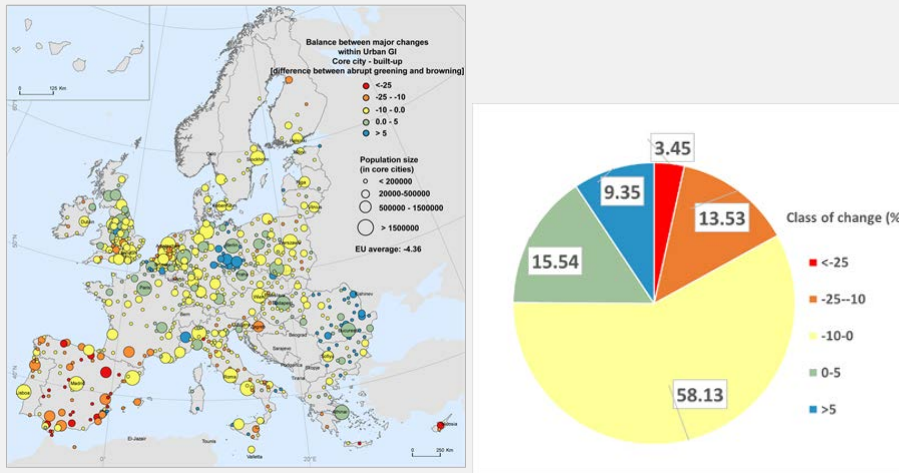


Balance between abrupt greening and browning changes within densely built areas in core cities and commuting zones. Pie charts show the proportion of reporting units per class of change (%).



8.3 Edge density

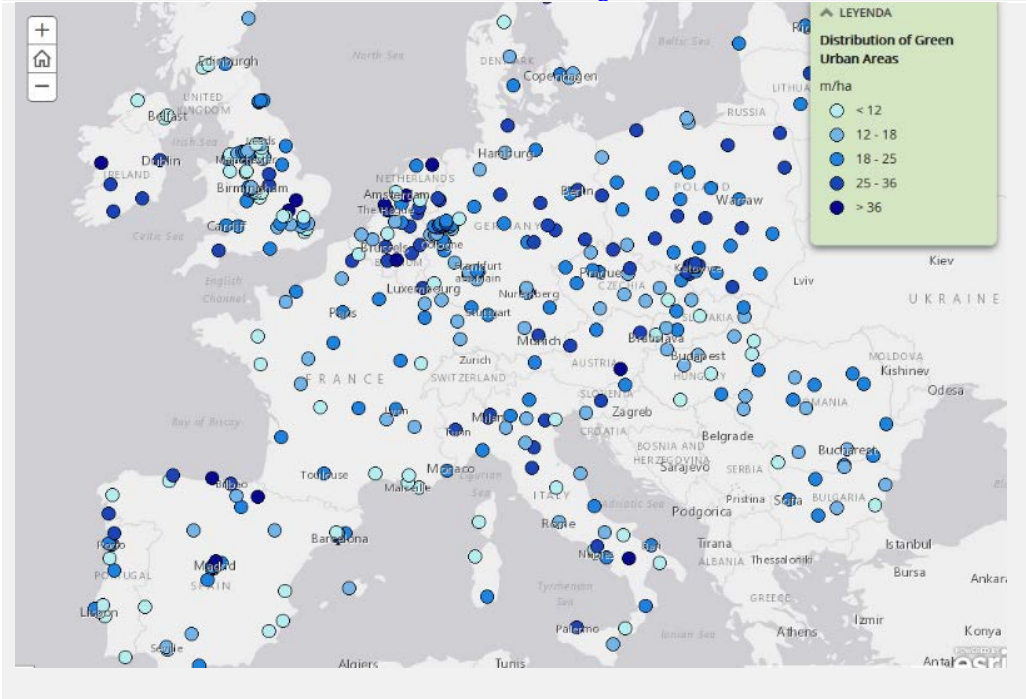
Project Name: Indicators for urban green infrastructure (EEA)

Author/s and affiliations: EEA, ETC/ULS

Edge density	Green Space Management
<p>Description and justification</p>	<p>Within cities, green areas may not be equally distributed. An uneven distribution of GUAs prevents equal accessibility for all city dwellers, focuses benefits from exposure on fewer city elements (neighbourhoods, streets, buildings or houses) and prevents connectivity of all the available green spaces in the ecological network.</p> <p>The edge density provides an indication of the distribution of GUAs. A high edge density in a city indicates a relatively high number of green areas that border residential, commercial, and industrial or other public buildings. Consequently, a higher value for the indicator may be due to a long boundary length, i.e., more small patches.</p> <p>This measure provides a proxy for the equal or non-equal distribution of green urban areas in the city. Increasing the green area and distributing it more evenly is an effective measure in reducing the undesired effects of clustered urban green areas.</p>

Definition	Relationship between green area boundaries (edges) and all the other elements present in the city. The total length of the edges is compared with the city's urban area (m/ha)
Strengths and weaknesses	Strength: proxy for equal/non-equal distribution of green urban areas and, hence, accessibility. Weaknesses: resolution of the data (minimum mapping unit 0.25 ha). Green linear elements are not currently included and may contribute to connect larger green areas.
Measurement procedure and tool	Green urban areas are 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 indicator is based on the edge density metric. Length of the green urban area perimeter (in metres) is divided by the urban area (in hectares).
Scale of measurement	Minimum mapping unit 0,25 ha
Data source	
Required data	Urban Atlas (or any land use data set) Unit of measure: m/ha
Data input type	Data provided by Copernicus Land Monitoring Service with public access
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 knowledge
Synergies with other indicators	Share 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/urban-green-infrastructure/indicators_for_urban-green-infrastructure

<https://www.eea.europa.eu/themes/sustainability-transitions/urban-environment/urban-green-infrastructure/urban-green-infrastructure-1>



8.3.1 Public green space distribution (applied and EO/RS)

Project Name: Connecting Nature

Author/s and affiliations: Connop, S.¹, Dushkova, D.², Haase, D.² and Nash, C.¹.

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Public greenspace distribution (Applied and EO/RS combined)	Green Space Management
<p>Description and justification</p>	<p>Public greenspace in cities contributes to quality of life in terms of environmental services and social and psychological services. Public greenspace distribution can therefore be an important factor for making a city sustainable. Decisions on where to create greenspace/NBS should be based on criteria related to maximising the equitability of distribution, focusing on areas lacking greenspace and in areas where ES valuation identifies greatest benefit/need.</p>