

# Urban Adaptation and Mitigation

evaluation, tools, Action Plan and measures

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Virtual ADAPTtoCLIMATE  
international Conference

19th of April 2021

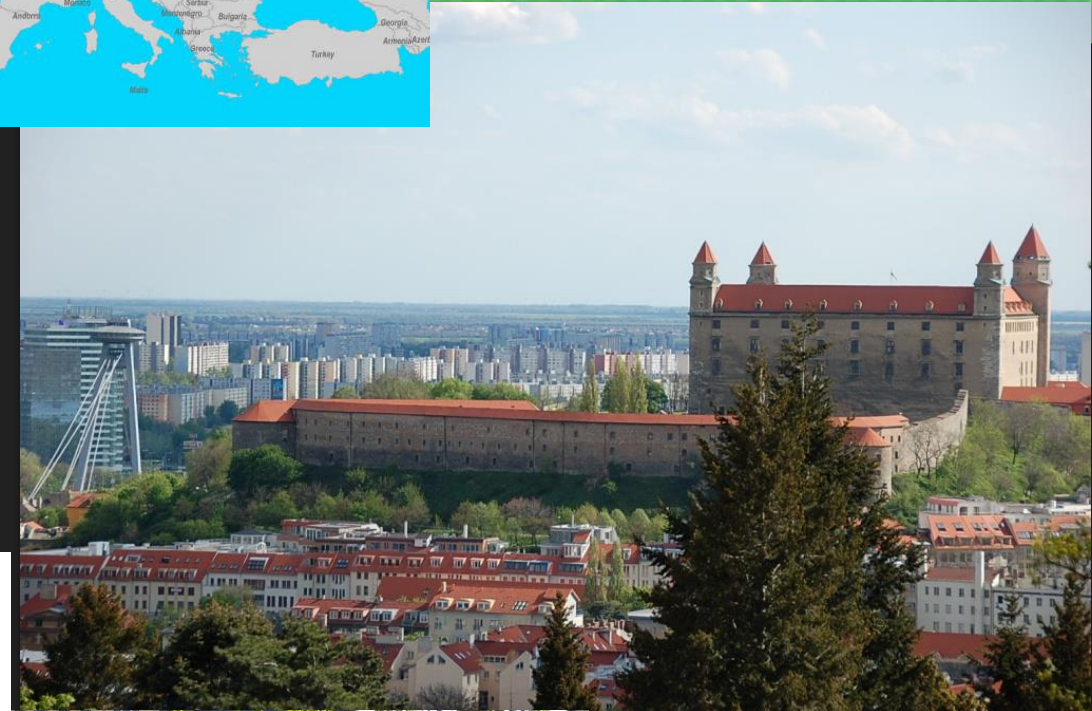
Developing resilient, low-carbon and more livable urban residential area -  
**DELIVER**



# Bratislava Municipality Karlova Ves



Bratislava (cca 600.000 residents) consist of 5 city districts 17 municipalities, Karlova ves is located in the western part of the city , occupying the surface of 11km<sup>2</sup> and with cca 36 000 permanent inhabitants and 15 000 of students.



# Developing resilient, low-carbon and more livable urban residential area - DELIVER

**Coordinating Beneficiary:** Bratislava Municipality Karlova Ves

**Main topics:** adaptation and mitigation with regards on biodiversity

**5 partners**

**DURATION:** 15/06/2018-15/06/2023

**Total amount:** 2,446,523



# Developing resilient, low-carbon and more livable urban residential area - DELIVER

## OBJECTIVES & SCOPE

To balance adaptation and mitigation efforts in residential areas consisting of prevalingly prefabricated buildings with the aim to increase their climate resilience, to reduce the carbon footprint what will result in higher health and living comfort for local citizens, greater property protection, saving of financial resources of citizens and municipalities and to higher biodiversity.

