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# **The Covenant of Mayors Initiative: Transition to an Energy Efficient Low Carbon Future**

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**European Commission – Joint Research Centre**



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# Covenant of Mayors



Voluntary initiative launched by DG ENERGY in 2008 to support local authorities in the sustainable energy development and the fight against climate change

## Mayors commit to go beyond EU energy and climate objectives

**at least 20% CO2 reduction  
in their respective territories by 2020**

- Define a Baseline Emission **Inventory** (BEI)
- Prepare a Sustainable Energy Action **Plan** (SEAP)
- Monitoring:** implement their Action Plan and report periodically on progress



# An unprecedented success...

- 54 COUNTRIES
- 6 300 signatories
- 198 million citizens

## Covenant EU

28 EU Member  
States + EEA  
Countries

## Covenant East

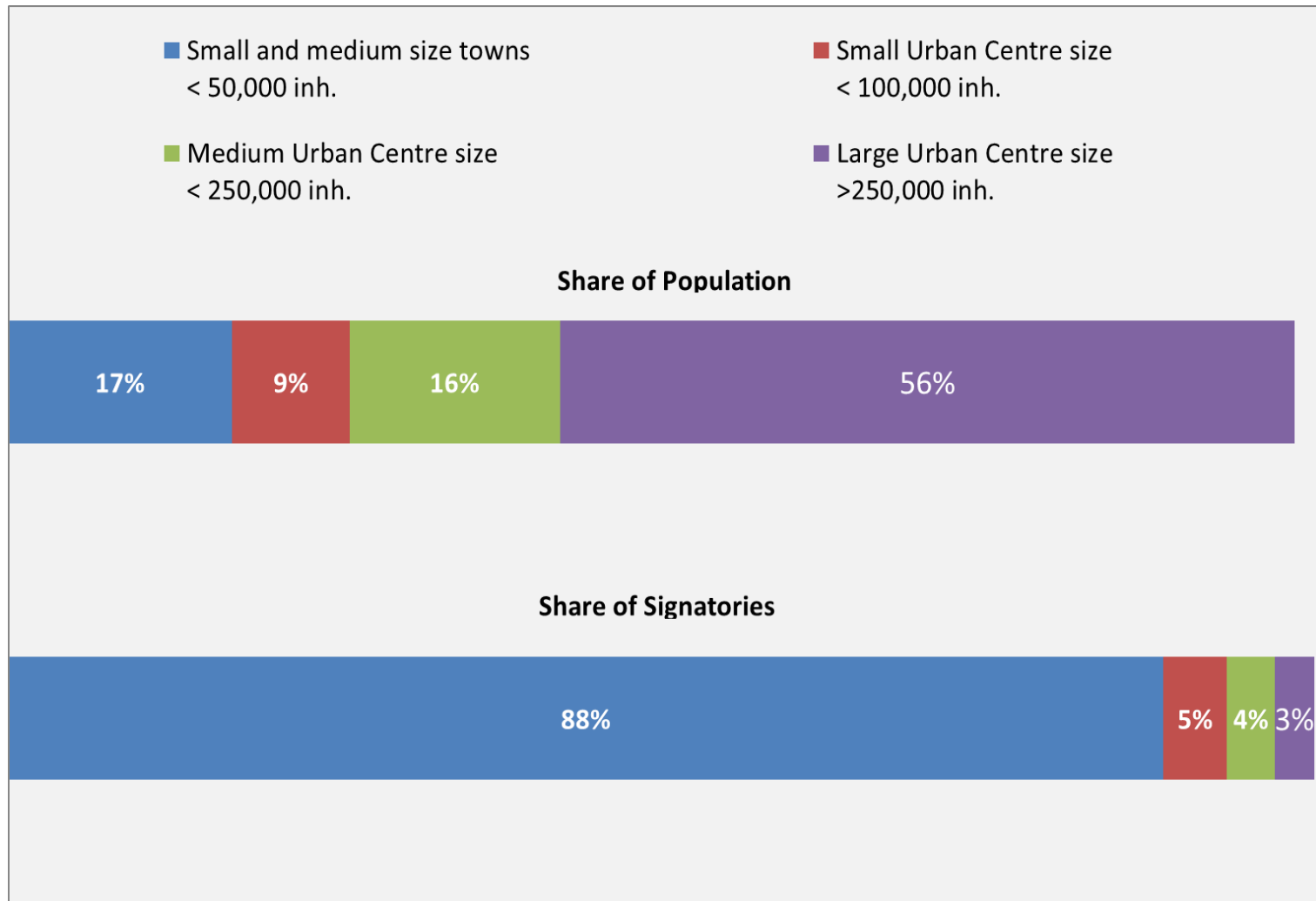
ENP countries of the  
Eastern Partnership  
and Central Asian  
countries. i.e.  
Armenia, Azerbaijan,  
Belarus, Georgia,  
Kazakhstan,  
Kyrgyzstan, Moldova,  
Tajikistan,  
Turkmenistan,  
Ukraine and  
Uzbekistan.

