24.8 Avoided costs due to NBS implementation

Project Name: PHUSICOS (Grant Agreement no. 776681)

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Avoided Costs	**New Economic Opportunities and Green Jobs**
Description and justification	Indicators of Cost-Benefit Analysis of the Intervention sub-criterion will assess the financial feasibility of the project scenario.
Definition	Avoided costs are essentially the costs of the damages, which a catastrophic event could provoke without the expected intervention.
Strengths and weaknesses	+ It is a frequently used benefit estimation technique, both because it is a common sense approach and because the information needed to assess avoided costs is often readily achievable. - It could be very time consuming since many different models should be implemented to assess the expected damages.
Measurement procedure and tool	The avoided costs method estimates the cost that the community would incur in the absence of project scenario implementation. Given that NBS could prevent multiple risks, the avoided costs is equal to the sum of costs associated with responding to each risk faced by NBS. Thus, for each hazardous phenomenon regarding the study area, it is essential to assess the expected damages and the cost of actions taken in response to the phenomenon after it occurs.
Scale of measurement	€
Data source	
Required data	Different type of data (spatial data, models, parametric costs, etc.), depending on the hazardous phenomenon taken into account.
Data input type	Quantitative
Data collection frequency	It could be assessed when the project scenario is clear and defined.

Level of expertise required	High
Synergies with other indicators	
Connection with SDGs	12
Opportunities for participatory data collection	Given the high degree of expertise needed to calculate this indicator, technical stakeholder can contribute to the provision of data needed for the estimation of the expected damages.
Additional information	
References	U.S. Environmental Protection Agency (1993), *A Guide for Cost-effectiveness and Cost-benefit Analysis of State and Local Ground Water Protection Programs*.

24.9 Payback period for NBS

Project Name: PHUSICOS (Grant Agreement no. 776681)

Author/s and affiliations: Gerardo Caroppi[1,2], Carlo Gerundo[2], Francesco Pugliese[2], Maurizio Giugni[2], Marialuce Stanganelli[2], Farrokh Nadim[3], Amy Oen[3]

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Payback Period	**New Economic Opportunities and Green Jobs**
Description and justification	Indicators of Cost-Benefit Analysis of the Intervention sub-criterion will assess the financial feasibility of the project scenario.
Definition	The length of time required for the expected intervention to recover the cost of an investment. The payback period of a given investment or project is an important determinant of whether to undertake the position or project, as longer payback periods are typically not desirable for investment positions.
Strengths and weaknesses	+ Easy to understand and to calculate; Once the calculation method is defined, it is unambiguous and does not lend itself to misinterpretation.