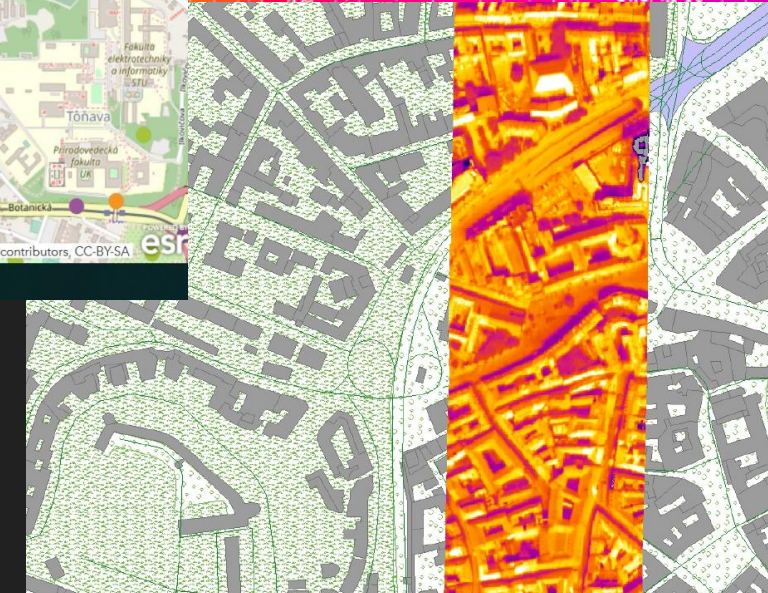
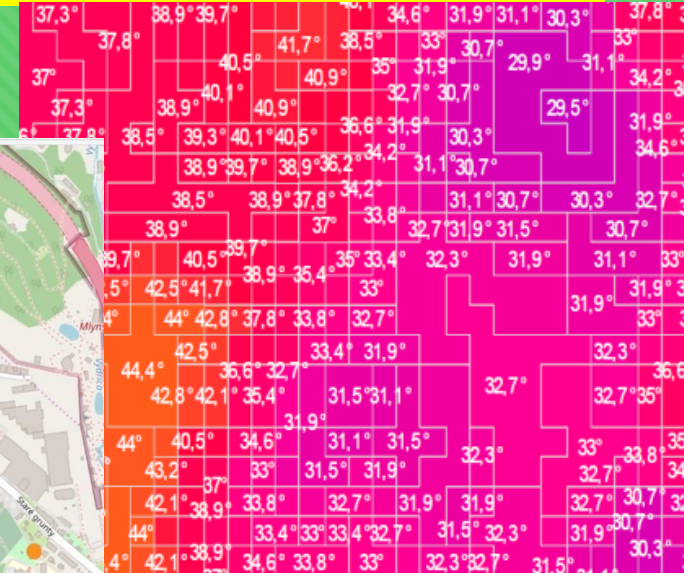
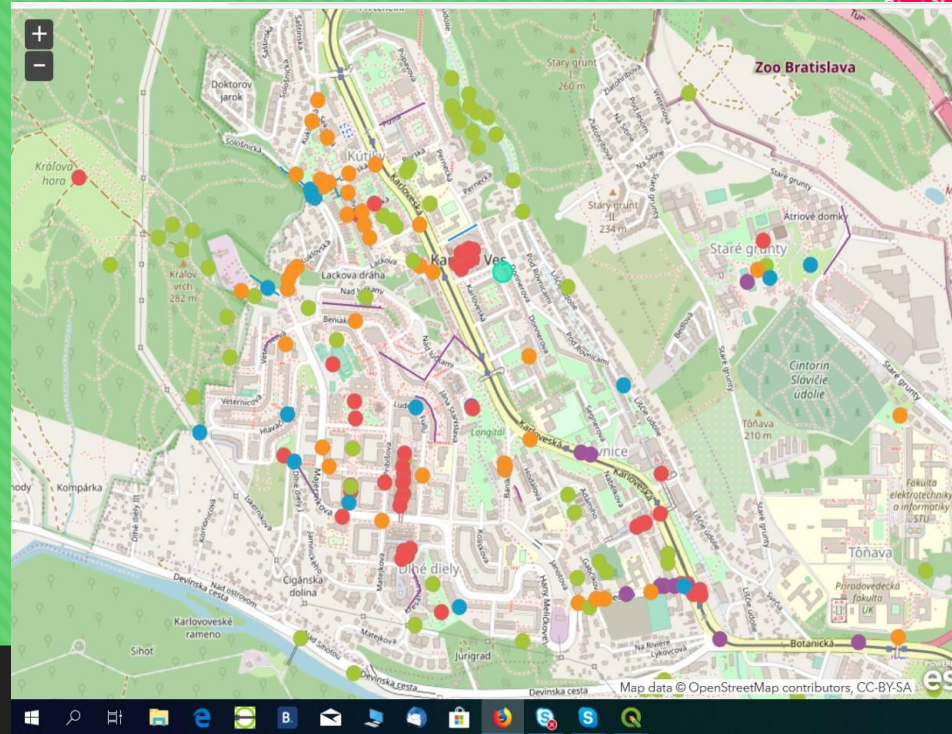
## ACTIVITIES

Development and testing tool „Klimasken“, elaboration of Climate Action Plan, public buildings and open spaces pilot refurbishment, quantification of energy potential savings for the residential housing stock in Bratislava Karlova Ves Municipality, creation of Community Climate and Biodiversity Educational Centre, national and local legislation changes

