

Urban Agenda 2.0: The Smart City approach in the climate change scenario

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DIPARTIMENTO DI PROGETTAZIONE E PIANIFICAZIONE IN AMBIENTI COMPLESSI

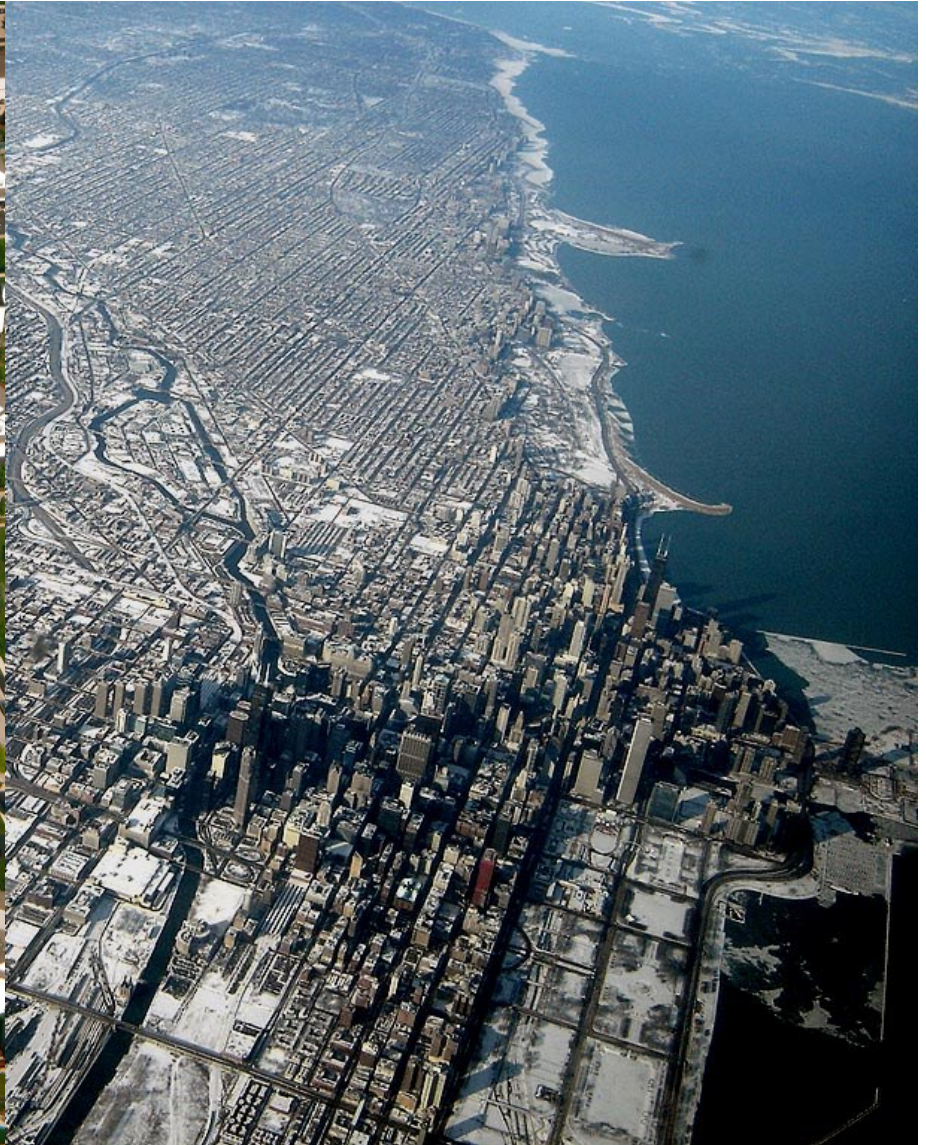
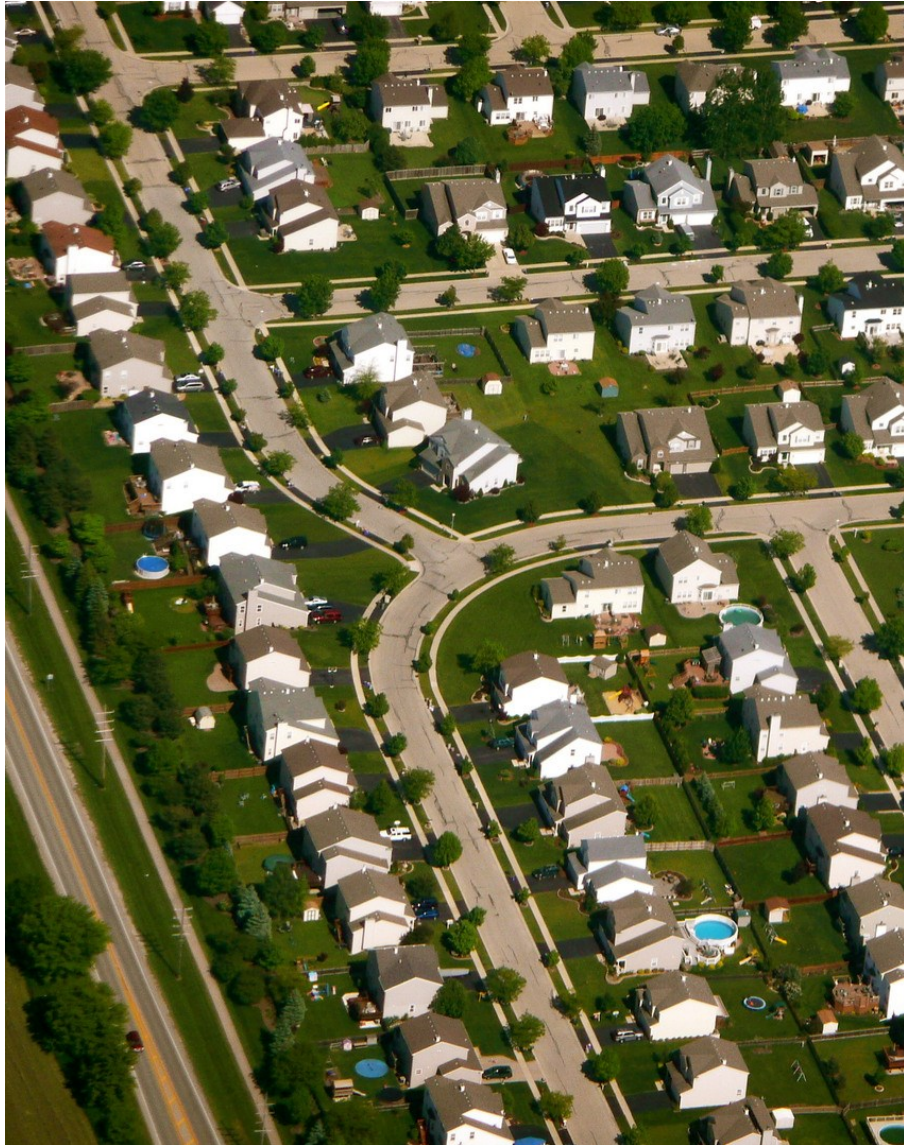
Compact Vs Sprawl