## Covenant South

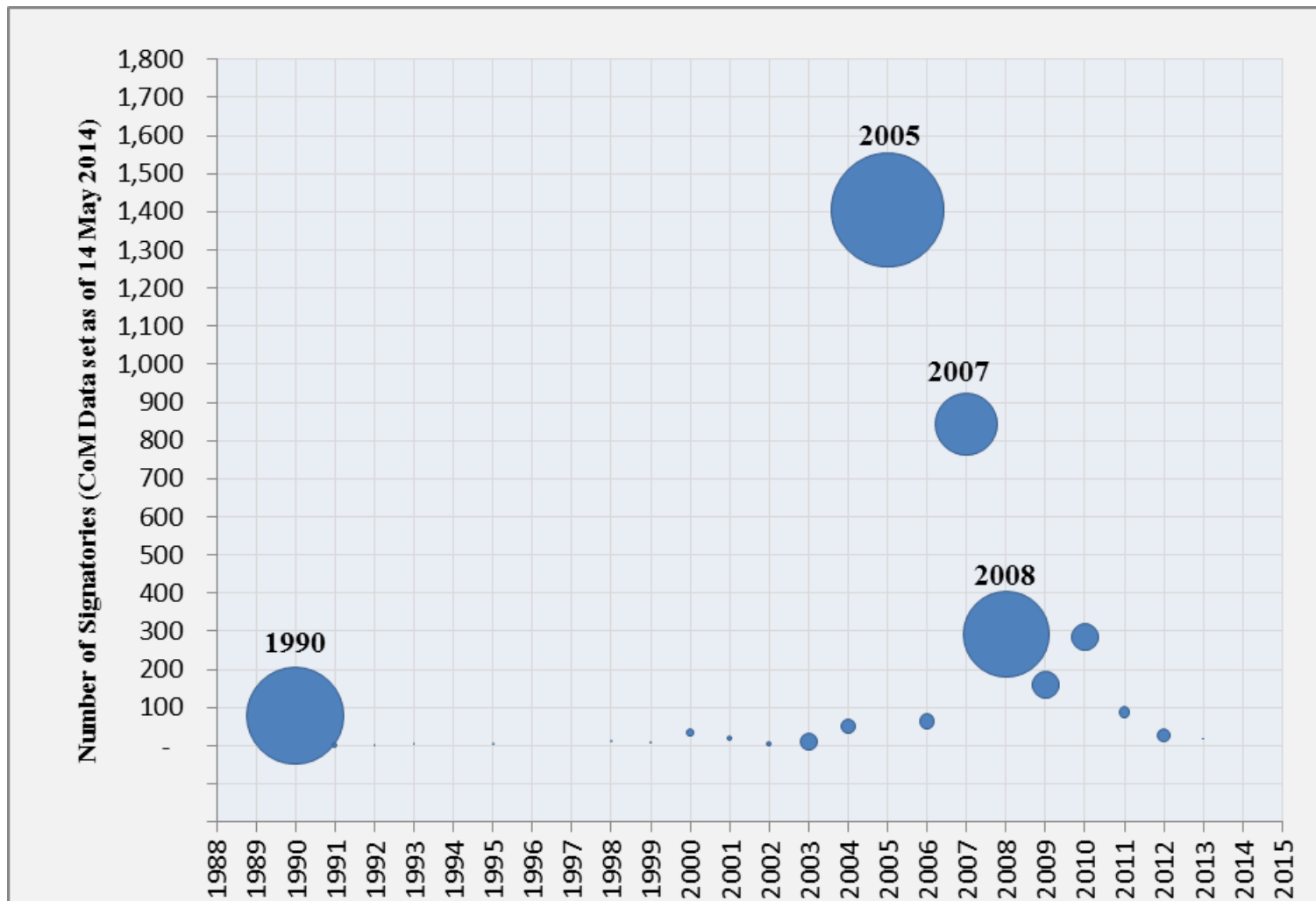
Maghreb and Mashreq  
Countries



# Signatories' population



# Reference