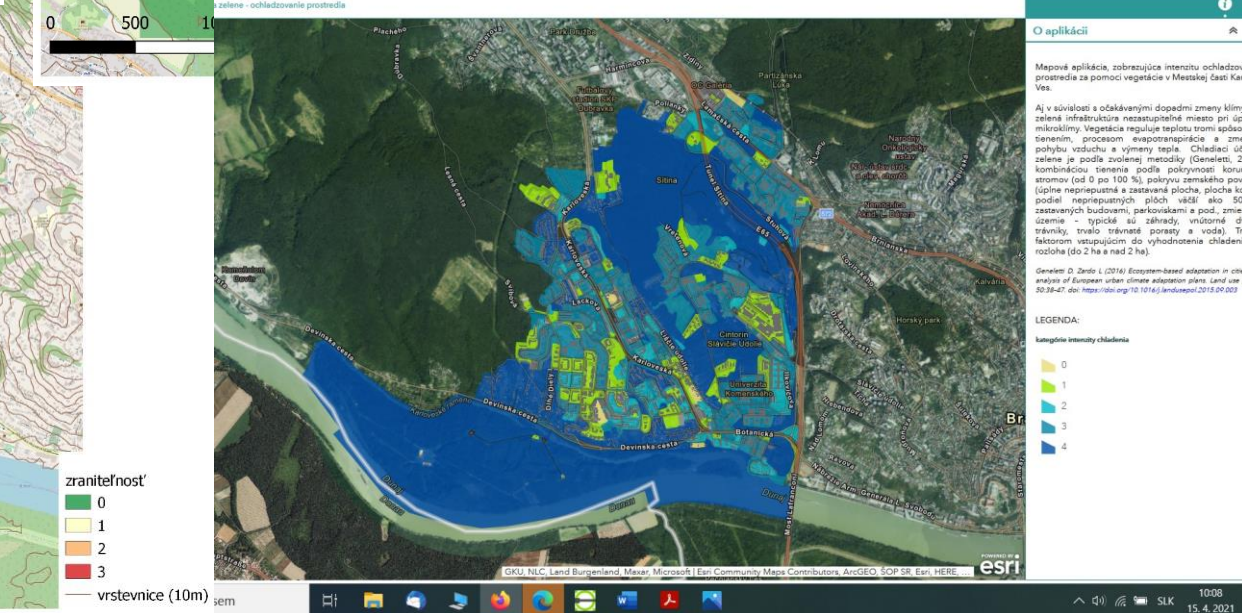
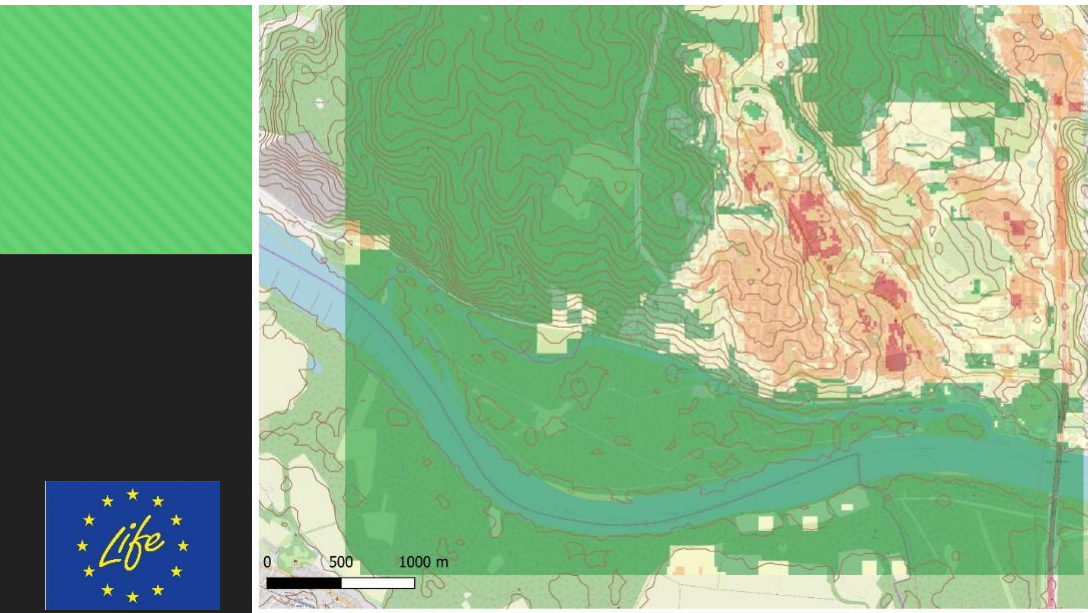