Public Vs Private

Local Vs Global

THE CITIES IN THE CLIMATE CHANGE SCENARIO

Compact VS Sprawl

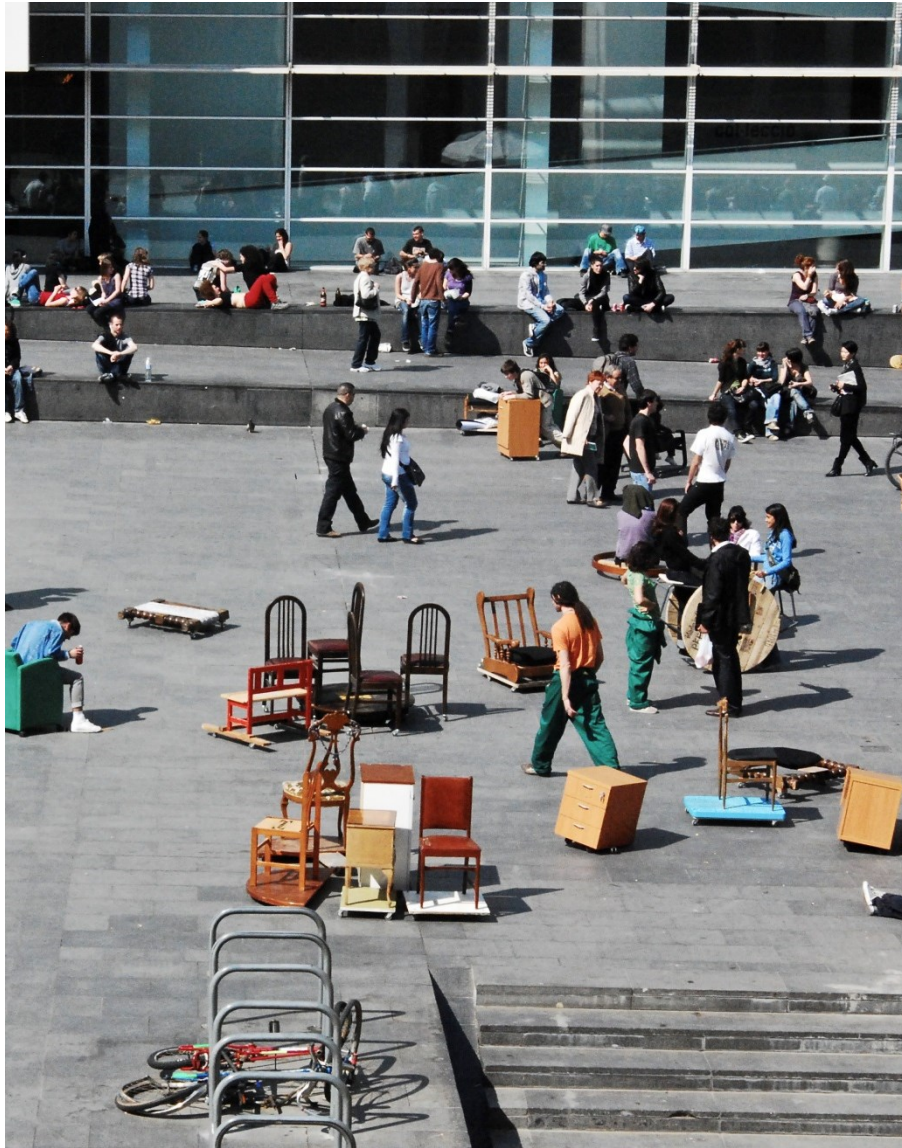


Compatto Vs Disperso

Pubblico Vs Privato

Locale Vs Globale

Public VS Private



Compatto Vs Disperso

Pubblico Vs Privato

Locale Vs Globale

THE CITIES IN THE CLIMATE CHANGE SCENARIO

Local VS Global





VERNAZZA – CINQUE TERRE 2011



HAMBURG 2013



SUMMER 2003 - EUROPE



