two major fixed offshore wind developments in the UK, worth over \$1 billion
- Ørsted joined the Salamander floating wind project as a strategic investor
- Moved into execution phase on Northern Lights carbon capture project
- Secured funding for Seaway7's new build vessel programme and working capital needs

#### Strategic priorities for the year ahead

- Rebalance the risk-reward of our offshore wind business to ensure improved returns
- Convert the pre-backlog of over \$1 billion in fixed offshore wind to firm awards
- Secure a major fixed offshore wind project in the US at an attractive risk-return
- Implement the carbon capture offering of Subsea Integration Alliance
- Take a focused and selective approach to floating wind that optimises risk and return in this new market
- Build on the success of our initial hydrogen studies to establish our position in this market



### Project at a glance

The world's first project to develop renewable power for offshore oil and gas, providing electricity to the Snorre and Gullfaks fields in the Norwegian North Sea.

- An essential step in commercialising floating wind
- 140 kilometres offshore Norway in water depths of up to 300 metres
- Eleven 8.6MW floating turbines, for a capacity of 95MW
- Estimated to meet approximately 35% of the annual electrical power demand of the five Snorre and Gullfaks platforms
- Started producing power in 2022

#### Subsea7's scope

- Worked in close collaboration with Equinor and other contractors since the early design phase on installation engineering verification, hydrodynamic analysis and hazards assessment
- Utilised Seven Pacific from our subsea fleet to install six inner-array cables, totalling 13 kilometres, with a capacity of 66kV
- Installed two export cables, totalling 28 kilometres, to the Gullfaks and Snorre platforms
- Followed the success of our scope for the Hywind Scotland demonstrator project in 2017

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