The IET lighthouse series – coordinating offshore energy systems

Phase 1 landscape report – how are current initiatives and stakeholders coordinated?

The UK commitment to net zero greenhouse emissions by 2050 is driving previously separate industries to build and repurpose offshore energy assets. The 2020s will see much more infrastructure offshore but there is no obvious forum to bring the many different stakeholders together.

Plans for new infrastructure include:

Offshore wind – UK target to install 40 GW of offshore wind by 2030. The current UK offshore wind portfolio, including projects in construction, has a capacity of 12 GW.

Oil and gas – operators across the UK Continental Shelf (UKCS) have targets to decarbonise operations and are working on plans for offshore electrification.

Networks – the growing number of electricity and natural gas pipelines and interconnectors will soon be joined by carbon dioxide storage and possibly hydrogen.

How will these developments impact each other, and with existing infrastructure, marine users, and ecosystems? What will be the impact at landfall sites and onshore?

Written for local authorities, Government, non-governmental organisations (NGOs) and those in the energy industry, the IET lighthouse series will bring together stakeholders to answer the question: **Is there a case for a more integrated approach for deployment of offshore networks as a key infrastructure enabler for net zero and if so, what is the best way to enable this?**

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The main findings of the landscape report include the following:

The offshore space is limited, and under heavy demand for use and protection – there needs to be a more joined up and holistic approach.

Non-energy regulation can incentivise development in a manner contrary to optimised energy systems design preferences.

There is a very clear shared interest in the optimum use of the offshore resource, and studies on the opportunities of optimised systems are publicly available. The 'how' needs to be resolved.

There are at least 50 high-profile industry initiatives with over 500 participants in various interest groups, and a significant number of smaller, particular interest or localised parallel initiatives. Of these initiatives, there are 15 'key groups' actively progressing offshore network integration. There is surprisingly little overlap between these groups.

Some industry parties have a whole energy agenda but others only have assets. Suitable incentives must be identified to engage the entire energy industry in planned coordination.

The Baltic experience has shown that, with good coordination, appropriate legislation and proper planning, coordinated systems are achievable.

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