GENOVA – 2013



DOVER – 2012



SAN SEBASTIAN – DONOSTIA 2014



MODENA 2014



ATHENS 2007

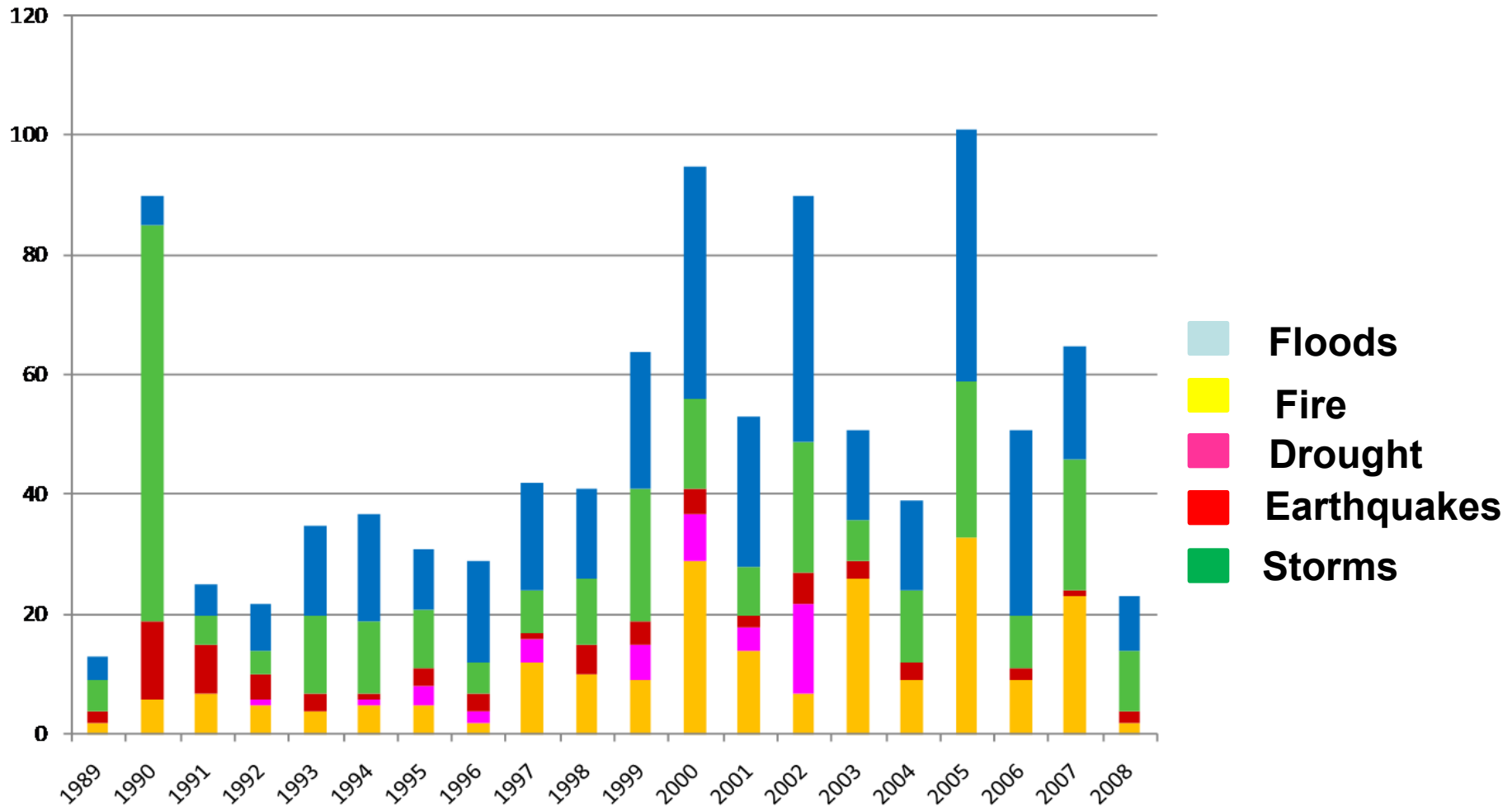


VENICE 2012



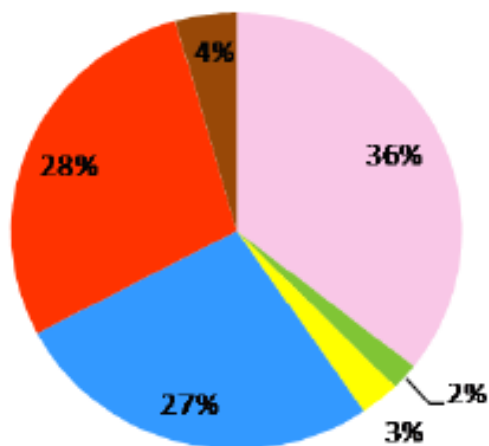
NEW YORK 2013

Natural disasters in Europe during the last 20 years (1989-2008) - City vs Climate Change

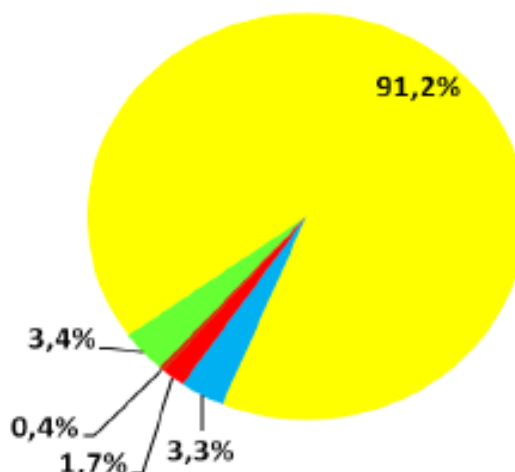


Natural disasters in Europe during the last 20 years (1989-2008) - City vs Climate Change

