

Connection with SDGs	SDG 8: Decent work and economic growth SDG 12
Opportunities for participatory data collection	None identified
Additional information	
References	

24.7 Replacement costs of NBS

Project Name: PHUSICOS (Grant Agreement no. 776681)

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Replacement 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	Replacement costs or replacement values refer to the amount that an entity would have to pay to replace an asset at the present time, according to its current worth.
Strengths and weaknesses	+ Replacement costs is straightforward to calculate (especially with a spreadsheet); If calculated using NPV, cash flows rather than net earnings will be used (which includes non-cash items such as depreciation). - A discount rate must be selected; NPV assumes you can accurately assess and predict future cash flows.
Measurement procedure and tool	Replacement cost refers to the price that it would cost to replace an existing asset with a similar asset at the current market price. The asset in question, in the project scenario, should be the NBS/Hybrid/Grey solution implemented. For a damaged asset, the replacement cost for that asset takes into consideration the pre-damaged condition of the asset. Replacement costs are common in insurance policies to cover assets that are damaged or destroyed in a disaster, such as an floods or earthquakes.

	<p>The process of determining an appropriate cost estimate of replacing an infrastructure is complex, and it requires various pieces of data and knowledge of construction in order to make an informed assessment. When making a decision on the infrastructure to be replaced and the cost to be incurred, businesses use the net present value (NPV). The NPV method is used to analyze the cash inflows and outflows in order to make a purchase decision. It uses a discount rate to estimate the minimum rate of return on the asset.</p> <p>The formula for Net Present Value is:</p> $NPV_{XYZ} = \frac{Z_1}{(1+r)} + \frac{Z_2}{(1+r)^2} - X_0$ <p>where:</p> <p>Z_1 = Cash flow in time 1 Z_2 = Cash flow in time 2 r = Discount rate X_0 = Cash outflow in time 0 (i.e., initial cost)</p>
Scale of measurement	€
Data source	
Required data	Model
Data input type	Cash flows of the project
Data collection frequency	At least once after project definition.
Level of expertise required	High
Synergies with other indicators	Connected to other economic indicators such as initial cost and maintenance costs.
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 cash flows.
Additional information	
References	Daves, P. (2004). Net present value (npv). In M. J. Stahl (Ed.), <i>Encyclopedia of health care management</i> (pp. 386-386). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412950602.n533