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2.1.4 Carbon Storage Score

Project Name: Nature4Cities (Grant agreement: No. 730468)

Author/s and affiliations: Florian Kraus[1], Bernhard Scharf[1]

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Carbon Storage Score	**Climate Resilience**
Description and justification	The CSS (Carbon Storage Score) is one out of five Key Performance Scores of the GREENPASS® system. It expresses the carbon storage performance of the NBS in a project area. Carbon dioxide is the most relevant greenhouse gas. The ability to capture carbon dioxide is most relevant in climate change mitigation.
Definition	The CSS (Carbon Storage Score) describes the total amount of stored CO_2 within the vegetation and soil of a project area.
Strengths and weaknesses	+ worldwide standardized key performance score regarding greenhouse gases and carbon sequestration + easy for communication, understanding and decision-making + useful for design optimization - needs simulation (photosynthesis activity)
Measurement procedure and tool	- modelling, simulation tools and GREENPASS® analysis and calculation - numerical value in kg/day
Scale of measurement	Object, neighbourhood and city scale
Data source	
Required data	- project area - NBS typology

Data input type	- 3D model with surface and vegetation types incl. characteristics
Data collection frequency	- one to several times in planning and optimization process
Level of expertise required	easy to understand – for planners and decision makers
Synergies with other indicators	Link to 'Total carbon removed or stored in vegetation and soil per unit area per unit time', 'Total C stored in vegetation assessed per unit area per unit time', 'Total C stored in soil assessed per unit area per unit time'
Connection with SDGs	SDG 11 Sustainable Cities and Communities, SDG 13 Climate action
Opportunities for participatory data collection	None identified
Additional information	
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2.1.5 Measured soil carbon content

Project Name: UNaLab (Grant Agreement no. 730052)

Author/s and affiliations: Laura Wendling[1], Ville Rinta-Hiiro[1], Maria Dubovik[1], Arto Laikari[1], Johannes Jermakka[1], Zarrin Fatima[1], Malin zu-Castell Rüdenhausen[1], Ana Ascenso[2], Silvia Coelho[2], Ana Isabel Miranda[2], Peter Roebeling[2], Ricardo Martins[2], Rita Mendonça[2]

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[2] *CESAM – Department of Environment and Planning, University of Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal*

Total carbon storage and sequestration in soil per unit area per unit time	**Climate Resilience Green Space Management**
Description and justification	Accounting for C stored in soil and vegetation in an urban area can provide an indication of the condition of natural green spaces, total free surface area and total quantity of vegetation in the area examined. Measures of C storage and sequestration also provide a tangible connection to climate change mitigation, and the impacts of local land use, planning and management decision-making. It is important to note the substantial variation in C sequestration and storage capacity of different types of NBS.
Definition	Total amount of carbon (tonnes) stored in soil per unit area and unit time
Strengths and weaknesses	+ Physical sampling and laboratory analysis of soil C yields accurate information, with improved accuracy of estimated C storage in soil with increasing sampling intensity