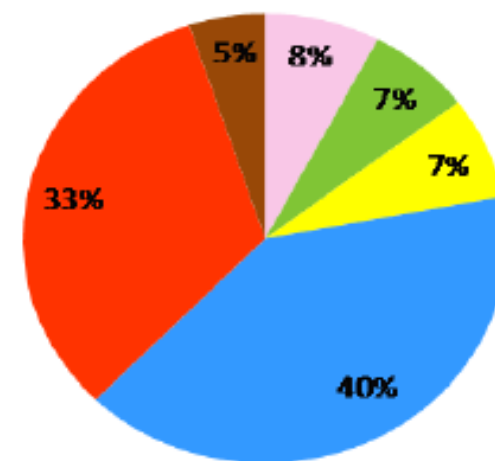
Total population involved

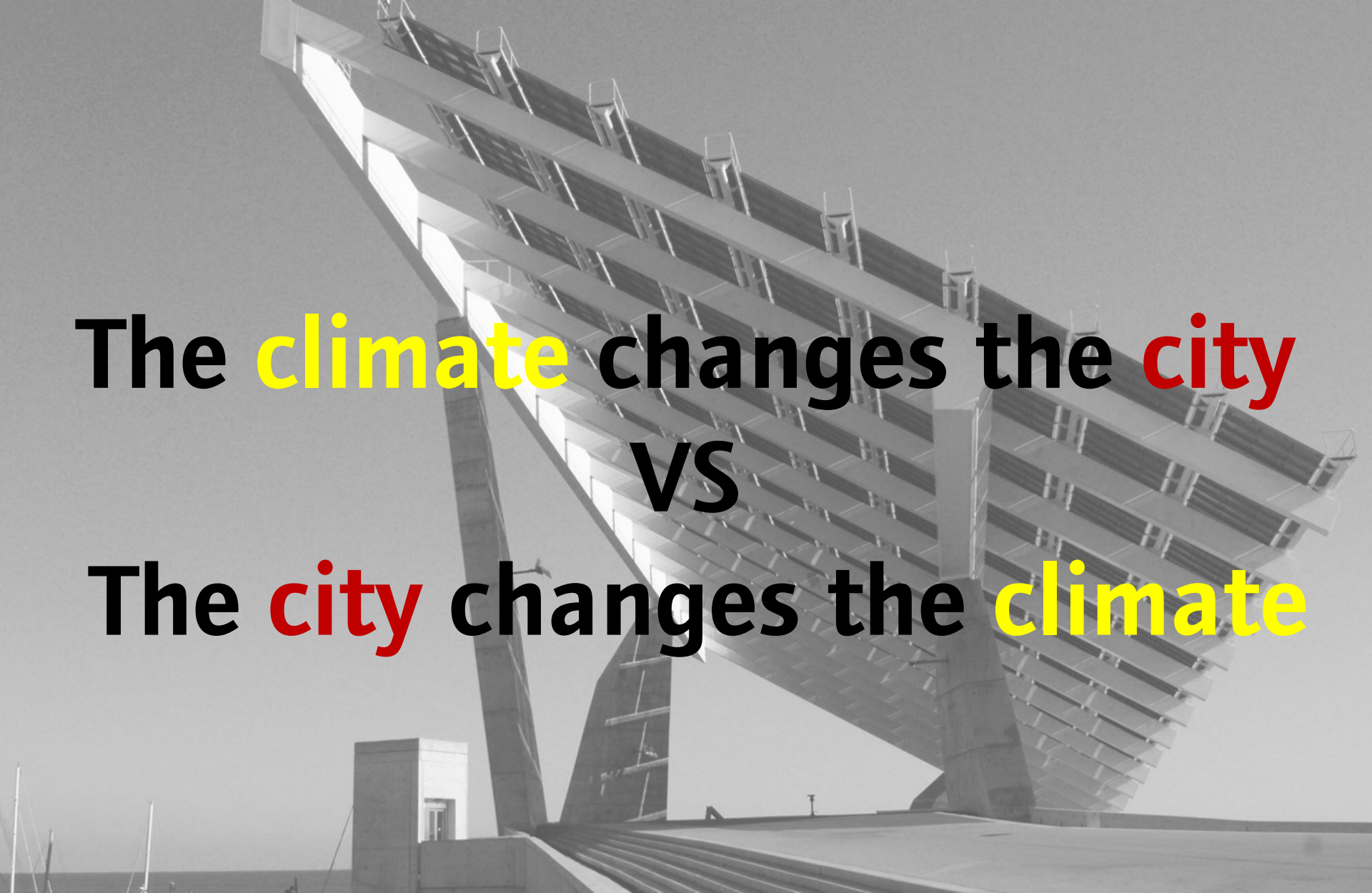


Total victims



Economic losses





The **climate** changes the **city**
VS
The **city** changes the **climate**

The city put in relation to climate change, obviously plays a **ROLE IN THE PRODUCTION OF CLIMATE-ALTERING NEGATIVE EXTERNALITIES**, but at the same time it is a place of experimentation and innovation of new practices.

