



Urban insights from space

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THE OECD LABORATORY
FOR GEOSPATIAL ANALYSIS





What is the OECD

The **Organisation for Economic Cooperation and Development** (OECD) is an international organisation in which governments work together to seek solutions to common problems, develop global standards, share experiences and identify best practices to promote ***better policies for better lives.***

What it is

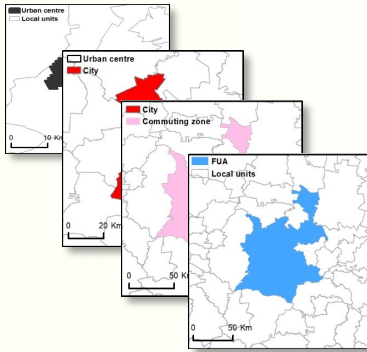
- ✓ Forum for policy dialogue and development
- ✓ Centre for policy analysis and comparative data
- ✓ Facilitator to achieve harmonisation, co-operation and work sharing

What it is not

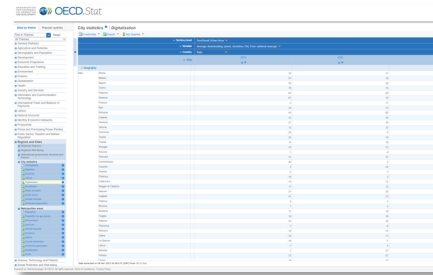
- ✗ Provider of technical assistance
- ✗ A bank
- ✗ Supranational rule-making body

Building comparable and timely statistics at geographically granular scales

Geographical definitions



OECD Statistical portal



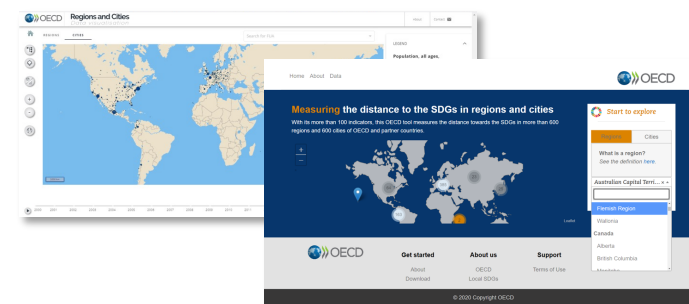
Networks and Communities



Reports and Indicator frameworks



Data visualisation tools





The **OECD** Laboratory for Geospatial Analysis



The Geospatial Lab: a platform to connect different organisations (NSOs, government agencies, private sector, academia) to develop and disseminate policy-relevant analyses and indicators based on geospatial information.