inventory year





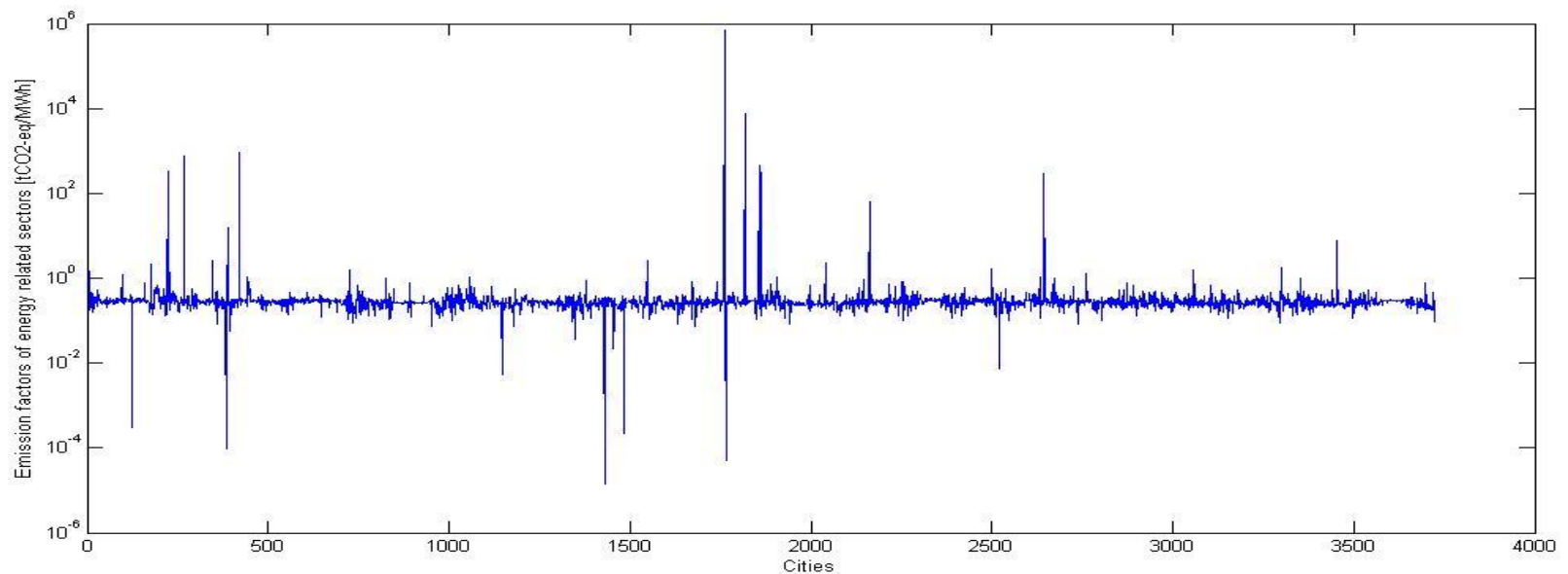
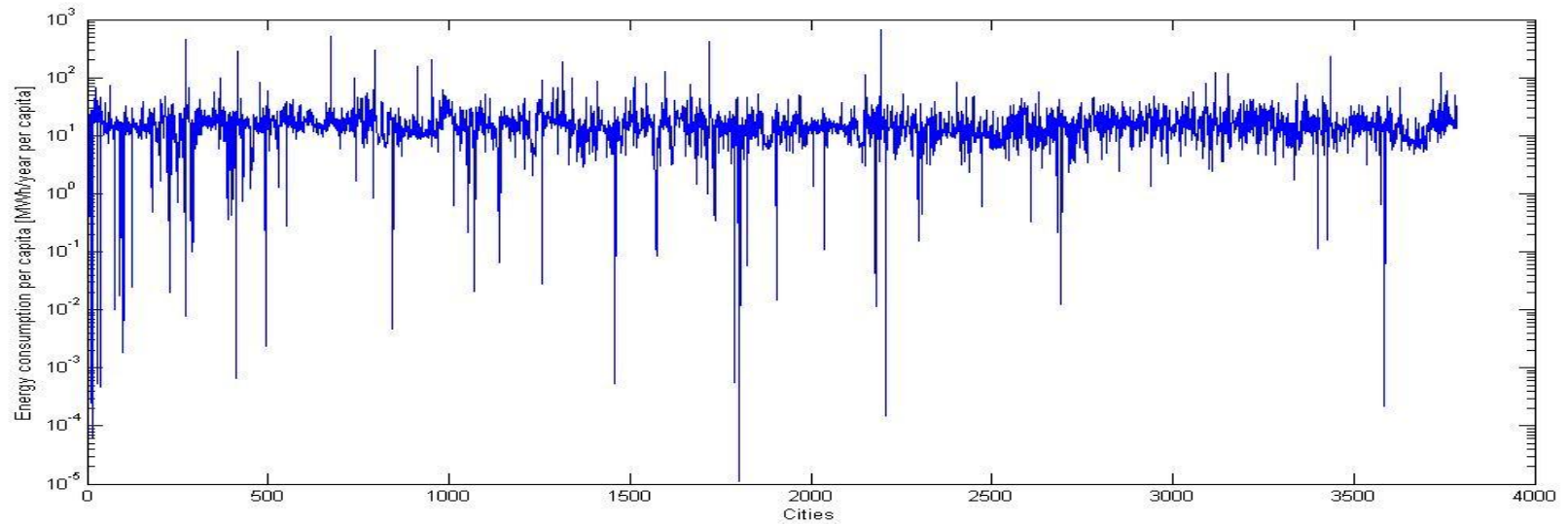
# Overview of data in BEI