... Durban december 2010

United Nations Conference on Climate Change

It is signed a document presented by the representatives of the local governments of more than 500 cities around the world which recognizes:

" That cities are centers of innovation in economic, political and cultural engines of national economies and manage important resources, investment and public infrastructure" and that " **local governments play a strategic role in tackling climate change to their responsibility in plans and regulations** that may affect adaptation and mitigation and their capacity to demonstrate leadership and adopt innovative solutions on these issues "

City vs Climate Change

1. **PRODUCTION OF NEGATIVE EXTERNALITIES (ROLE ACTIVE NEGATIVE).**
2. **SUFFERING THE IMPACTS OF CLIMATE CHANGE (ROLE PASSIVE NEGATIVE).**
3. **PRODUCTION OF REPLICABLE SOLUTIONS (ACTIVE ROLE OF POSITIVE).**

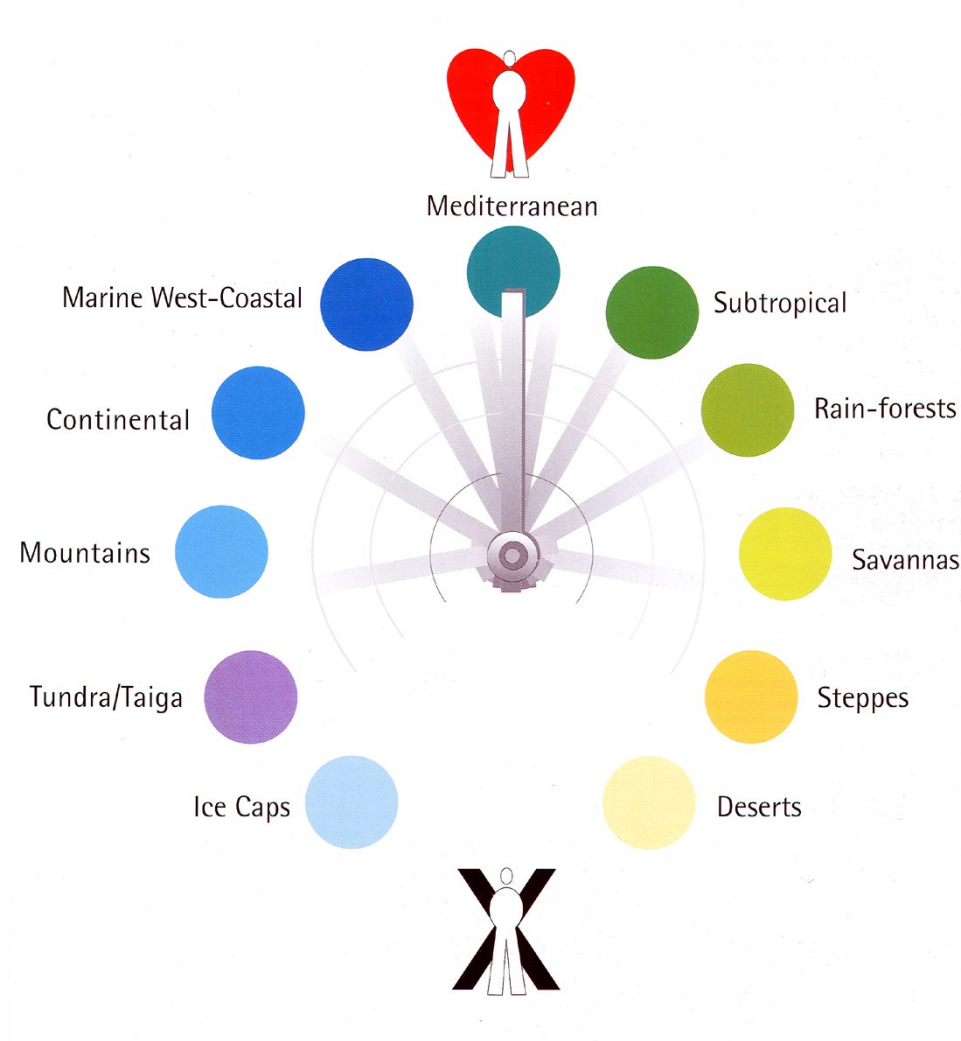
Cities and local governments can play an important role as laboratories to experiment new policies for adaptation to climate change. The urban action scale should be addressed to actions of **MITIGATION PROCEDURES** on one side and **ADAPTIVE CAPACITY** to the other.

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Planning in a changing climate...