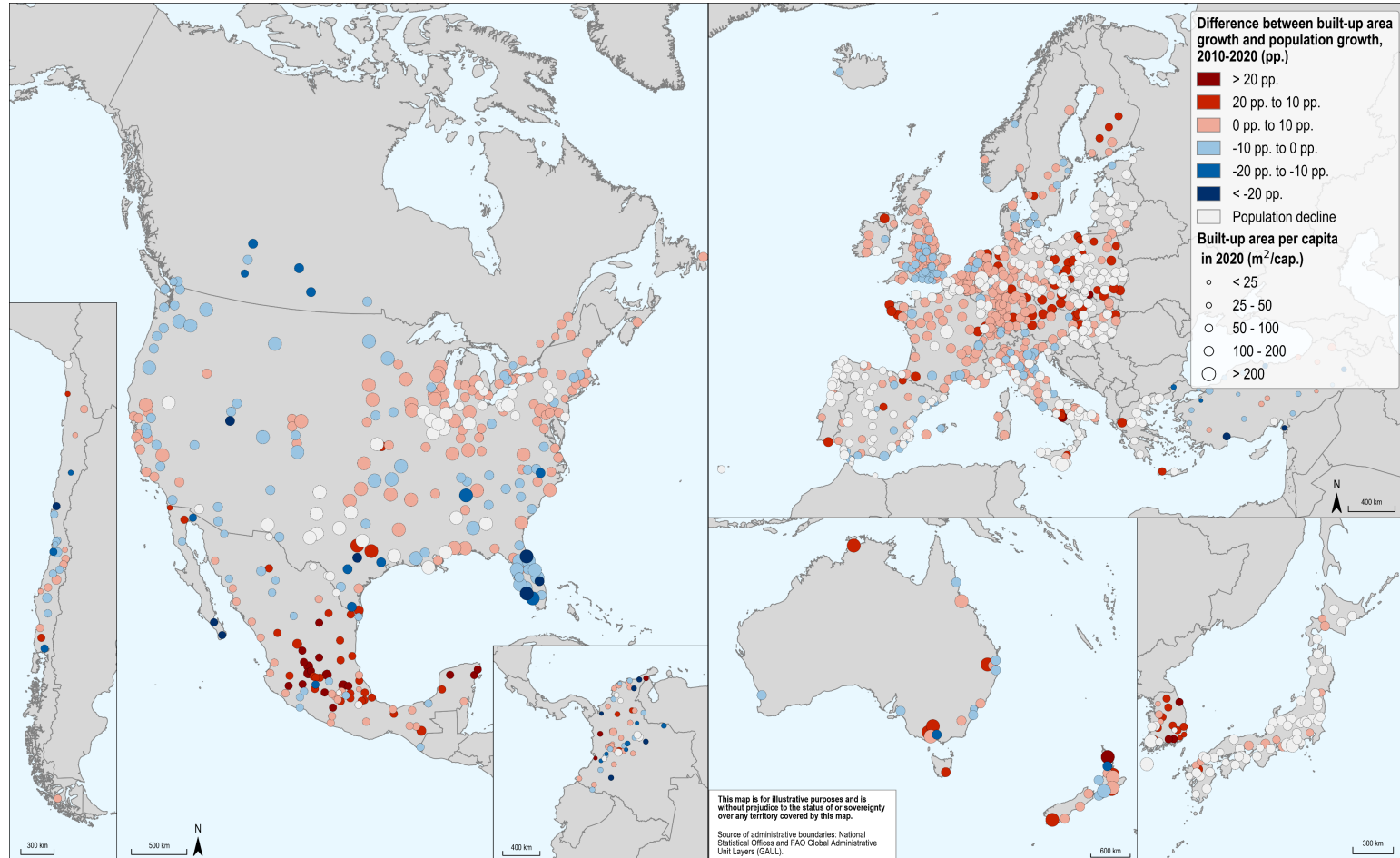
[The OECD Laboratory for Geospatial Analysis | OECD](#)



Most OECD functional urban areas have undergone urban sprawl in the last decade

Difference between built-up surface growth and population growth (pp), 2010-2020, OECD FUAs

In **70%** of OECD FUAs with population growth, built-up expansion outpaced population growth from 2010 to 2020.



Source: GHSL R2023A



The geography of housing demand

Impact of remote work and COVID-19:

home ownership demand shifted to places combining the benefits of both rural and urban life

The **effect** was more pronounced in large metropolitan areas with:



Wider adoption of **work from home**

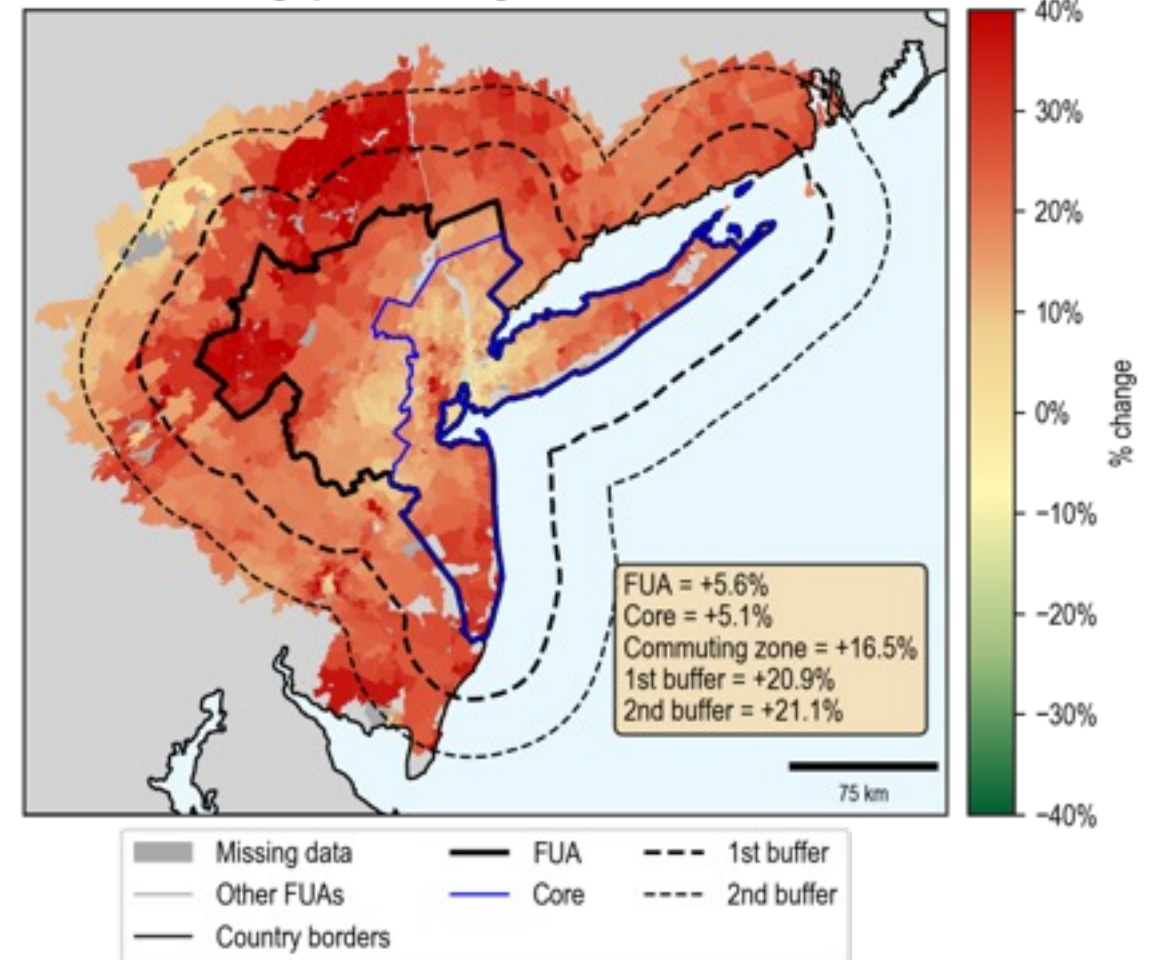


Better access to **high-speed internet**



More **green amenities**

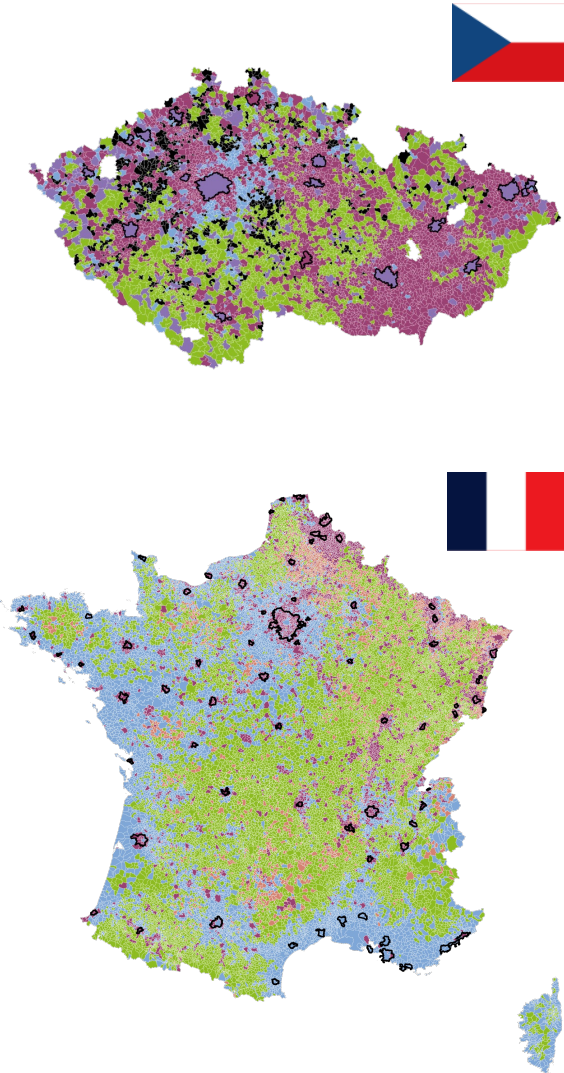
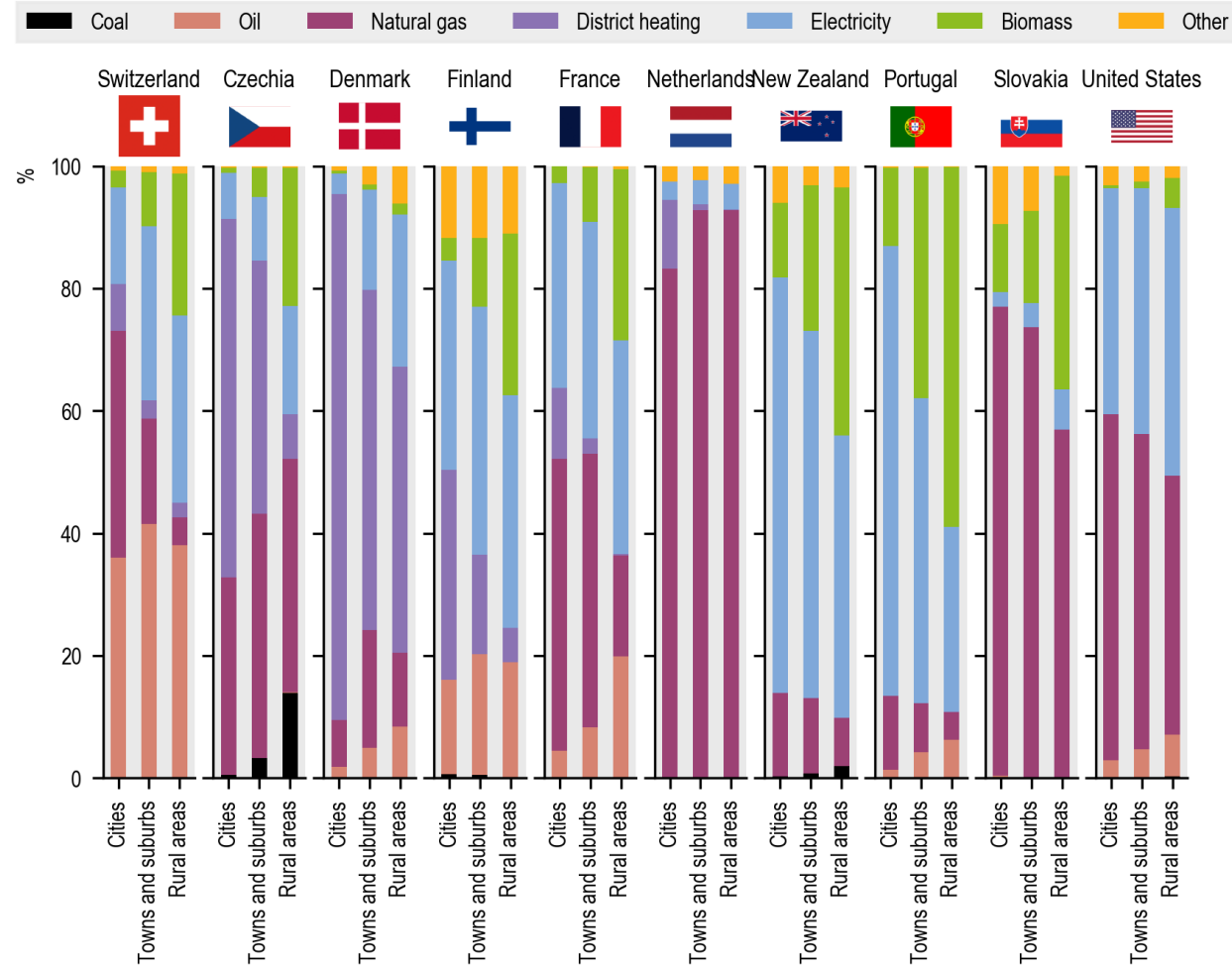
New York (Greater)
Average price % change from 2019 to 2021





Building decarbonisation

Main energy source for heating in occupied dwellings by degree of urbanisation in selected OECD countries, 2022 or latest available year.