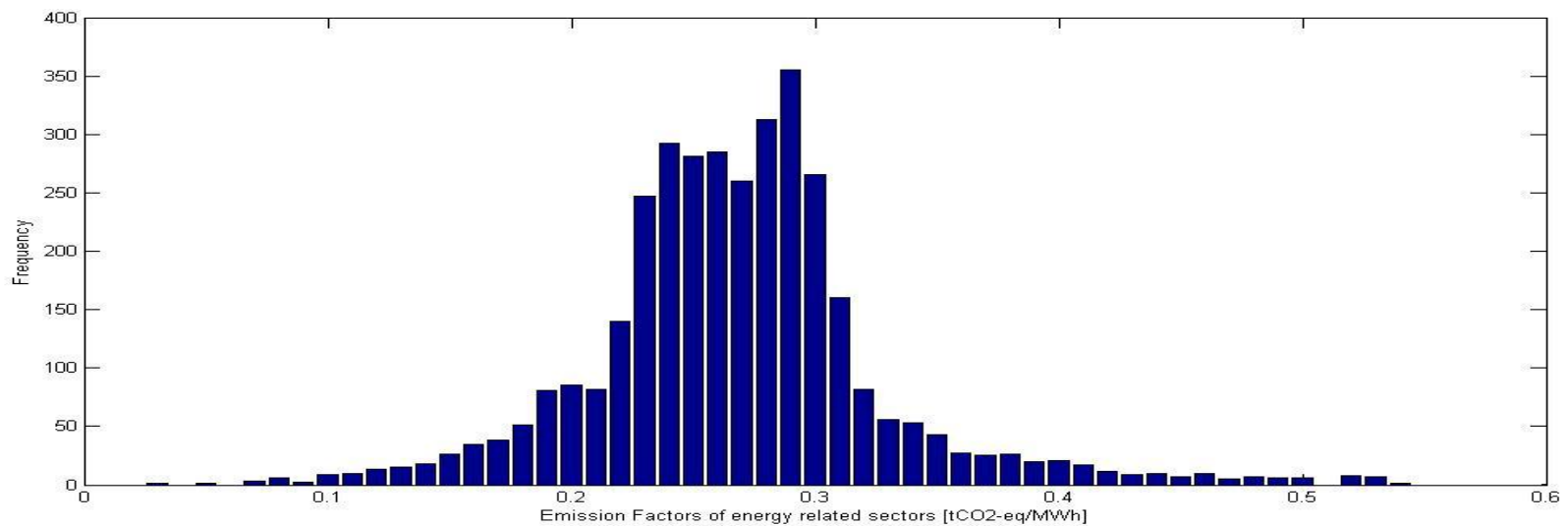
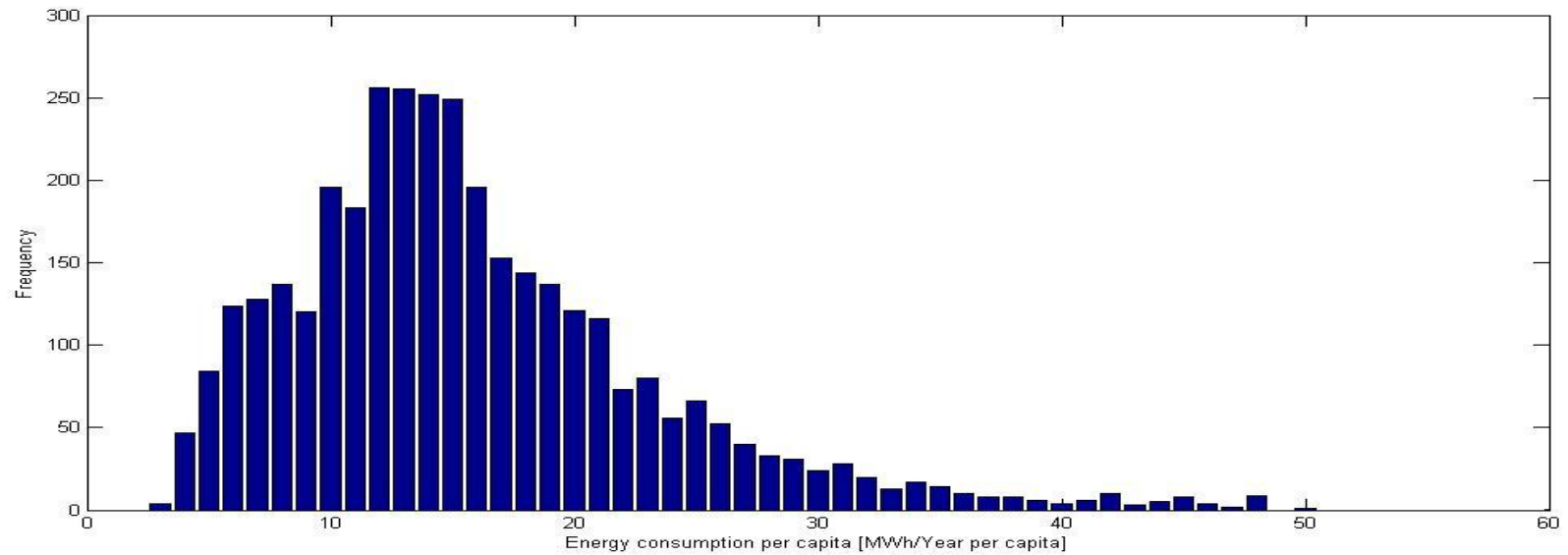
- Energy consumption of buildings, vehicles, lighting systems and other facilities operated by **municipality** is usually adequately registered
- Energy consumption data in **residential & commercial** sector are of a poor quality
- Data on **Local Heat and Electricity Production** may be hard to find when plants are privately operated
- **Transport** sector estimations are based on statistics and very often outdated assumptions