New climate Geography of well-being



New climate Geography of well-being



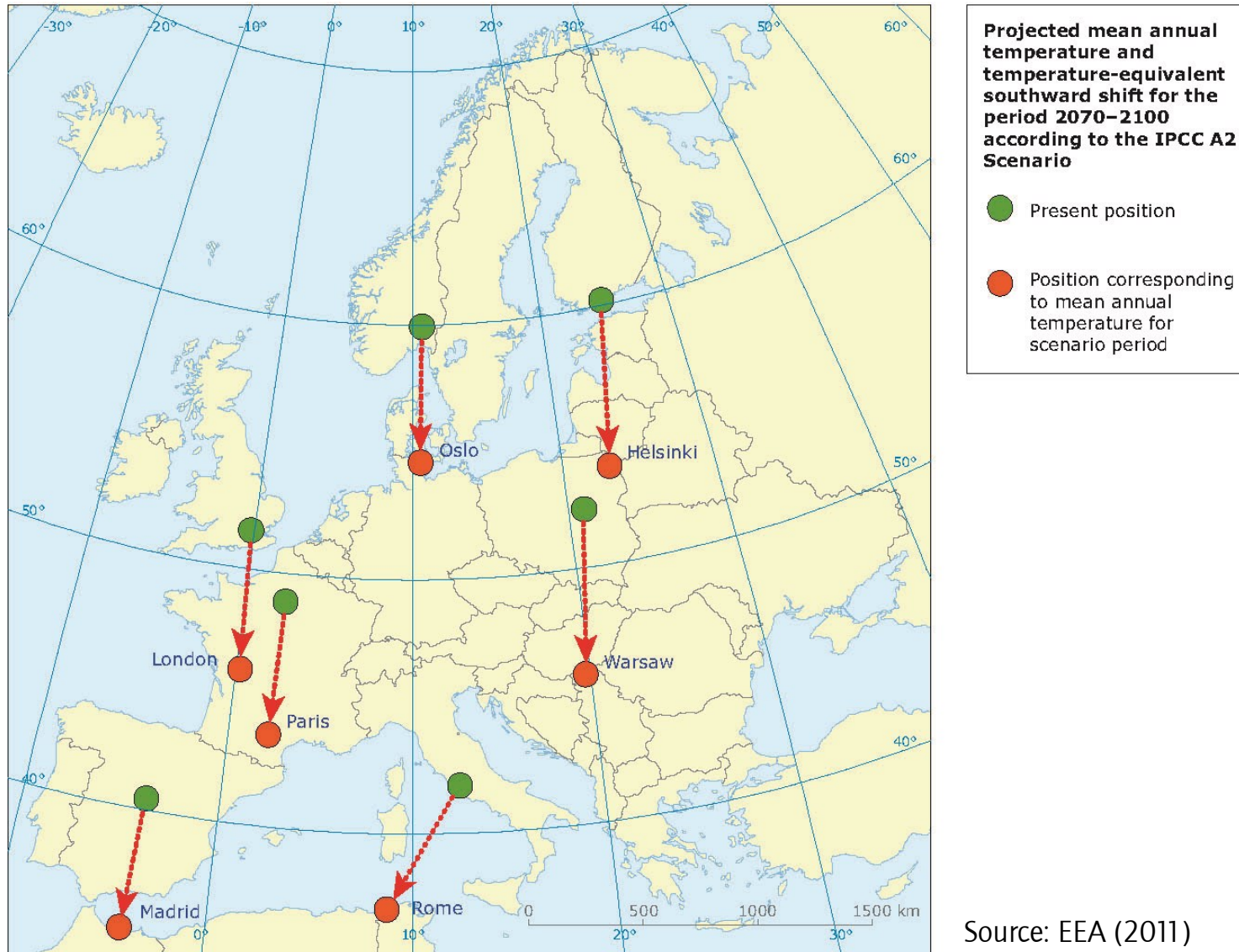
Greece



Norway

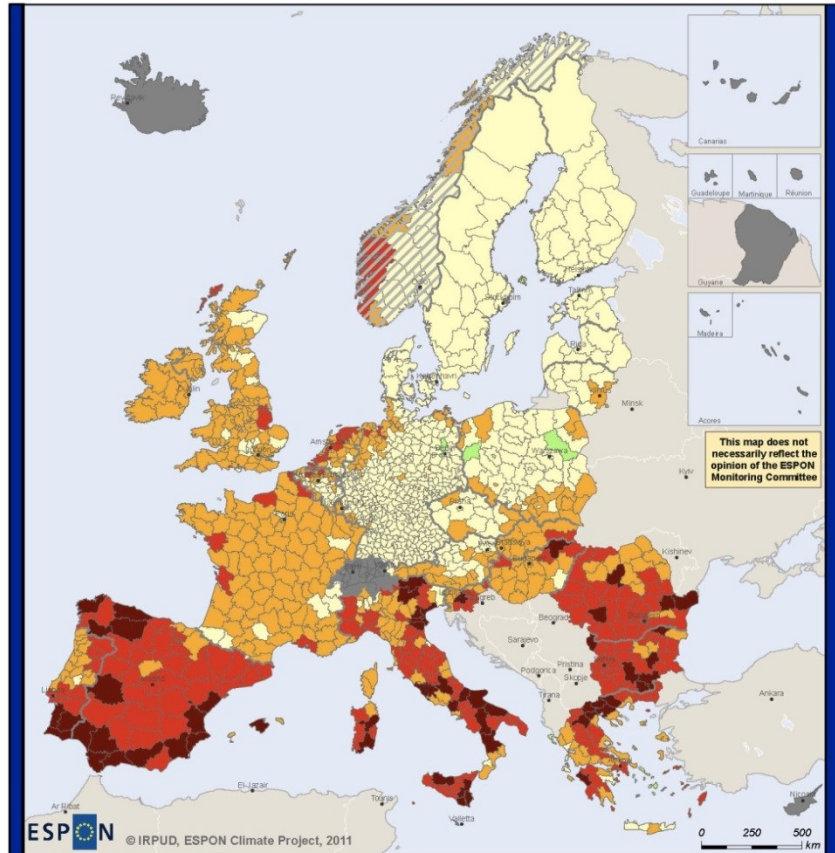


Climate forecasts for major cities in Europe- City vs Climate Change



Source: EEA (2011)

