

Number	B-GOV2
Indicator name	Retention of rainwater around the building
Area	G
Indicator definition	<p>The indicator (qualitative and quantitative) describes the elements, especially surfaces, around the building (within 20 meters of the building) that have an impact on water retention. The indicator is expressed by the coefficient of blue-green infrastructure, which expresses the scope and quality of the elements of BGI (blue-green infrastructure) around the building.</p>
Indicator unit	coefficient
Key words	Water, rainwater management, water retention, blue-green infrastructure
Reason for tracking and usability	<p>Water retention in the soil through permeable surfaces, greenery and ideally rainwater management (RWM) facilities to some extent reduces the risk of flooding the building in the event of precipitation.</p> <p>When creating the indicator, a modified and modified "index of blue-green infrastructure" according to J. Vitek (JV PROJEKT VH s.r.o.) and other processed studies and documents in the given area is used.</p> <p>The blue-green infrastructure (BGI) index expresses the permeability of the surfaces of the selected area by means of the functional coefficient BGI of the respective surface type / object and the total area of the given surface type / covered by the given object type in this area. The area of individual surfaces / areas in the vicinity up to 20 m from the sides of the building is first weighted by the coefficient BGI and then after consideration calculated. The weighted BGI coefficient is then obtained by dividing the area of areas with the BGI function by the total area of areas.</p>
Completeness, representativeness, validity	<p>The size of the area around the building is determined by a vertical line with a length of 20 m from the sides of the building. This limit is decisive and may not correspond to the nature of the development / land in various cases. Due to the fact that the weighted coefficient is expressed by a ratio, the considered area may not always be the same for different buildings (for example it is possible to use land plots).</p>

Description of data processing

The indicator includes both qualitative (type of surfaces) and quantitative parameters (area). Table of qualitative parameters: Code; Surface / object description Definition; - A: impermeable paved surfaces; areas without plant cover and the possibility of rainwater infiltration - B: paved area with paving, threshing surface; paving on a gravel bed with a joint of less than 15 mm, threshing surfaces with a permeability of less than 10 mm / hour - C: paved surface with permeable cover, unpaved surfaces without plant cover; permeable paved surfaces and paving with permeable joint over 15 mm, area with gravel and sand surface with permeability over 10 mm / hour - G. a small area with a continuous plant cover and the possibility of infiltration into deeper layers strongly compacted; areas up to 10 m² and green strips width less than 3.5 m without the possibility of inflow of rainwater from the surrounding areas, areas heavily compacted - H: grassy area with intensive maintenance with the possibility of free infiltration into deeper layers; grassed intensively mowed areas (more than 3 mowings per year) exceeding the dimensions of 10 m² - CH: extensively maintained grassy area, area with mixed vegetation cover of herb and wood floor vegetation; areas with an increased value in terms of biodiversity or infiltration capacity - J: massive trees; mixed (coniferous and deciduous), existing involved tree growth massive trees capture 80% of precipitation, coniferous trees are more effective in capturing precipitation, as deciduous trees in the leafless state capture only 10 to 30% (Xiao, McPherson, 2002, Calder et al. 2008) - K: trees with small growth, mostly deciduous trees; young trees capture only 15%, coniferous trees are more effective in capturing rainfall, as deciduous trees in the leafless state capture only 10 to 30% (Xiao, McPherson, 2002, Calder et al. 2008) - L. areas of shrubs over 1 m high - P: underground overwhelming space for trees; root cells, structural substrate, root bridges and pathways with water regime optimization - Q: areas where treatment has been made to support rainwater infiltration; H-shaped areas, the topography and degree of compaction of which has been adjusted for the possibility of water infiltration from the surrounding areas, other areas where rainwater infiltration has been supported by a technical or technological measure - R: RWM objects regulating water runoff; infiltration swales and grooves with regulated outflow - S: flat RWM objects allowing water infiltration; infiltration swales and grooves with regulated outflow Calculation table with quantitative parameter (area) including example: Example: house approx. 10 x 10 m on a plot of 570 m² with predominant permeable areas and greenery: Code; Coefficient (k); Area (S) [m²]; Function BGI (fBGI) = k*S A: 0 * 36 = 0 B: 0,2 * 48 = 9,6 C: 0,4 * 0 = 0 G: 0,4 * 27 = 10,8 H: 0,7 * 450 = 315 CH: 1 * 30 = 30 J: 1 * 45 = 45 K: 0,4 * 0 = 0 L:

$0,4 * 34 = 13,6$ P: $0,6 * 0 = 0$ Q: $0,4 * 0 = 0$ R: $0,8 * 0 = 0$ S:
 $1 * 670 = 670$ TOTAL: area TOTAL: 1340; area BGI: 1094

Calculation: Weighted coefficient= area BGI/area TOTAL = 0,816

Data source

The dimensions of individual types of surfaces adjacent to the building/objects of rainwater management must be determined by direct field measurements and, if necessary, by comparison with project or construction documentation.

Tracking frequency

2 – 3 years

Urban influence

The city/city district/municipality can directly invest in increasing the permeability of surfaces around buildings owned by it, in RWM facilities and other elements of BGI, or support these measures on land and buildings of other owners financially or otherwise. RWM and BGI elements related to buildings and related to public space should be proposed in the strategic planning of urban development and in the framework of urban spatial development policy.

Presentation method

The results will be presented in a uniform KLIMASKEN framework on a five-point scale after including the final value of the weighted BGI in the appropriate interval. 5(E): $\leq 0,2$; 4(D): $> 0,2 \leq 0,3$; 3(C): $> 0,3 \leq 0,6$; 2(B): $> 0,6 \leq 0,8$; 1 (A): $> 0,8$

Responsibility

Vlastník, správce budovy