# Overview of data in BEI



# Robust data sample





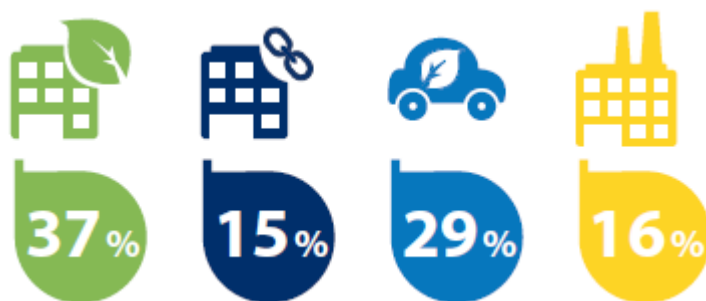
# CoM Indicators Inventories



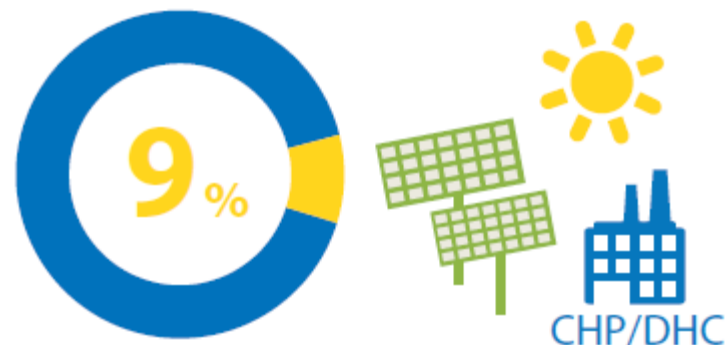
Tonnes CO<sub>2</sub> eq. per capita emitted in signatory cities.



MWh per capita of final energy consumed in signatory cities.

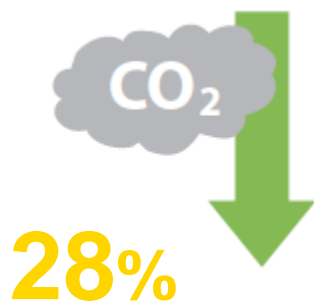


Buildings account for more than half of the energy consumed and transport close to one third.



Share of overall energy consumption satisfied by locally produced energy.

## ... Ambitious goals- CO<sub>2</sub> reduction

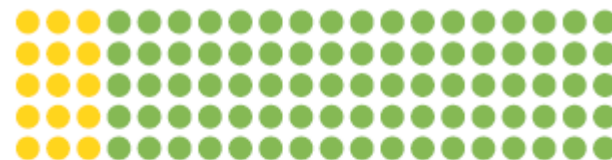


Joint plans **SEAP with Air Quality**: Ghent, Glasgow, Copenhagen, Bristol..

SEAP as the **MILESTONE** for other Climate and Energy Initiatives (SmartCity, Carbon Neutral, Mayor adapt.. 2030 2050)

Corresponding to 189 Mtonnes CO<sub>2</sub> eq. to be reduced, which is the equivalent of overall emissions of Belgium and Luxemburg combined.