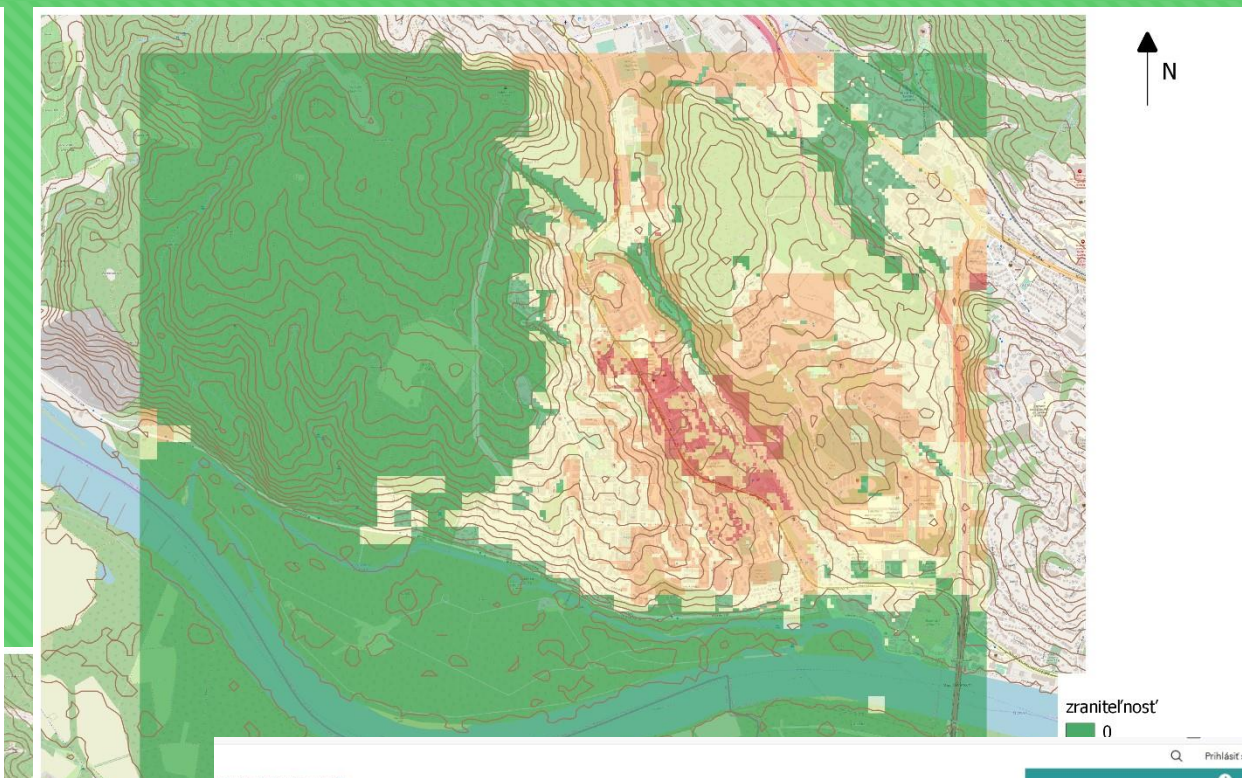
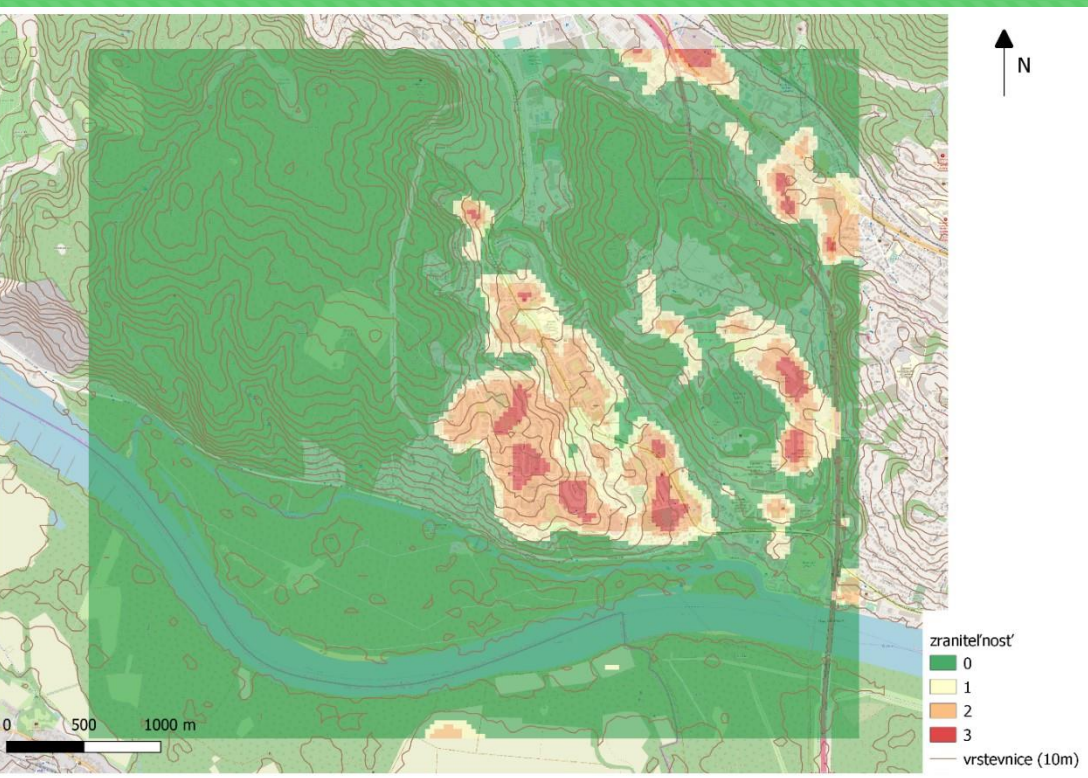


