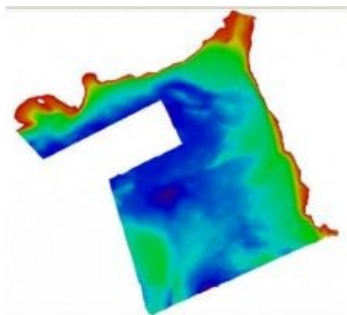


Seabed Surveys for EMEC



UK-based subsea services company Fathoms Ltd recently undertook two comprehensive surveys for the European Marine Renewable Energy Test Centre (EMEC) based in Orkney. The results of these surveys have enabled EMEC Ltd to extend its capabilities in the marine renewables sector, generating electricity from devices moored to the seabed.

Fathoms has recently expanded its operations to include work for clients such as Dounreay Site Restoration Ltd (to detect and recover radioactive particles from the seabed) and the Channel Coastal Observatory (National Oceanographic Centre, Southampton) collecting data to be used in a new coastal model being built to assist with

coastal flooding studies.

In the renewables sector, the first survey for EMEC covered two specific areas: one in Scapa Flow and the other further to the north in Shapinsay Sound. The former will be used for testing wave energy devices and the latter is more suited to tidal stream devices. Both areas required detailed and precise surveying so that designers and engineers responsible for mooring the devices could fully understand the seabed morphology and thus come up with the best mooring solutions.

Although some data were available before these surveys were undertaken, Fathoms helped the EMEC staff with the selection of the most suitable areas within the general location. This involved a considerable amount of desk-top study work with existing data and possible options. Furthermore, the choice of equipment and methodology was very much a joint one with EMEC relying on the input and experience of the skilled Fathoms staff.

Both areas also required surveying using full geophysical methods. Fathoms completed this on time and within budget, despite some atrocious weather with force 9 gales blowing up during the surveys. One item of great relevance discovered in the Scapa Flow area was an apparent buried cable that was unknown and therefore did not appear on any published chart. This requires further investigation prior to the development of the site.

The second survey was a bathymetric survey at EMEC's principal site off Billia Croo on the exposed west coast of Orkney. This survey was necessary in order to extend the area already covered by existing bathymetry. EMEC required detailed knowledge of the seabed for the laying of a new cable from offshore wave generating devices to the coast. To achieve this, Fathoms trialled R2Sonic's new wideband multibeam echo sounder. This proved ideal for the very rocky area and provided excellent results. As a result of this survey, EMEC now has detailed knowledge of a larger area for the trialling of new electricity generating devices.

In both cases, Fathoms minimised costs to EMEC by using its own vessels from its operating base in Wick and making maximum use of weather operating windows.

For more information, visit www.fathoms.co.uk.