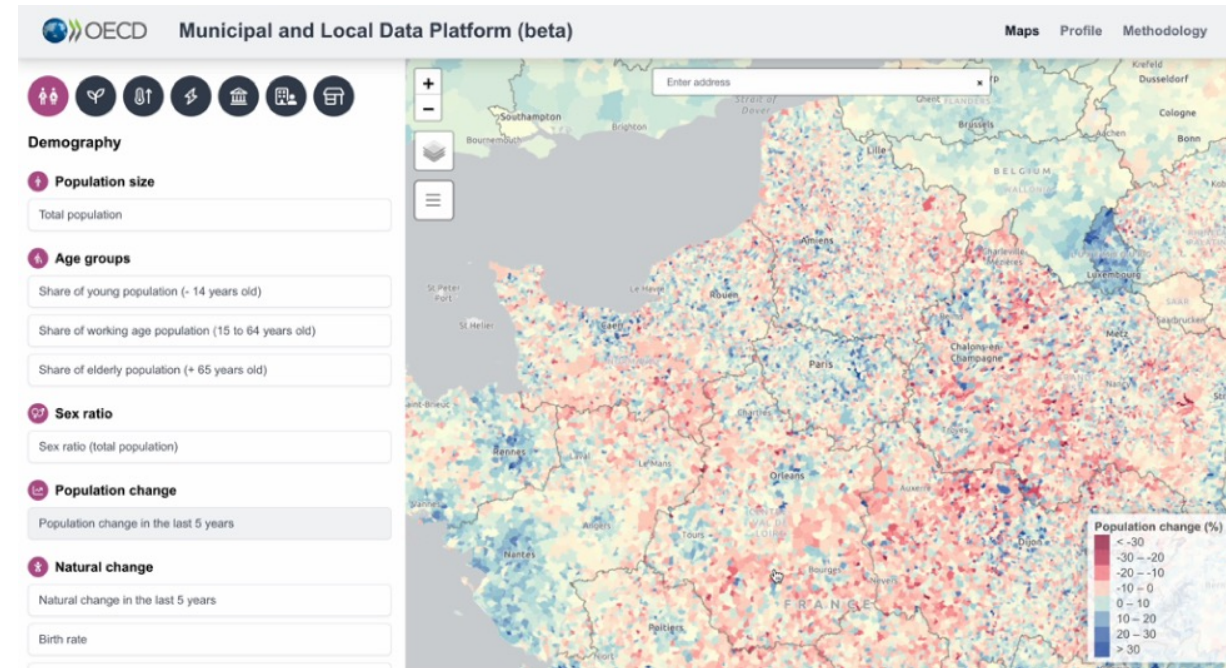
Source: OECD Municipal and Local Data Platform



The OECD Municipal and Local Data Platform

Build a **central platform** containing data and indicators for local administrative units, covering a broad spectrum of topics policy-relevant.

- **Produce new data visualisation interface**
- **Optimise the data workflow**, e.g. data harmonisation, metadata production
- **Facilitate** the update and **maintenance** of the data
- **Build a flexible structure** (also for data in raster format)



The OECD Municipal and Local Data Platform



Energy

- Wind power potential
- Solar power potential
- Final energy consumption by fuel and sector

Environment

- Green areas (area, share, per capita)
- Air pollution exposure
- Land use and land cover