# Adaptation to the negative impact of climate change - hasards and exposure - temperature

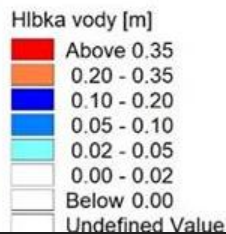
Changes in  
hydrometeorological  
characteristics and  
scenarios – hasards and  
exposure



[www.odolnesidliska.sk/en](http://www.odolnesidliska.sk/en)

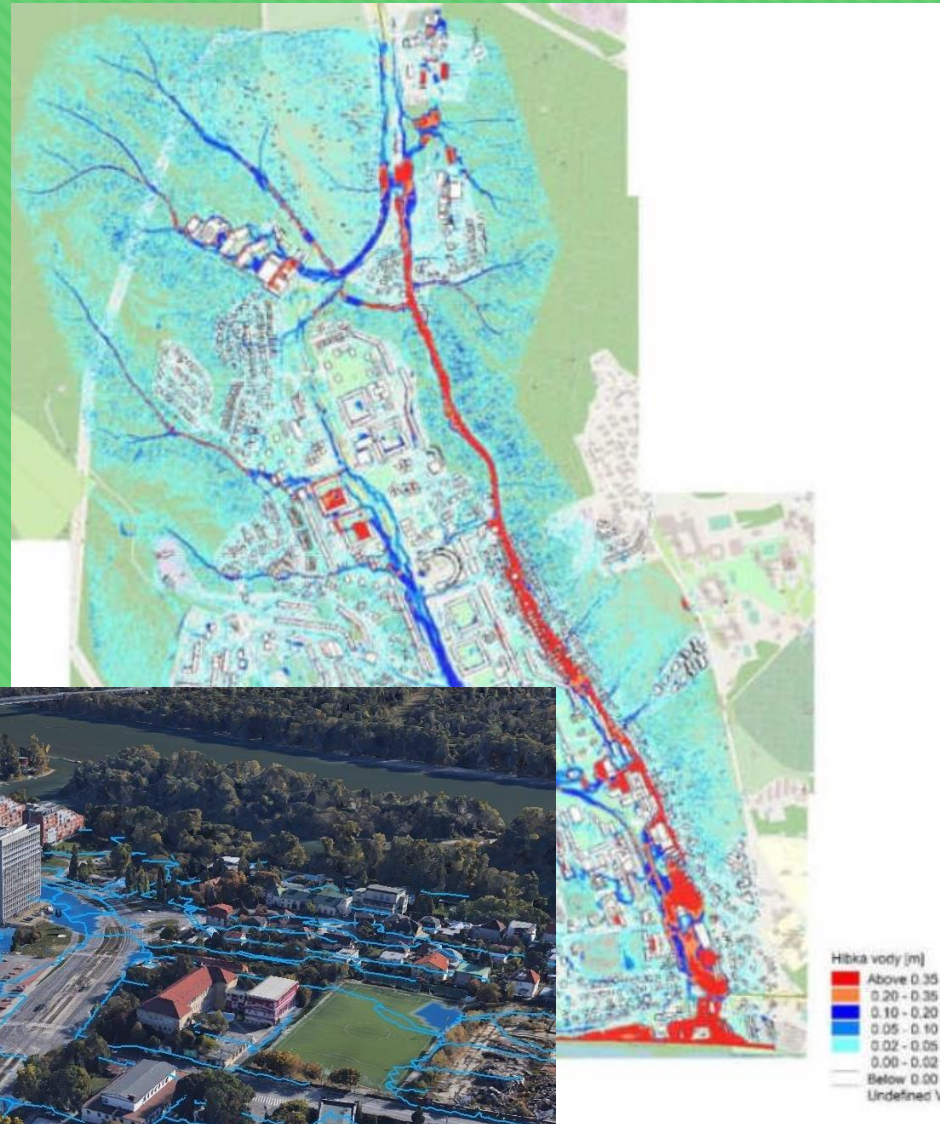
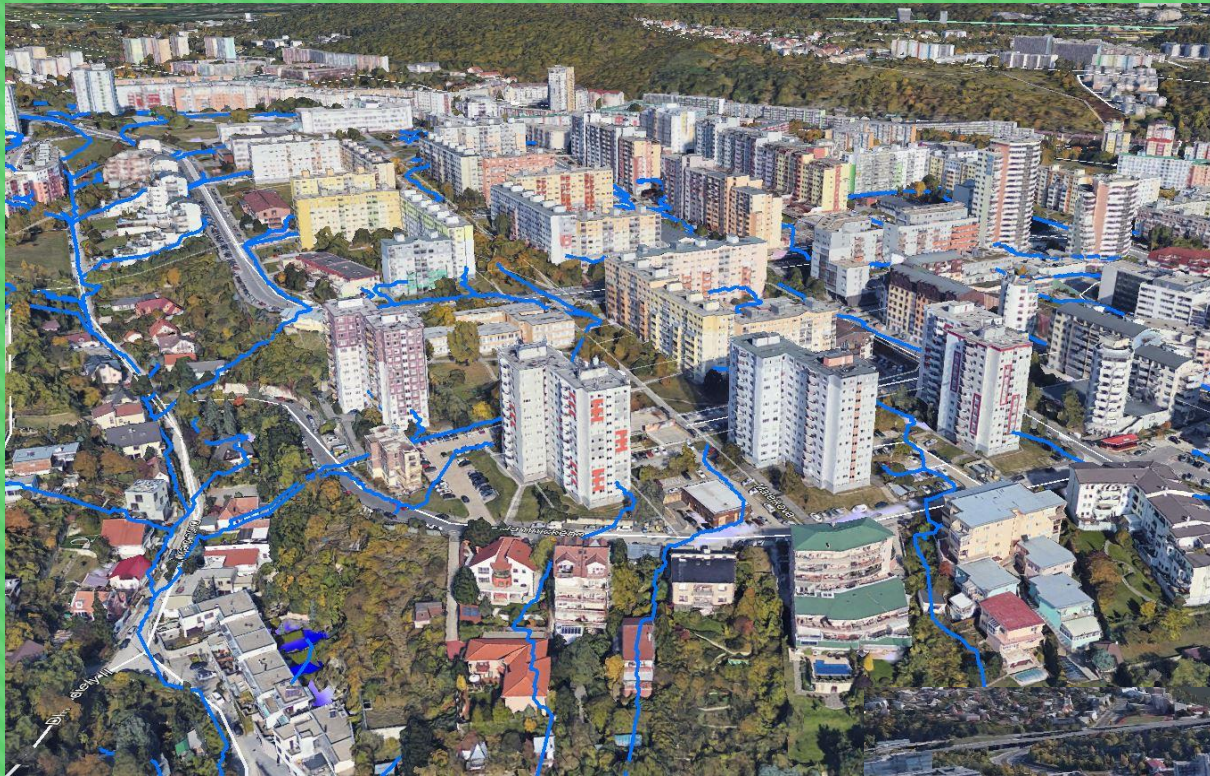


