7.2 Total green space within a defined area: Share of green urban areas

Project Name: Indicators for urban green infrastructure (EEA) and Nature4Cities (Grant agreement: No. 730468)

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Share of Green Urban Areas	Green Space Management Urban Regeneration
Description and justification	Green urban areas (GUAs) such as parks, public and private gardens, and even trees lining streets can facilitate climate change adaptation and mitigation, improve health and quality of life, and may favour biodiversity conservation. Vegetated areas in cities can generate a cooling effect thanks to evapotranspiration and shading, which may improve the thermal comfort of urban dwellers and increase their resilience to heatwave events. Moreover, green urban areas are unsealed, allowing the infiltration of storm water and decreasing rainwater runoff. The presence of GUAs favours pollution control as vegetation provides cleaner air by removing pollutants such as nitrogen dioxide and microscopic particulate matter. GUAs have an important value beyond their environmental benefits and aesthetic assets. Exposure to greenspaces can restore the physical and mental health of city dwellers by enhancing psychological health and reducing blood pressure and stress levels.
Definition	The proportion of all vegetated areas within the city boundaries in relation to the total area of the city.
Strengths and weaknesses	Strengths: the indicator is easy to measure and it is easy to communicate; it can be used to benchmark cities. It is easily comparable Weaknesses: the indicator does not consider other contextual elements; precision is related to input data. In this application the minimum mapping unit is 0.25 ha And Green linear elements are not currently included.
Measurement procedure and tool	This parameter is based on several classes (11230, 11240, 14100, 14200, 20000, 30000) of the Urban Atlas data, which contain substantial green spaces (the two least dense residential classes with a sealing degree < 30 %, urban parks, sports and leisure facilities, forest, semi-natural and agriculture). It is computed for the core city as defined by Eurostat/Urban Audit. The procedure includes the following steps: 1. Selection of the GUAs typologies to be included

	o In this application the following Urban Atlas classes were included : ▪ 11230-discontonuos low density urban fabric, 11240- discontinuous very low density urban fabric, 14100-green urban areas, 14200-sports and leisure facilities, 20000-agricultiral land, 30000-natural and seminatural areas 2. Sum of the total area of GUAs in the selected city 3. Compute the share of GUAs per city surface In this application the city surface was derived from the Urban Audit data (Eurostat 2017).
Scale of measurement	Minimum mapping unit 0.25 ha
Data source	
Required data	Land use –land cover – in this application Urban Atlas https://land.copernicus.eu/local/urban-atlas/urban-atlas-2012?tab=download Municipal boundary – in this application Urban Audit data (Eurostat 2017). https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/administrative-units-statistical-units/urban-audit Measurement Unit: %
Data input type	
Data collection frequency	Every 6 years. Currently available for 2006 and 2012. Date for 2018 is under production.
Level of expertise required	Land use and GIS expertise
Synergies with other indicators	Distribution of green urban areas (EEA) Access to green areas in Europe (DG Regio)
Connection with SDGs	SDG-11 (Sustainable cities and communities), specifically target 11.7 (universal access to safe, inclusive and accessible, green and public spaces)

Opportunities for participatory data collection	
Additional information	
References	https://www.eea.europa.eu/themes/sustainability-transitions/urban-environment/sub-sections/urban-green-infrastructure/typology-for-urban-green-infrastructure https://eea.maps.arcgis.com/apps/MapSeries/index.html?appid=42bf8cc04ebd49908534efde04c4eec8%20&embed=true