Work package 4

Deliverable: D4.2 Guidelines for applicants on integrating practical Impact Indicators in project design

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The main outcome

- This deliverable offers specific recommendations and guidelines to future BANOS Programme's applicants to better understand what is meant with research impact, how to address impact in a proposal and be aware of the criteria used for evaluating impact to ensure competitive grant applications.

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Description of task: (i.e. as in the Description of Work)

The task will take stock of existing parallel initiatives on providing alternative and diverse metrics for monitoring both the academic and societal impact of research. The review will include indicators developed spanning all 6 pillars of responsible research & innovation1 (RRI) from public engagement to governance, H2020 co-creation 2016-2017 portfolio on indicators beyond standard bibliographic and patent counting, as well as commercialisation of research via open innovation and traditional pathways.

The task will (i) identify practical indicators that scale up from individual project application to the programme level and seek input from stakeholders (Task 3.2), and (ii) offer recommendations and guidelines to empower future applicants to the joint Baltic Sea and North Sea research and innovation calls to design research proposals around practical indicators of success and measurable contribution towards contribution to UN Sustainable Development Goal 14 targets.

The work on impact monitoring mechanisms will commence as soon as the scope of the future programme is delineated (M8). In M16, timely for being included into the SOW input materials, the proposal on impact indicators and programme-level impact monitoring mechanism will be produced. By completion of the proposed action (M30) this task will also produce guidelines for project Applicants on integrating practical Impact Indicators in project design.

THE BALTIC AND NORTH SEA
COORDINATION AND SUPPORT ACTION
(BANOS CSA)

BANOS CSA D4.2

Guidelines for Applicants on integrating practical Impact Indicators in project design

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Contents

1 Executive summary

The Baltic and North Sea Coordination and Support Action (BANOS CSA) is preparing a framework for the joint Baltic Sea and North Sea Research and Innovation Programme (BANOS), to be ready in October 2021. The deliverable presented here builds on the recommendations outlined in BANOS CSA deliverable 4.1 Report proposing impact indicators and programme-level impact monitoring mechanisms, including a set of suggested key performance indicators (KPIs). In addition, D4.2 is closely linked to the deliverable D2.9 Set of guidelines proposed for the future joint Baltic Sea and North Sea research and innovation programme implementation.

The aim of this deliverable is to offer specific recommendations and guidelines to future BANOS Programme's applicants to better understand what is meant with research impact, how to address impact in the proposal and be aware of the criteria used for evaluating impact to ensure competitive grant applications.

2 Introduction

The Baltic and North Sea Coordination and Support Action (BANOS CSA) is preparing a framework for the joint Baltic Sea and North Sea Research and Innovation Programme (BANOS), to be ready in October 2021. Task 4.1 Developing mechanisms for impact monitoring is included under the umbrella of work package 4 Specific measures reinforcing future programme's lasting impact. Task 4.1 consist of two deliverables: D4.1 Report proposing impact indicators and programme-level impact monitoring mechanisms[1], which was completed in month 16 of implementation of BANOS CSA. The second deliverable D4.2 presented here, builds on the recommendations outlined in D4.1, including a set of suggested key performance indicators (KPIs). In addition, D4.2 is closely linked to the deliverable D2.9 Set of guidelines proposed for the future joint Baltic Sea and North Sea research and innovation programme implementation[2].

The aim of the D4.2 is to offer specific recommendations and guidelines to future BANOS Programme's applicants to better understand what is meant with research impact, how to address impact in the proposal and be aware of the criteria used for evaluating impact to ensure competitive grant applications.

The remainder of the document is formulated as such that it can be used as a guidelines document, or its content can be easily modified as seen necessary depending on the call details and specifics.

3 What is impact and how does it materialise?

The definition of impacts[3] is considered to be the wider long-term effects on (i) society (including the environment), (ii) the economy and (iii) science, enabled by uptake of R&I outcomes by independent parties under indirect (or very little) influence from the original researcher(s). Impacts generally occur sometime, even a decade or longer, after an R&I project has ended.