# Adaptation to the negative impact of climate change - hazards and exposure - precipitation



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, MK  
Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Comm







# Climate change – reduction of the CO2 (GHG) emissions – Mitigation – Carbon footprint calculation of Municipality

Industry



Transport



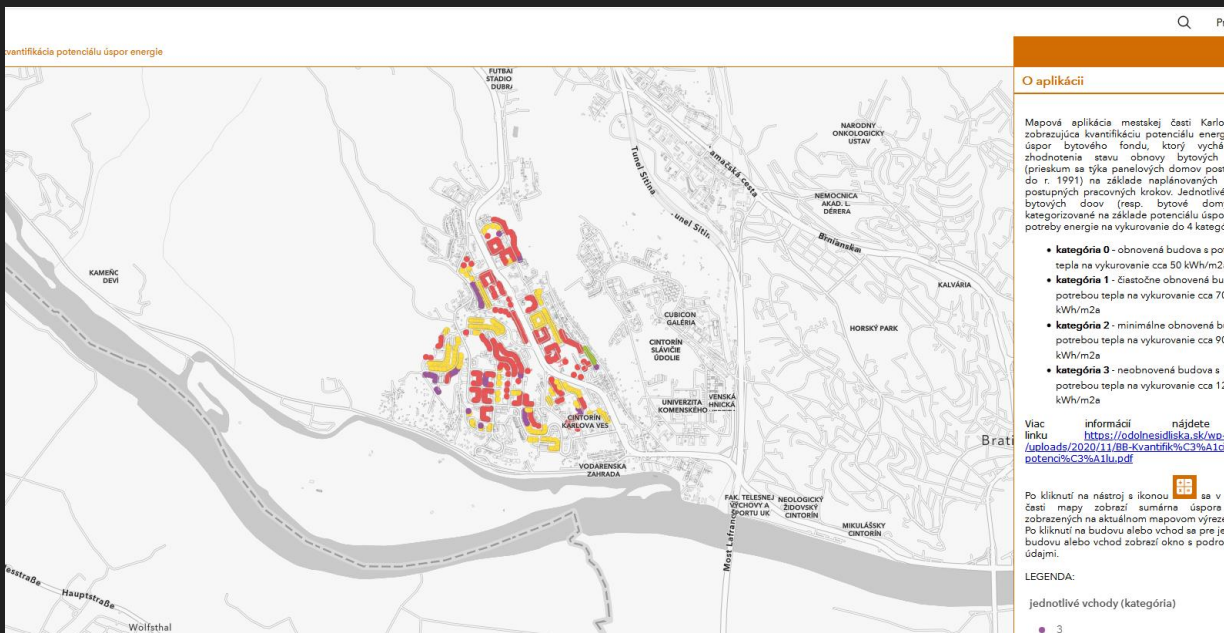
Buildings (energy)



