

Cullen Scholarship: Ocean Wealth Accounting to support a Sustainable Blue Economy (PhD Award)

Background

A key strategic outcome of the Marine Institute's Corporate Strategy 2023-2027 is that the "sustainable development of key ocean economy sectors is enabled through structured provision of integrated knowledge, data and advice to government and industry." Planning for and managing a sustainable ocean economy requires delving into the information already provided but often hidden within the national accounts and the construction of new information that is missing. Organised information informs decision-making, justification, and evaluation. Currently, the usage of national accounting statistics in Ireland's ocean economy reporting is limited and narrowly focused on producing a gross domestic product (GDP) based metric. GDP is focused on production rather than well-being or sustainability (Jorgenson, 2018). A system of national accounts could be utilised to provide broader information across three critical areas of ocean economy decision-making (Fenichel et al., 2020).

- 1) output/production measurement
- 2) outcomes or policy ends - measuring real incomes and distributions
- 3) sustainability—by measuring changes in wealth – i.e., the national balance sheet.

Two complementary conceptual frameworks can be harnessed to provide this more holistic approach to ocean economy accounting. Firstly, the concept of Inclusive (or Comprehensive) Wealth (IW), offers a theoretically consistent approach to sustainable development measurement by focusing on the capital assets, particularly natural capital, that underpin future well-being (Hamilton and Clemens 1999; Arrow et al., 2012; Dasgupta, 2021). Secondly, the System of Environmental-Economic Accounting (SEEA) was developed to provide a structured approach for integrating environmental and economic data within the national accounts. The integration of these frameworks can be further guided by the principles of ocean accounting for a sustainable ocean economy as developed by an expert group for the High Level Panel for a Sustainable Ocean Economy (Fenichel et al., 2020). Integration can also be aided by the general recommendations on the measurement of sustainable development by the Council of European Statisticians' recommendations on the measurement of sustainable development (UNECE, 2014).

The Marine Institute is currently undertaking research on the development of a system of marine ecosystem accounts based on the SEEA – EA and already produces a detailed ocean economy report, largely based on ocean GVA/GDP. The Ocean Economy reports address important facets of the ocean economy though the focus is on output/production not on measuring the outcomes of marine policy nor the sustainability of the ocean economy. There is clear scope to build on these existing initiatives to focus on a sustainable development assessment of Ireland's ocean economy.

The purpose of this PhD is to harness the SEEA and IW frameworks to build on the principles of sustainable ocean economy accounting. The aim is to shed light on the environmental impacts of economic activities, enhance

decision-making, and promote sustainable development analysis of Ireland's ocean economy. This research will develop a first set of ocean wealth accounts for Ireland and identify gaps that continue to exist in policy analysis and measurement of the ocean economy and contribute to the development of related economic accounts and policy based metrics.

Proposal

We propose a structured four-year PhD on a full-time basis to develop ocean wealth accounting and policy frameworks/metrics to focus on monitoring the sustainable development of Ireland's ocean economy.

The key research questions address the following key principles accounting for a sustainable ocean economy proposed by Fenichel et al. (2020).

- 1) *Assess policy options and decisions about the ocean and ocean economy in terms of their impacts on (a) real income and its distribution, (b) ocean production and (c) changes in ocean wealth... Changes in ocean wealth are the most important indicator of sustainability.*
- 2) *Develop ocean accounts that build on the existing internationally agreed framework and standards for national accounting.*
- 3) *Avoid overreliance on GDP, which is not a sustainability indicator or measure of benefits to people from economic activity.*

Location of Scholar

The scholar will be based for circa 50% of their time over the four years at the Marine Institute HQ Rinville, Galway.

Outcome

The expected outcome from this project is new capacity and capability in the areas of marine socio-economics, as well as the creation of a sustainable development assessment of Ireland's ocean economy. This would sit alongside Ireland's ocean economy reporting, adding additional indicators for its sustainable use. It is expected that a first set of ocean wealth accounts would be constructed as well as an overarching policy framework/dashboard to link sustainable assessment with national policy goals, including those outlined in the National Marine Planning Framework.

Marine Institute Corporate Strategy 2023-2027

This research project contributes towards the overall strategic outcome of "sustainable development of key ocean economy sectors is enabled through structured provision of integrated knowledge, data and advice to government and industry."

Under the strategic priority “Supporting Ireland’s Blue Economy” this research will address strategic initiative number 3 by developing ocean wealth accounts that focus on the assessment of sustainable development to inform marine policy and decision making.

Specific Requirements

The scholar should have a primary degree in economics with evidence of strong numerical, modelling and statistical skills.

Financial Details

Scholarships will be up to €34,000 per annum (maximum funding PhD of €136,000 over four years). This amount comprises a maintenance award of €25,000 (rate effective 1-Jan-24) to the student as well as payment of fees to the host higher education institution (HEI). The maximum fees payable to the HEI will be €6,000 per annum. The scholarship award also includes a budget of up to €3,000 per annum for eligible research costs (travel & subsistence, publication costs, consumables and other costs, such as minor kit purchase e.g. camera) for the sole use of the student, and are payable on a reimbursement basis direct to the host institution where the postgraduate student (scholar) is registered. There are no overheads payable on the scholarship.

Publication costs are intended to cover publications on which the scholar is listed as first author and are published under Open Access.

Scholars can also supplement this funding by applying to the Marine Institute’s Networking & Marine Research Communication Awards annual call.

In addition, the cost of a laptop will be covered by the Marine Institute (purchased via the Research Funding Office).

Marine Institute Co-Supervisor

Name: Jenny O’Leary (interim until MSP Economist, Team Lead is recruited).

Service Area: PIRS (Policy, Innovation and Research Support Services)

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References

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