### Contribution to EU CO<sub>2</sub> target



15%

Of the EU-28 CO<sub>2</sub> emissions reduction 2020 target can be achieved by actions undertaken by signatory cities.

# ... Ambitious goals - Energy savings

by 2020



20%

Corresponding to 479 TWh of estimated energy savings to be reached by 2020 as a result of measures in the buildings and transport sectors.

## Building codes

More stringent energy performance requirements than those applicable at national level.

Amsterdam: all municipal buildings to be climate neutral by 2015;

Torino: municipality tax reduction for high energy performance renovation

## Energy Audit and renovation of Buildings

Barcelona: Implementation of monitoring systems in municipal buildings. Energy managing systems.

Munich: Energy saving concept (ESK 2000), 50 % of the entire Munich municipal building stock – have been examined closely and systematically within two years to identify potentials for energy savings.

## Transport

Belgium: Research on congestion charge on Highways

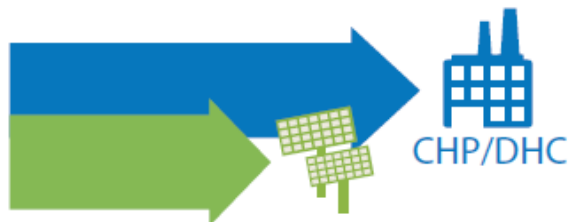
Gran Britain: Regional Programmes to provide infrastructure and subsidies for electric vehicles

# Local energy production



European  
Commission

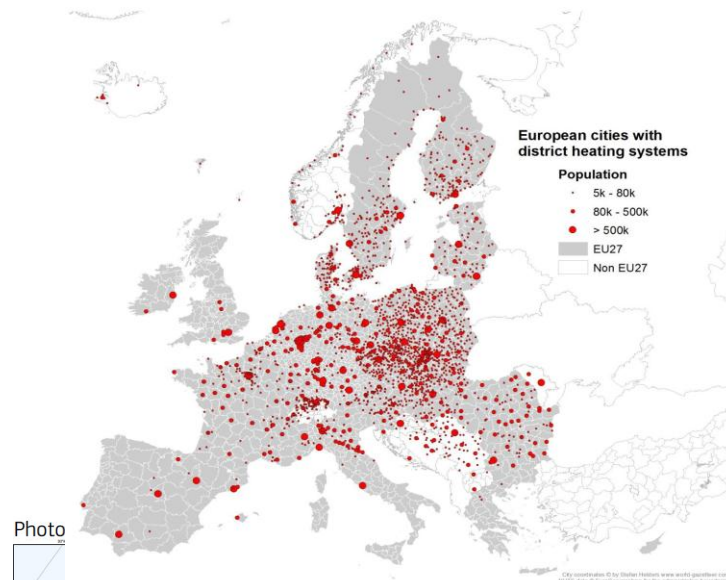
by 2020



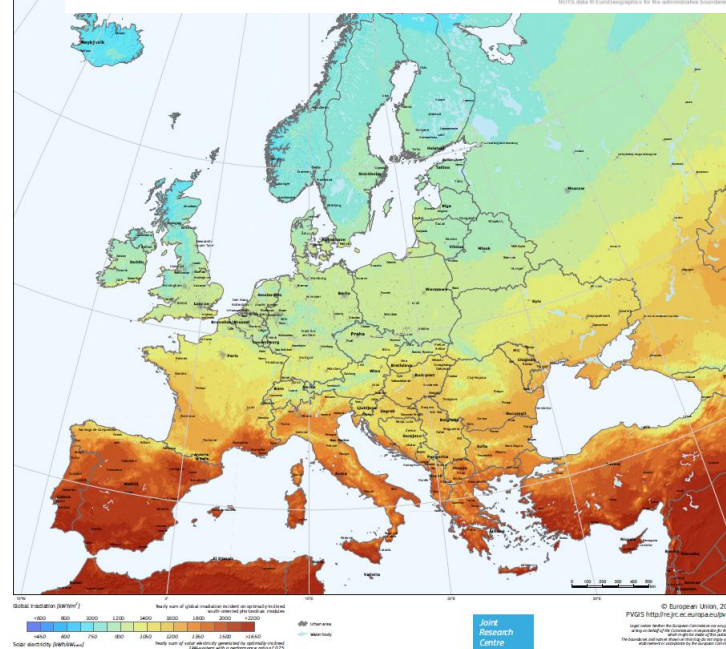
18%

Corresponding to 133 TWh  
of energy to be locally  
produced, mainly from CHP,  
PV and wind power.