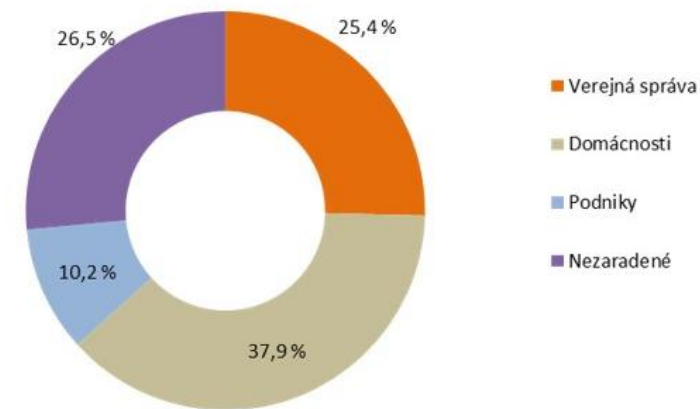
Waste



Landuse and Deforestation



Uhlíková stopa MČ Bratislava Karlova Ves, 2018 – energie  
2,813 ton CO<sub>2</sub>e na obyvateľa



## MČ Karlova Ves - mapa solárnych panelov



1 km  
1 mi

GKÚ, NLC

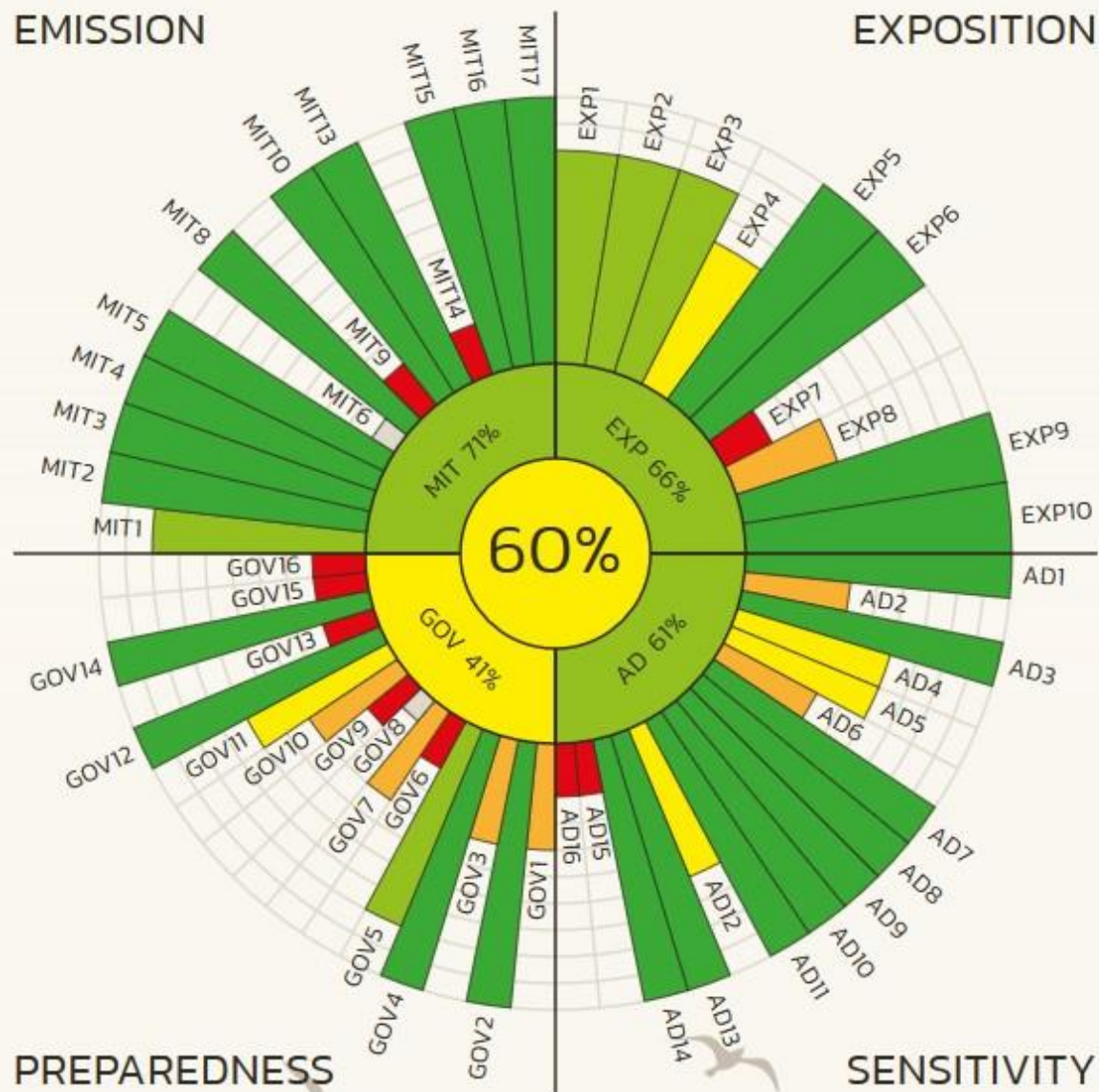
Počet solárnych panelov na zobrazenom výreze mapy:

**4 331**

Celkový výkon solárnych panelov na zobrazenom výreze mapy (kWh/rok):

**1 163 502**





- A tool for assessing cities' contribution to climate change and adaptation to climate change. The tool consists of several dozens of indicators, which the user fills with the required data and through simple calculations is then determined from the main index and its sub-components.

