



# Whitaker Institute Policy Brief Series

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**Cluster:** Socio-Economic Marine Research Unit (SEMRU)

**Theme:** Business Innovation and Economic Development

### Further Reading:

Grealis, E. & O'Donoghue, C., 2015 "The Economic Impact of the Irish Bio-Economy", Teagasc.

The report 'The Bio-Economy Input Output Model: Development and Uses' together with background tables can be found on the SEMRU publications page at:  
<http://www.nuigalway.ie/semru/publications.html>

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**Read More About:** Socio-Economic Marine Research Unit (SEMRU) within the Whitaker Institute for Innovation and Societal Change:  
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## Bio-Economy Input-Output Model – Estimating the Indirect Value of Ireland's Ocean Economy

The Bio-Economy is an important domestic sector for Ireland. It focuses on the economic activity attributable to the utilisation of our land and sea resources. Activity in the Bio-Economy is physically tied to domestic natural resources and consequently relies on a greater proportion of domestically sourced inputs in contrast with more mobile sectors of the economy. This is an important factor when estimating the indirect contribution that the Bio-Economy makes to the wider economy. Specifically in relation to the Marine Sector, Ireland's oceans and the economic activity it supports have been viewed as an underexploited resource with vast potential for expansion. The Bio-Economy Input-Output Model developed by SEMRU, in collaboration with Teagasc, provides a framework under which the total impact of an expansion in the Ocean Economy can be estimated. From a public policy perspective, an understanding of both direct and indirect impacts is essential for efficient decision making given limited resources.

### Harnessing Our Ocean Wealth Strategy

The importance of Ireland's marine resources as a key asset to contribute to the expansion of the national economy has been recognised in Harnessing Our Ocean Wealth (HOOW) – An Integrated Marine Plan for Ireland. HOOW sets an overarching target to double the value of Ireland's Ocean Economy to 2.4% of GDP by 2030 and to increase the annual turnover to exceed €6.4bn by 2020. In addition, individual sectoral targets were proposed, namely a €1bn target for Seafood, €2.6bn for Maritime Commerce and Ship Leasing, €1.5bn for Marine and Coastal Tourism and a €1.2bn target for Ports and Maritime Transport Services, Maritime Manufacturing, Engineering, and other marine industries. By disaggregating these marine sub-sectors from the national Input-Output table the Bio-Economy Input-Output model provides macroeconomic multipliers from which estimates of the total impacts of the HOOW expansion on a number of economic indicators can be made.

### Research Findings

The researchers employed the newly developed Bio-Economy IO Model to estimate the economic impact of reaching HOOW targets. This is estimated to result in a direct impact of €3.3bn with an additional indirect effect of €2.7bn million in the wider economy. This suggests a total value for the Ocean Economy of over €9bn in the event of reaching the HOOW targets. In addition, an examination of multiplier values suggests that the indirect impacts of the expansion in the Ocean Economy compare favourably with the non-marine sectors with seven out of eight marine sub-sectors ranked in the top half of the domestic multiplier rankings.

Considerations for future work include an investigation of the potential regional impacts of these effects and their implications for rural sustainability. While impacts for some seafood sectors may be predominantly localised around coastal rural areas, for sectors such as Shipping and Maritime Transport the macroeconomic benefits of expansion are likely to be concentrated around larger urban centres.