The concept of research impact pathways is a logical framework, which describes a sequence of steps by which impact is accomplished (Figure 1, for definitions see Annex 1). To maximise impacts, appropriate stakeholder[4] identification and engagement are crucially needed to ensure uptake and utilisation of project outputs by independent parties. A careful plan to engage with all relevant stakeholders from the

[1] Koho K.A., M. Sirendi, M. Sirola, A. Andrusaitis (2020). Report proposing impact indicators and programme-level impact monitoring mechanisms BANOS CSA/D4.1.
[2] Sirendi M., M. Ulvila, K.A. Koho, A. Andrusaitis (2021). Set of guidelines proposed for the future joint Baltic Sea and North Sea research and innovation programme implementation. BANOS CSA/D2.9.
[3] Definition modified from the Horizon Europe Programme Guide, Version 1.1, 19 July 2021
[4] Stakeholders are referred here in the broadest sense of the word: every person, group or organisation who/that affects or can be affected by the actions of projects, including outputs and outcomes, funded under the 'BANOS' umbrella.

very beginning of each projects' cycle is advised, allowing the possibility for codesign, and thus taking into account the needs of various stakeholders or to ensure the market need, where applicable. The engagement with stakeholders typically evolves with time and different groups may become important at various phases of the project. Hence, the plan for engagement may need to be updated and reviewed periodically to ensure that engagement evolves as the project matures (for more details see section 6).

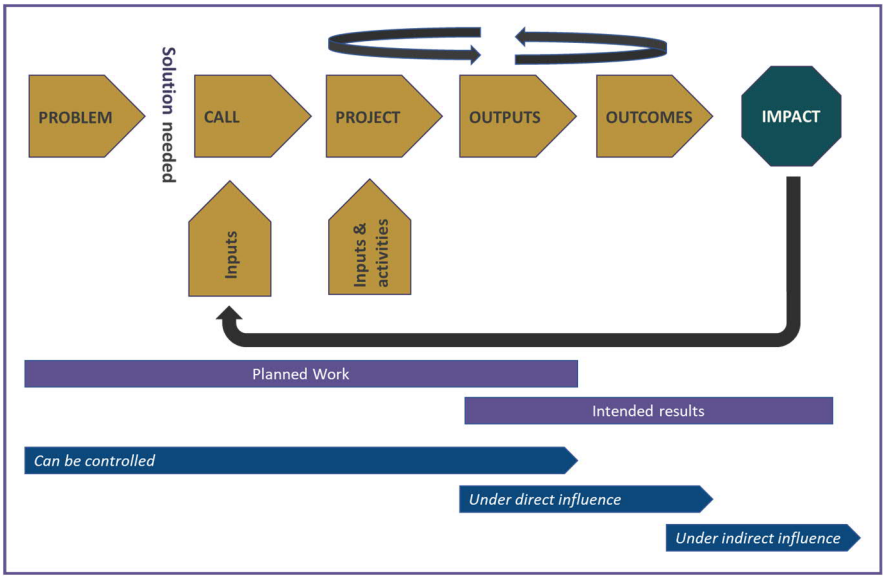

Figure 1 Research impact pathway is a sequence of steps by which impact is accomplished. This process is typically nonlinear and cyclic processes may occur. Here as an example, a solution is needed to solve an environmental problem and a BANOS call for project proposals is opened. The call provides the inputs and the financial resources for funding of the most competitive proposal. During the BANOS project cycle, multiple work tasks and activities are carried out, which in turn result in outputs. These outputs, such as scientific publications, new skills or experiences, will on a relatively short timescale leading to outcomes, including knowledge transfer, input to policy documents, strategy development, spin off companies etc. However, the real impact, such as global academic development, commercialization, wealth creation, impact on the environment, is not immediate and typically is not seen until a significant time has passed. The real impact usually occurs years after a project has ended. As such, the original project participants typically have no direct influence on delivering impact. See Annex 1 for more details on the definition of impact and the related concepts, including concrete examples relevant for the BANOS programme.

4 Why is impact assessment needed and how is it done in practice?

A paradigm shift is taking place in the research and innovation (R&I) funding landscape. The design of many programmes, including BANOS along with the new European Framework Program the Horizon Europe (HE), are changing from being activity-driven to impact-driven programmes. The content of the BANOS Strategic Research and Innovation Agenda[5] (SRIA) is highly policy relevant and the expected outcomes are tailored towards development and implementation of science informed policies. It is centred around the European green transition while aiming to deliver a decisive boost to sustainable marine and maritime economy sector and bringing the R&I capacity of the BANOS region to the next level. For more information on policy links, we strongly encourage all the applicants to consult the BANOS SRIA, Section 3 Policy Landscape and Dynamics, carefully.

