



YORKSHIRE INNOVATION FUND UNIVERSITY OF HULL CASE STUDY

East Coast Tidal Energy Ltd



Who are East Coast Tidal Energy Ltd?

East Coast Tidal Energy Ltd (ECTE) was established in 2014 in East Yorkshire, to develop a commercial array of tidal stream turbines in the Humber Estuary. This addresses the significant opportunities offered by the Humber to contribute to UK renewable energy generation targets and predictions made by the Department of Energy and Climate Change that tidal stream power could provide 20% of UK electricity demand.

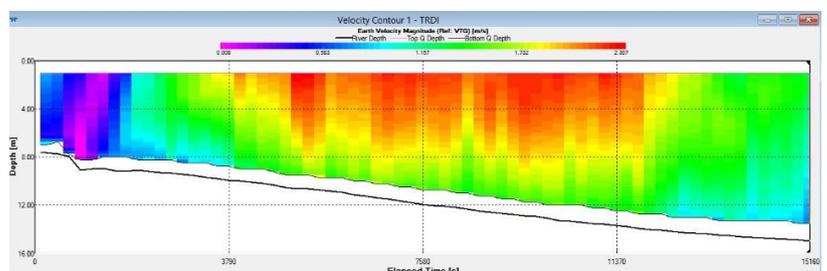
The YIF-funded innovation:

Following previous specialist assessment ECTE had identified a preferred site for a tidal array, occupying a deep water channel with no impact on shipping or coastal development, close to a grid connection, and likely to secure the consents needed. Technical work was required to demonstrate tidal flow with the ability to generate rated power through turbines, in order to secure investment interest and support the process of securing permits/consents.

Drawing on skills in environmental physics, oceanography, geography, environment and earth sciences a 'Small Innovation Project' was undertaken in Spring 2015, led by Prof Jack Hardisty of the University's Department of Geography, Environment and Earth Sciences. Utilising an innovative instrumentation and analysis package developed by the University, the project surveyed and analysed tidal flow conditions to assess the feasibility of a tidal stream power array at the preferred location.

University of Hull Team:

- ⇒ Prof Jack Hardisty, Professor of Environmental Physics
- ⇒ Ross Jennings, Demonstrator (Academic)
- ⇒ Mike Dennett, IT/Electronics Technician
- ⇒ Kim Rosewell, Field and Physical Geography Support Technician



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Impact:

The Technical Feasibility Study produced by the project exceeded ECTE's expectations. The study revealed extremely positive results, confirming the site as an optimal location and its resource viability for power generation. The YIF investment removed a significant barrier, enabling ECTE to secure serious investment interest and cement key stakeholder engagement to move the development forward.

ECTE anticipate recruiting a Technical Director and Administrator in the short term, expanding to a team of 5-10 people in the next 2-3 years. By this time the site is expected to be at capacity with 8 tidal power generation devices and test bays for other demonstration models. The project has led to further collaborative working between ECTE and the University, and ECTE also intends to identify potential sites in other locations to expand the operation.

"YIF has been critical to kick-starting our project, providing the real-life demonstration needed to support the theoretical proposition and enabling us to make real strides with potential investors.

If aspirations for this site and the company are realized, we can genuinely say that YIF will have played a critical role in enabling this exciting renewables innovation here in the Humber Energy Estuary."

(Peter Bolton, Director,
East Coast Tidal Energy Ltd)

About YIF:

The University of Hull was a partner in YIF, an innovation support programme part-financed by the European Regional Development Fund (ERDF) and led by the University of Bradford on behalf of ten Yorkshire & Humber universities. By its close in June 2015 YIF had:

- ⇒ attracted £3.06million of investment from ERDF as part of Europe's support for local economic development through the Yorkshire and Humber ERDF Programme 2007-13. Partner universities contributed a further £1.87m, bringing the total investment to £4.93m.
- ⇒ helped 215 SMEs develop ideas for new products, services and processes through collaborations with the region's universities, supported 174 innovation projects and involved over 260 of the region's academic experts in project delivery.

"YIF has enabled the University to engage with this dynamic local company, giving ECTE access to our unique and innovative field and numerical techniques. Confirming the feasibility of exploiting the Humber's potential in this novel way has made the innovation step required to help take ECTE's aspirations forward."

(Prof Jack Hardisty, Professor of
Environmental Physics,
University of Hull)

