

Report to the Marine Alliance for Science and Technology for Scotland (MASTS).

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and

Dr Patrizio Lecca, Research Fellow, Fraser of Allander Institute, Department of Economics, University of Strathclyde.

Workshop Title: *Historia docet*: external competition in the marine energy sector and the effects on the Scottish economy.

Location: Fraser of Allander Institute, Department of Economics, University of Strathclyde, Glasgow, UK

Date: August 29 to September 01, 2015

Attendees ('the Group'):

- Dr Marcello Graziano, PDRA, SAMS.
- Dr Patrizio Lecca, Research Fellow, Fraser of Allander Institute, Department of Economics, University of Strathclyde.
- Marta Musso, MA, Faculty of History, University of Cambridge.

Key Takeaways

- 1) Low local content could be balanced by attracting foreign direct investment, still producing widespread economic benefit to the UK.
- 2) Previous experiences from the onshore wind sector suggest risks could arise from the lack a UK major player in the sector, potentially leading to loss of know-how and competitive edge
- 3) Historic approaches well suited for informing path-dependent scenarios, integrating descriptive policy scenario and quantitative estimation.

Workshop Summary

Combining historic sources and quantitative CGE modelling, researchers from SAMS, U. of Strathclyde and Cambridge University investigated two major research objectives: the contribution of offshore wind (OSW) to the UK economy from 2004 to 2015, and the economic impact the future expansion will produce on the UK economy if the industry will reach a CAPEX UK-content similar to that of the more mature onshore wind industry. Historic analysis of secondary sources has highlighted the lack of skills and support policies in the UK for reaching higher level of UK-content, and initiating an export-oriented wind industry. However, the group identified the combination of investment attraction and resource availability as a third way to expand the share of locally-sourced CAPEX, other than mandates (e.g. Spain) or export-oriented support policies (e.g. Germany).

The scenario parametrization will require longer, thus results are still to be optimized, and they will be included in the paper (currently a draft). Additionally, the group has developed an initial partnership with other researchers at the University of Strathclyde to investigate the economic impact of new renewable energy incentive schemes.

Additional Commentary to the Workshop

The group has worked smoothly together, overcoming several data limitations through a rationalization of the research objectives. The collaboration between three interconnected disciplinary perspectives, History, Economic Geography and Economics, has been successful, leading to a paper in draft format to be submitted to for review (Target Journal: *Energy Policy*).

Due to data limitations, the Group has decided to focus its attention on the future pattern of development and the past impact of only one marine renewable energy (MRE) technology, offshore wind. However, if the data analysis will produce satisfactory results, the same past-to-future scenario approach will be undertaken for tidal and wave energy.

Overall, the access to a mixed historic/economic approach, and the use of original sources along with literature, has delivered a more robust scenario, leading to a better inference of the quantitative results.

Outcomes & Next Steps

The Group will continue to work towards the completion of the paper (currently in draft format). Additionally, the workshop has given the opportunity to start the formation of a consortium seeking further national and international funding (e.g. RSA, ERSA) for replicating this approach with other sustainable innovations, and through the inclusion of environmental benefits and costs.