The reasons for the paradigm shift are multiple. Globally there is a growing demand to understand the impacts of research and innovation projects as a response to the increased interest in the implementation of evidence-based policies and government appraisal of the returns of their investments in science, innovation and technological development. Subsequently, impact evaluations are needed to help governments and R&I funding institutions to decide where to channel the future investments in order to maximize the returns and public benefits.

[5] Koho K.A., A. Andrusaitis, M. Sirola, et al. (2021). The Baltic and North Sea Strategic Research and Innovation Agenda, BANOS SRIA 2021. BANOS CSA/D1.5

The evaluation criteria of proposals funded by the BANOS Programme is very much aligned with the practises of HE with foreseen impacts section contributing one third of the evaluation criteria (scoring: 0-5, threshold 3), and scientific/technological excellence, and quality and efficiency management contributing each another third (Figure 2). In practise this means that the project evaluators will focus on the following sub-criteria when reviewing the impact section of the BANOS project proposals.

At preproposal level

- Expected impact of the proposed research to science, society and/or economy, including measures of stakeholder engagement and dissemination.

At full proposal level

- The expected impact of the proposed research for society and policy
- Efficiency and credibility of plans for stakeholder engagement, including appropriateness of measures for the dissemination and/or exploitation of results, and management of intellectual property

For more detailed information concerning BANOS proposal evaluation procedures, the applicants are advised to consult Guide for BANOS reviewers.

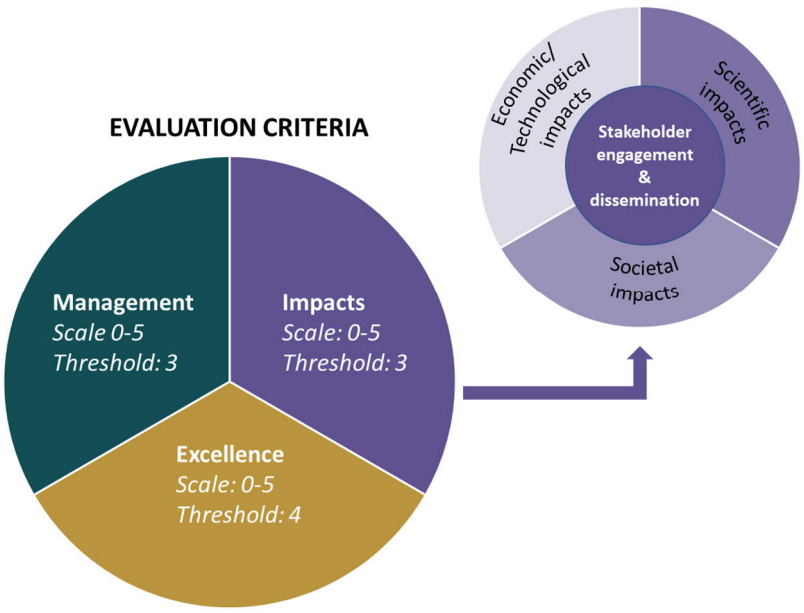

Figure 2. Impacts section contributes substantially towards evaluation criteria of the BANOS proposals, together with efficient management and scientific/technological excellence. Successful proposals must score at least 3 (good) for impacts to be eligible for funding. Where appropriate, the applicants should outline the relevant scientific, societal and economic/technological impacts of the proposed project using the concepts of research impact pathway. In addition, stakeholder engagement and dissemination plans need to be carefully outlined in order to maximize the expected impacts.

5 How to include research impact in your application

Applicants of BANOS calls for proposals are expected to utilise the concept of research impact pathways to describe and outline the potential scientific, societal and economic/technological impacts of their research as part of the proposal description of work. The expected outcomes and impacts should be aligned with the call specifics and tailored accordingly. Thus, only relevant impacts should be highlighted and their descriptions should be formulated as detailed as possible, avoiding general or vague descriptions of impacts. Where possible, personalisation of each impact and use of quantified targets and indicators are advised.

Applicants should note that Open Science practices are assessed as part of the scientific methodology in the excellence criterion, and not as part of impact.