<https://www.klimasken.sk/en>



## WHAT DOES KLIMASKEN MONITOR?

### • AREA EXPOSURE TO CLIMATE CHANGE

- What is the state and development of the environment in which a city / district or building is located in terms of the most important manifestations of climate change: **rising temperatures, heat waves, rainfall, drought or extreme weather phenomena.**

### • PREPAREDNESS OF THE INSTITUTION TO IMPLEMENT ADAPTATION AND MITIGATION MEASURES

- What measures are implemented by the city / district / building owners to address the consequences of climate change or to reduce greenhouse gas emissions? How do these solutions manifest themselves in everyday life?

### • SENSITIVITY AND ADAPTIVE CAPACITY OF THE AREA

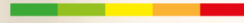
- What is the vulnerability of the city to the effects of climate change. How the city / district or building is ready, what are the characteristics of the individual systems and areas in the city or building.

### • GREENHOUSE GAS PRODUCTION AND REDUCTION (EMISSION)

- How is the city responsible for climate change? What are the direct or indirect greenhouse gas emissions in the city? How do individual areas contribute to climate change?



# Comparison of models



srovnání měst a městských částí / srovnání budov

Model A:

Rodinný nízkoenergetický dom 2021 (undefined) ▼

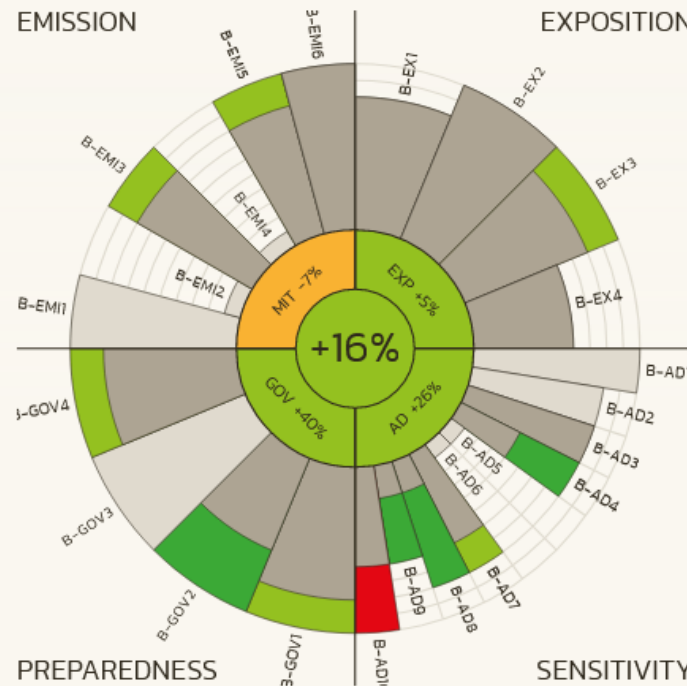
Model B:

RD Ondřejov 2021 (budova pro bydlení) ▼

EMISSION

EXPOSITION

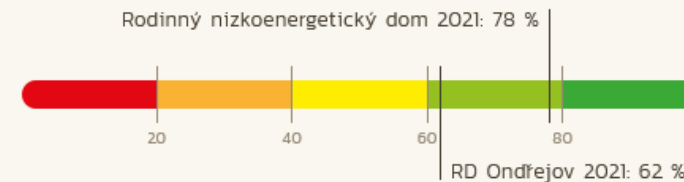
COMPARISON OF LABELS ▼



This label visually shows the difference between the rating of each area and the sub-indicators of the two selected models.

Changes for the better are coloured yellow-green and green, for the worse, orange and red. The final overall score is shown by a line indicating the Climate scan value.

When you point the cursor over the sub-indicator, the name of the indicator and the values of the compared models appear in the description. The bottom bar graph shows all indicators, including their values side by side.



**Klimatický akčný plán  
Mestská časť  
Bratislava-Karlova Ves  
2020 – 2030**

Krátená verzia  
jún 2020

**Climate Action Plan -**  
setting vision, short term and long  
term mitigation and adaptation  
goals and actions/measures

**Catalogue of selected  
Adaption and Mitigation  
measures**

**CATALOGUE OF SELECTED  
ADAPTATION AND MITIGATION  
MEASURES**

October 2020

[https://odolnesidliska.sk/wp-content/uploads/2021/03/Katalog-AM-opatreni-UK.indd-slabe-rozlisenie\\_FINAL\\_FINAL.pdf](https://odolnesidliska.sk/wp-content/uploads/2021/03/Katalog-AM-opatreni-UK.indd-slabe-rozlisenie_FINAL_FINAL.pdf)



**ODOLNÉ  
SÍDLISKÁ**



Adaptation and mitigation Actions – deep refurbishments of public buildings, climate resilient renovation of public spaces



# Thank you

[www.odolnesidliska.sk/en](http://www.odolnesidliska.sk/en)

FB:

<https://www.facebook.com/resilientdistricts/>



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