Ability to adapt to Climate Change - Città vs Cambio Climatico



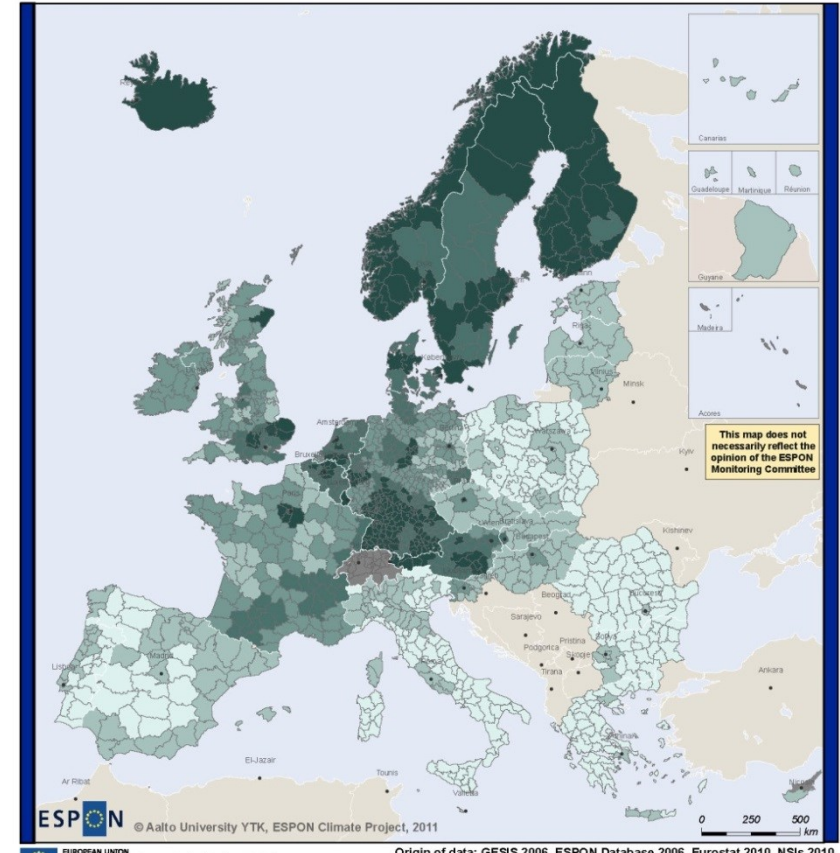
Potential vulnerability to climate change

- highest negative impact (0.5 - 1.0)
- medium negative impact (0.3 - <0.5)
- low negative impact (0.1 - <0.3)
- no/marginal impact (>0.1 - <0.1)
- low positive impact (-0.1 - -0.25)
- no data*
- /// reduced data*

Vulnerability calculated as the combination of regional potential impacts of climate change and regional capacity to adapt to climate change.

The potential impacts were calculated as a combination of regional exposure to climate change (difference between 1961-1990 and 2071-2100 climate projections of eight climatic variables of the CCLM model for the IPCC SRES A1B scenario as well as resulting inundation depth changes for a 100 year return flood event based on river flooding projections of the LISFLOOD model and coastal storm surge height projections of the DIVA model adjusted with a 1 m sea level rise) and most recent data on the weighted dimensions of physical, economic, social, environmental and cultural sensitivity to climate change. Adaptive capacity was calculated as a weighted combination of most recent data on economic, infrastructural, technological and institutional capacity as well as knowledge and awareness of climate change.

* For details on reduced or no data availability see Annex 9.



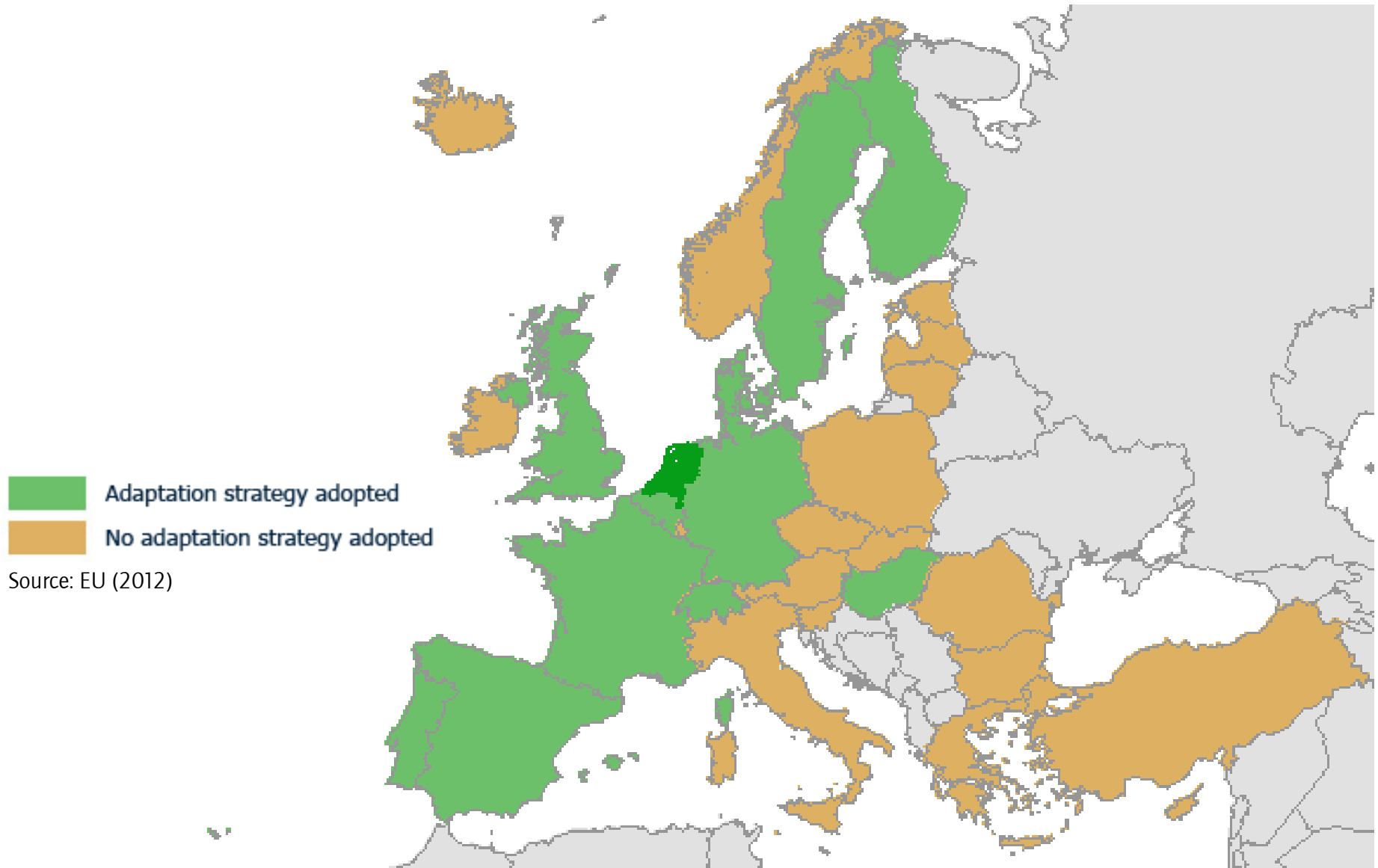
Overall capacity to adapt to climate change