To maximize the foreseen impacts, it is expected that the beneficiaries of the BANOS Programme will engage with stakeholders through dissemination and exploitation activities to maximize the uptake of

project outputs (see Box 1 for examples of activities). Thus, a project specific stakeholder engagement and dissemination plan is considered crucial for projects to deliver impact. The engagement with stakeholders is advised to start from the very beginning of a project cycle, and where appropriate the project goals and outputs should be clarified and planned together with the stakeholders (i.e. to ensure that needs of consumers and society, for example, are met). However, it is advised that the engagement plan remains open and flexible to allow new stakeholders to enter as the project matures. The stakeholder engagement plans are expected to identify the key actors and measures that are needed for the successful completion of a project and uptake of project outcomes. The applicants should consider the costs of the engagement and dissemination activities and include these under the eligible costs of the proposal budget.

6 Check list to ensure impacts is integrated into the application

- ✓ Do you explain clearly, using the concepts and steps of research impact pathway, how the proposed research plans will enable the expected outcomes and impacts?
- ✓ Have you identified and explained all the policy links of your project and how the outputs contribute towards them?
- ✓ Does your application include a stakeholder engagement and dissemination plan that enables you to reach out for all appropriate users from the very beginning of the project?
- ✓ Do you reserve enough resources (time, personnel, and funding) for your impact related activities?
- ✓ Do you intent to plan events or other activities to enhance the dissemination of your project outputs? If yes, are these carefully outlined and budgeted, and their relevance for achieving impact explained?

7 How is foreseen impacts and project outcomes monitored if your proposal is successful?

If your proposal is successful, grant agreements will be formulated and signed between the relevant funding organisations and the beneficiaries[6].In the Project Implementation Agreement concluded between all project participants and BANOS call secretariat, all project participants agree to submit periodic monitoring reports to the BANOS Programme[7]. Typically, a periodic report is submitted after each reporting period [xx] and final report within [xx] days after the end of the project. As part of the periodic and final reporting, the project participants will report (and if necessary update) on their stakeholder engagement and dissemination activities. In addition, data is collected on key performance indicators (KPIs, see annex 2), which can be used to assess the project performance and foresee its impacts. Twenty KPIs have been formulated specifically for the BANOS Programme based on the concepts of the research impact pathways. The applicants are advised to familiarize themselves with the KPIs already while compiling their project proposal as they can help in identification of project specific outputs, outcomes and impacts.

[6] Not all the funding organisations conclude the grant agreement; it can be replaced by funding decision, etc.
[7] In addition, reporting according to the national reporting requirements of each national funder applies.

Annex 1: Impact definition and the related concepts

Concept	Definition	Areas of application	Examples relevant to BANOS Programme
Input	The resources a research funder or institution spends in the research process.	People (funding, staff), infrastructure, knowhow, background intellectual property and support structures (e.g., administration, facilities).	
Activities	Actions taken or work performed as a result of research inputs.	Teams established, research undertaken, networking, attending courses, workshops, conferences, and engaging with stakeholders etc.	
Outputs	Outputs are the accomplishments and results of inputs and activities.	Publications, reports, databases, new research leadership skills and experience for (less-connected) researchers, new research collaborations, new intellectual property, patents and inventions, policy briefings, media, and new courses or teaching materials.	Identification and isolation of new marine biochemical compounds with potential industrial application. Development of a new complex ecosystem model with enhanced predicting capacity.
Outcomes	Tends to be more immediate than most forms of impact and generally occur under direct influence of the researcher(s) with intended results. Knowledge transferred and/or the changes that occur as a result of a programme/project. A distinction can be made between scientific outcomes, societal outcomes (e.g. contribution to policy debates or documents, strategy development), and economic outcomes (e.g. start-ups, spinoffs, increased productivity in a certain field).	Career advancement for (less-connected) researchers; new research infrastructure and programmes on societal challenges; coordination of standards, procedures and methods; approved common research projects on interdisciplinary research , commercial products and licences, job creation, new contracts, grants or programs, citations of work, new companies or spin-offs and new joint ventures and collaborations	Successful defence of PhD thesis/ acquiring new academic degrees Adoption of a new indicator by OSPAR to assess the environmental status of the North Sea, delivering on the goals and needs of the Marine Strategy Framework Directive. Adoption of marine spatial planning strategy based on scientific evidence by some competent government institution. Commercial scale-up of a new product based on the marine biochemical compound isolated during the previous project
Impact	Considered to be the wider long-term effects on (i) society (including the environment), (ii) the economy and (iii) science, enabled by uptake of R&I outcomes by independent parties under indirect (or no) influence from the original researcher(s). Impacts generally occur sometime, even a decade or longer, after an R&I project has ended.	Environmental sustainability, protection and impact; wealth creation, economic prosperity and regeneration, enhancing cultural enrichment and quality of life; worldwide academic advancement; commercialisation and exploitation; improvements in environmental health, quality of life; changes in industry or agency philosophy and practice; implementation or improvement in policy, improvements in monitoring and reporting, cost-savings to the economy or industry; generation of a higher quality workforce, job creation, improvements in community knowledge, better interpersonal relationships and collaborations, beneficial transfer and use of knowledge, technologies, methods or resources, and risk reduction in decision making	Reach the good environmental status of Baltic Sea and North Sea as specified in the MSDF. Achieve the sustainable fishing targets in Baltic Sea and North Sea as specified in the Common Fisheries Policy. New marine technology jobs. Input to delivering the goals of the SDG 14. Enhance public ocean literacy
Stakeholders	Here referred to in the broadest sense of the word: every person, group or organisation who/that affects or can be affected by the	A proper engagement enables impact to materials. Stakeholders should be carefully mapped and specified for a purpose of targeted and diversified engagement in a specific project.	N/A