<http://heatroadmap.eu/>



Photo



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Research  
Centre

ant  
ors  
local  
energy

# Conclusions and next steps



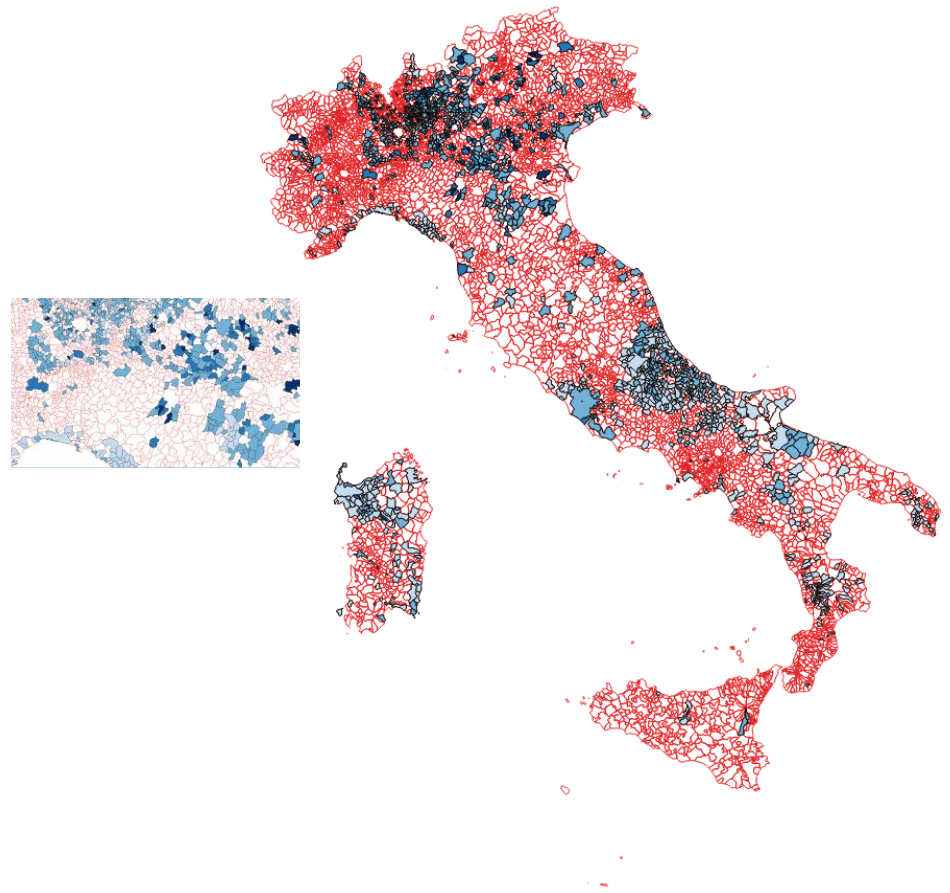
- Small and medium sized local authorities need support from other bodies such as **regions and provinces** acting as **Covenant Territorial Coordinators**
- Data availability and reliability on Energy consumption in residential & commercial sector
- **A performance Indicators system** needed for allowing cities to assess their performance on energy sustainability



# Location data in urban areas - CoM

Performance indicators  
at city level:  
ex. Energy  
consumption per  
capita,  
Geolocation of SEAP  
measures..

There is a need for a  
**bottom up** approach  
from building to  
district to urban area



# Thank you!



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## **Joint Research Centre (JRC)**

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