



G20 OECD-BNCT WORKSHOP
Bioeconomy in the OECD countries
Presidency of council of Ministers
July 16, 2021

Panel 2:
Targets and monitoring tools: towards
a common framework to monitor
progress in the bioeconomy



BETTER POLICIES FOR BETTER LIVES

G20 OECD-BNCT WORKSHOP
Bioeconomy in the OECD countries
Presidency of council of Ministers
July 16, 2021

Ireland

Prof. Maeve Henchion and Patrick Barrett

Teagasc; Dept Agriculture, Food and the Marine

(E-mail: maeve.henchion@teagasc.ie; patrick.barrett@agriculture.gov.ie)



**An Roinn Talmhaíochta,
Bia agus Mara**
Department of Agriculture,
Food and the Marine

Source of image: Nilfanion



1. Objectives versus indicators

No definitive set of indicators has of yet been identified
Current research funding call to identify and select appropriate indicators.

Indicators expected to be used include:

- the availability of primary feedstock,
- the output from economic sectors considered part of the bioeconomy,
- a number of sustainability indicators, including economic (e.g. [employment](#)), social (e.g. [wellbeing](#)), and environmental (e.g. accounting for natural capital and ecosystem services such as carbon sequestration).

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

CALL SPECIFICATION
DAFM Thematic Research Call 2021

Competitive Call for Research Proposals

DEADLINE FOR COMPLETED APPLICATION SUBMISSION 09 March 2021
Online Applications Only.

To be submitted via: <https://dafm.flexigant.com/>

This Call Specification must be read in conjunction with the following guidelines in order to complete applications under this Call:
Guidelines for Applicants
FlexiGrant Portal Guidelines

All responses to this Call for Submission of Proposals will be treated in confidence. Personal data collected from Call Proposals will be processed in accordance with General Data Protection Regulations. The purpose of the collection and processing of this data is the management, payment and verification of Call applications. Data will be shared externally with our software provider, Flexant Technology. The Department may elect, where necessary, to share relevant information with collaborating partners and relevant funding institutions.

sustainability

A Natural Capital Lens for a Sustainable Bioeconomy: Determining the Unrealised and Unrecognised Services from Nature

Andrew M. Nell ^{1,2,3}, Cathal O'Donoghue ^{3,4*} and Jane C. Sizer ^{1,2,3}

Abstract: Human activity has led to degradation of the natural environment, with far-reaching impacts for society and the economy, sparking new conceptual framings for how people interact with, and depend upon, the environment. The bioeconomy and natural capital concepts both blend economic and natural sciences and propose new interdisciplinary, environmental sustainability framings. Despite this similarity, the two concepts are rarely applied together. This paper applies a natural capital lens to the bioeconomy at three different levels: environmental sustainability framings explore principles for a sustainable bioeconomy; and a case study of EU policy. We first construct an integrative conceptual model that combines the unrealised potential of bioeconomy alongside unrecognised environmental services that tend to be systematically undervalued or ignored. Subsequently, we present five core concepts identified from the sustainable bioeconomy-natural capital lens from a natural capital perspective and highlight avenues of complementarity. The paper concludes with a policy case study of the EU Bioeconomy Strategy through a natural capital lens. There is evidence that the EU strategy has become increasingly aligned with the natural capital concept, but there is scope for further integration. The natural capital concept and related notions are an aid for the future bioeconomy to ensure it meets its environmentally sound and ecologically conscious objectives.

Keywords: bioeconomy; ecosystem services; environmental economics; environmental framings; environmental policy; EU policy; natural capital; sustainability; sustainable development

1. Introduction
1.1. Environmental Sustainability Challenges and Concepts

The last century of human development has brought remarkable improvements to health, wellbeing, and economic growth but has come coupled with environmental degradation that threatens to deplete natural systems beyond recovery [1,2]. Progress on the environment has further accelerated by an increasing population, growing resource demands, shifting lifestyle patterns, dependence on non-renewables, and land-use change [3]. Growing recognition of environmental challenges, particularly climate change and biodiversity loss, has generated new ways to conceptualise how people interact with, and depend upon, the environment. Approaches to reconcile socio-economic aspirations with environmental limits—addressing negative “externalities” that threaten the health and wellbeing of both people and the planet—are gaining traction [4]. Two influential concepts at the forefront of policy and research that strive towards environmental sustainability are the bioeconomy and natural capital concepts.

sustainability 2021, 11, 805; doi:10.3390/su11210805 www.mdpi.com/journal/sustainability

2. Managing complexity and interlinkages

- Ongoing area of work
 - Need to review potential indicators for their suitability in the Irish context
 - Need to undertake a gap analysis to identify shortcomings in the available data
- Have established an ad-hoc working group including the Department of Agriculture, Food and the Marine, the Central Statistics Office, and a range of research organisations (e.g MTU and Teagasc).
- Have established linkages to EU level networks and projects





Cooperation needed between countries and actors?

- Need agreement as to what constitutes the bioeconomy, how specific indicators should be measured and how results can be compared (over time, regions, sectors) and interpreted
- Need to also consider the future evolution of the bioeconomy
- Useful to establish a network between bioeconomy monitoring groups, wider stakeholders and critically data collectors (statistics offices at national and European level)