	actions of projects, including outputs and outcomes, funded under the 'BANOS' umbrella.

Annex 2. Key performance indicators

The proposed BANOS academic and societal performance indicators, including both numeric and narrative indicators. The societal indicators are further sorted into policy, society, innovation and overarching performance indicators. The proposed indicators follow the principles of Research Impact Pathway model (Figure 1), which identifies the sequence of steps by which impact is realized

Academic performance indicators	Research Impact Pathway step
1. Number of PhD students and the number of post-docs funded by the project	1. Input
2. Number of research staff involved (fully or partly funded or contributed as in kind) by seniority and gender.	1. Input
3. List of international and national scientific events organized by the project	2. Activity
4. Number of attendances at international and national scientific events with presentations (oral/poster)	2. Activity
5. Number of academic training courses organized by the project and number of persons participating	2. Activity
6. List of co-operation activities involving project partners from other European marine basins or internationally	2. Activity
7. List of peer-reviewed publications arising from the project	3. Output
8. List of datasets to openly accessible common databases arising from the project	3. Output
9. List of known R&I project collaborations that have verifiably utilized the results of BANOS project	4. Outcome
10. List of doctoral theses defended (career advancement)	4. Outcome
Societal performance indicators	
Policy related performance indicators	
11. List of suggestions for designing, implementing and evaluating the efficacy of relevant public policies and governance on international, European, the regional sea basin or national level originating from the work of the project. (The list will indicate what has been suggested to whom, when this took place and in which form)	2. Activity
12. List of stakeholder committees, e.g. EC, ICES, HELCOM, OSPAR, VASAB etc., the scientists working in the project are members or observers in. (the list will contain the name of the committee and who in the consortium is involved in it)	2. Activity
13. List of occasions the project has verifiably contributed to the development and implementation of 'fit-to-purpose' regulations, policies and management practices on international, European, the Baltic Sea region or national level aimed at safeguarding the sustainable use of ecosystem's goods and services, in particular input to HELCOM and OSPAR strategies, EU Integrated Maritime Policy, EU Marine Strategy Framework Directive (MSFD) and its implementation.	4. Outcome
Society related performance indicators	
14. Number of interviews given to media by the project consortium members. (the content of the interviews should have a verifiable relation to the funded project)	2. Activity
15. List of project activities related to citizen science and enhancing ocean literacy (examples will be provided in the detailed instructions based on strategy developed in BANOS D4.8 Measures stimulating citizen science).	2. Activity
16. Number of popular science papers and books produced by the project.	3. Output

17. Number of multi-media products produced, and TV episodes featured by project consortium members (both should have a verifiable relation to the funded project)	3. Output
Innovation related performance indicators*	
18. List of industrial internships involving PhD students, postdocs and early career scientists involved in the project (the internship should have a verifiable link to the funded project)	2. Activity
Other cross-cutting performance societal indicators.	
19. List of international, national and regional (non-academic) stakeholder events, and outreach and dissemination activities organized by the project consortium members (with a verifiable relation to the funded project).	2. Activity
20. List of non-academic training courses and education activities organized by the project consortium members related to professional skills development (with a verifiable relation to the funded project). In detailed instructions, specific examples will be provided.	2. Activity