Climate

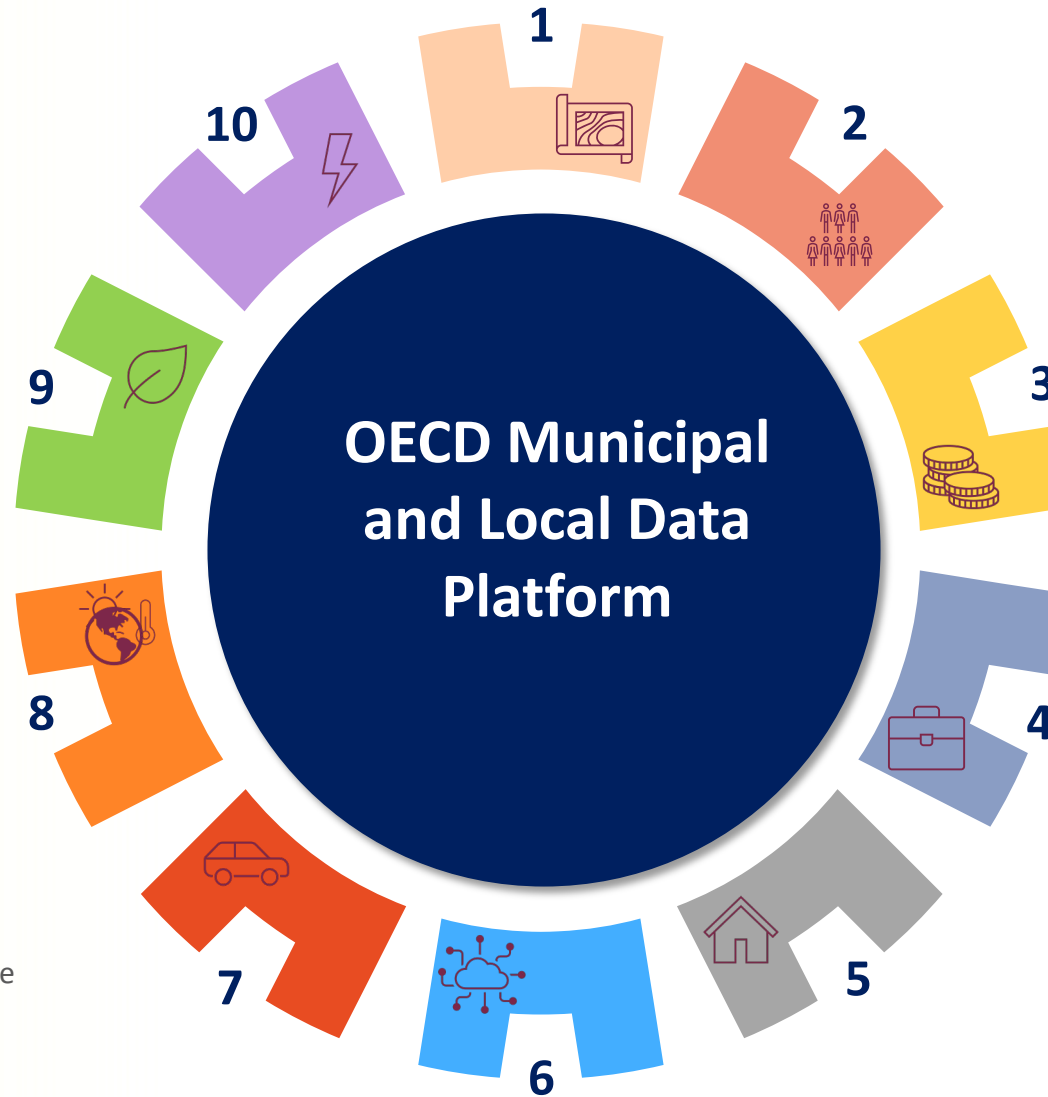
- Air temperature, hot days, tropical nights, icing days
- Land surface temperature
- Heating and cooling degree days
- Fires exposure
- River and coastal flooding exposure

Transport

- Number of passenger vehicles
- Passenger vehicles by fuel type
- Share of workers commuting to work by mode

Digitalisation

- Fixed and mobile internet speed



Geography

- Territorial area
- DEGURBA
- Mapping with TL2, TL3 regions, FUAs, Cities

Demography

- Population by age group
- Population density
- Births, deaths, migration flows

Income

- Median disposable income
- Gini index
- Relative poverty rate

Labour

- Labour force participation
- Employment rate
- Unemployment rate

Housing

- Housing prices and transactions
- Rentals (price per m²)
- Main energy source for heating
- Dwelling occupancy/vacancy



European Urban Fabric Classification Using Artificial Intelligence



The EuroFab project

- It paves the road for a world where stakeholders, from local authorities to international organisations, are able to **track and monitor the pattern of urban development in detail directly relevant for planning and at scale.**
- **Why urban fabric:** Easily available, comparable, and dynamic information on urban fabric would unlock new ways of **understanding how cities are constantly evolving**, what it means for their **sustainability**, and how effective policies can be designed to **steer development** in desirable directions.
- **Why now:** There are currently very few instances of detailed, consistent, and scalable measurements of urban fabric and virtually none of them provide insight into its change over time.





European Urban Fabric Classification Using Artificial Intelligence



The EuroFab project

- Specify, develop, and validate innovative methods (**AI-based**) to integrate **raster** (satellite) and **vector** data in rich and explainable characterisations of urban fabric.
- Develop **open-source** software, algorithms and open datasets that ensure the sustainability and usability of the project outputs beyond the initial funding period (<https://github.com/eurofab-project>).
- Create the roadmap for a **large-scale inference chain** (i.e. covering all of Europe or parts of the globe).





Next steps and future work

- We will launch the OECD Municipal and Local Data Platform at the World Urban Forum 12 (Cairo, 4th – 8th November)
- Regions and Cities at a Glance, 2024 ed.
- Want to be involved? Reach out to us!
 - (EuroFab) Survey for producers and users

<https://www.oecd.org/en/about/programmes/the-oecd-laboratory-for-geospatial-analysis.html>

Thank you!

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