- highest capacity
- high capacity
- medium capacity
- low capacity
- lowest capacity
- no data

Overall adaptive capacity towards climate change classified by quintiles.

The overall adaptive capacity was calculated as weighted combination of economic capacity (weight 0.21), infrastructural capacity (0.16), technological capacity (0.23), knowledge and awareness (0.23) and institutional capacity (0.17). Weights are based on a Delphi survey of the ESPON Monitoring Committee.

Strategies for adapting to Climate Change - **City vs Climate Change**



Adaptation strategy adopted
No adaptation strategy adopted

Source: EU (2012)

From NAS to Climate plans

According the **NAS NATIONAL ADAPTATION STRATEGIES** the different countries have invited their local authorities (cities) to define local plans (voluntary);

- Climate Action Plans (CAP)
- Climate Protection Plans
- Climate Adaptation Plans
- Climate Mitigation Plans
- *Sustainable Energy Action Plans (SEAP) in Europe*

In the European context the situation is quite heterogeneous in terms of resulting initiatives;

The main European cities have defined local adaptations initiatives (not necessarily *plans*): London, Rotterdam, Amsterdam, Copenhagen, Madrid, Paris ...

Strategies for adapting to Climate Change in U.S.A - **City vs Climate Change**



The extreme weather events that are affecting the U.S. has drawn the attention of almost 50 mayors of major cities in a new project dedicated to climate resilience

The agreement commits the mayors to make their communities **more resilient to droughts, floods, extreme storms and fires.**

STARTING FROM THE ASSUMPTION THAT IT IS CHEAPER (IN ECONOMIC TERMS) FOR MUNICIPAL GOVERNMENTS TO INVEST IN PROTECTIVE MEASURES AGAINST EXTREME EVENTS RATHER THAN SPENDING PUBLIC MONEY IN REHABILITATION.

An aerial, grayscale photograph of a dense urban landscape. The image shows a complex network of buildings, streets, and green spaces. A river or canal winds through the city, and several construction cranes are visible, indicating ongoing development or reconstruction. The overall tone is somber and industrial.

Towards a resilient Planning

New challenges for the European Urban Agenda

THE RESILIENCE of ecosystems (also urban) is considered the **ABILITY TO TOLERATE AN EXTERNAL IMPACT WITHOUT COLLAPSING** in a condition qualitatively different, in principle worst

What is the National Urban Agenda?

In the legislative proposal submitted by the European Commission for Cohesion Policy 2014-2020 is contained in **THE INVITATION TO EACH MEMBER COUNTRY TO ADOPT AN "AMBITIOUS URBAN AGENDA "**

The proposal for a new Regulation of the European Regional Development Fund (ERDF) provides, therefore, that at least **5 PERCENT OF THE RESOURCES ALLOCATED AT NATIONAL LEVEL SHOULD BE SET TO INTEGRATED ACTIONS FOR SUSTAINABLE URBAN DEVELOPMENT DELEGATED TO CITIES.**

THE URBAN AGENDA WILL PROMOTE THE DEVELOPMENT OF NETWORKS BETWEEN CITIES ensure that the selection of the twenty cities that will be indicated in the contract of **PARTNERSHIP TO DRAW 5 PERCENT OF ERDF FUNDS CAN REALIZE BENEFITS THAT ARE TRANSMITTED TO THE OTHER.**

What is the National Urban Agenda?

THE FIVE KEY POINTS THAT MAKE UP THE CORE OF THE AGENDA URBANA:

1. Limitation of land use and urban regeneration
2. Transport infrastructure and sustainable mobility.
3. European strategy on climate and energy (less than 20% of emissions of greenhouse gases, more than 20% energy efficiency, at least 20% of energy consumption from renewable sources by 2020).
4. Culture, University and **smart cities**.
5. Work and Welfare.

The Smart City approach in the CC scenario

THE SMART CITY IS...

...an urban environment can act to improve the quality of life of its citizens, able to reconcile and satisfy the needs of citizens, businesses and institutions, **thanks to their widespread and innovative use of ICT**, particularly in the fields of communication , mobility, environment and energy efficiency.

The Smart City approach in the CC scenario

Thanks to their widespread and innovative use of ICT



Can support the planning processes for...



Find new methods of analysis



Translate new knowledge into data



specific identification of urban risks

reduce inefficiencies

optimization of resource management



SUPPORT THE BUILDING OF RESILIENT COMMUNITIES



Grazie per l'attenzione