

# Environment, climate, energy : Challenges for spatial planning

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Budapest April 24 2015





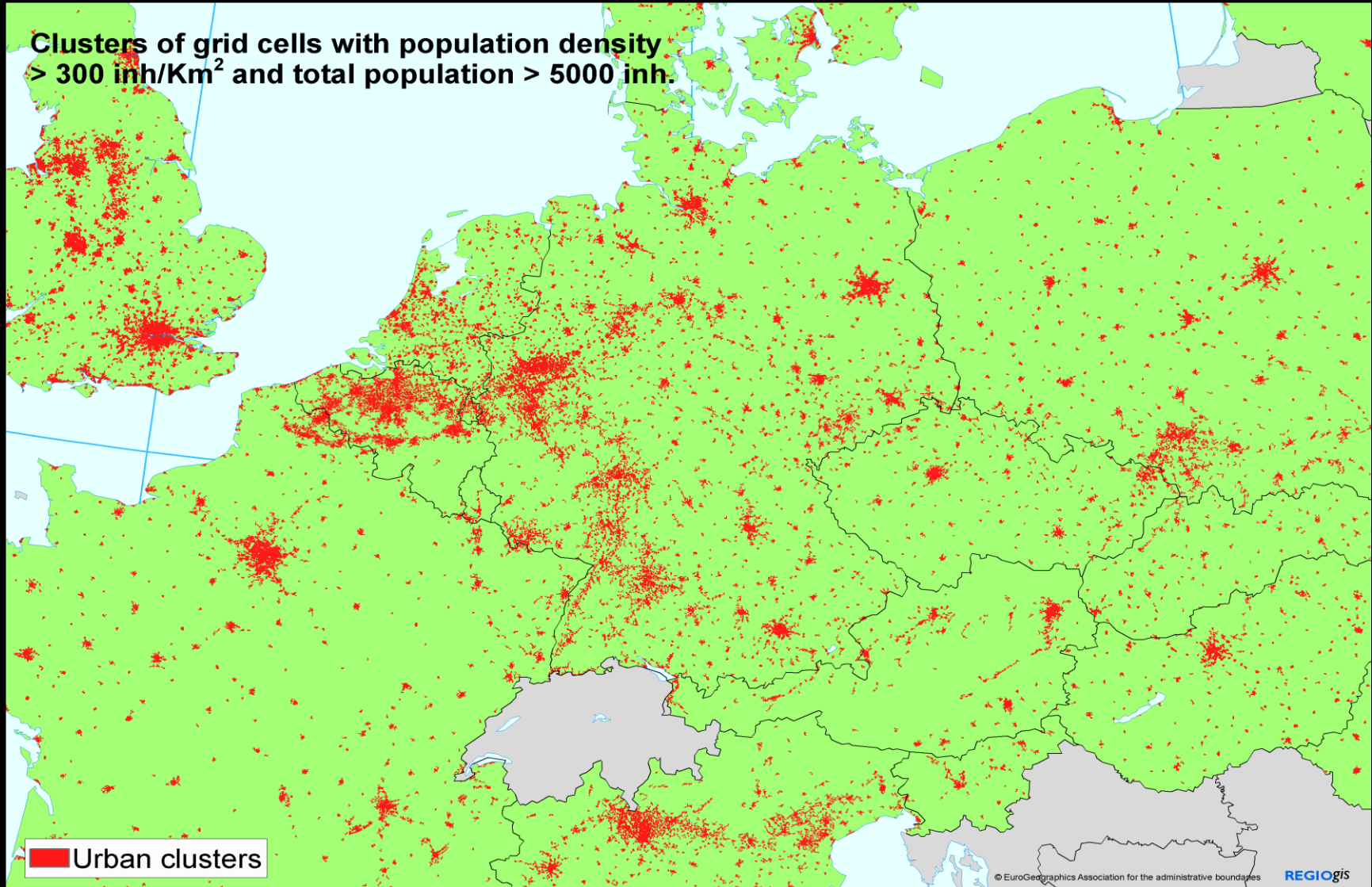
# Spatial planning context

Urban condition





# Context of the urban condition NW Europe



# Spatial context and urban condition

Planning too much focused on procedures,  
administrative issues, juridical battles, budgets,  
.... politics  
... waste of energy

Get spatial context and urban condition clear !

## **Spatial condition**

To what extent urban and regional planning are able to provide future proof solutions ?

*Reduce vulnerability to natural disasters.*  
Addressing key causes of climate change  
(floods, drought, heat islands, ...) and by  
carefully planning settlements so that  
fewer people are vulnerable to natural  
calamities.

Traditional solutions

*Create environmentally-friendly cities.*  
Public and non-polluting transport  
systems, sustainable buildings,  
strengthening environmental assets, more  
efficient and economical city forms,  
liveable neighbourhoods, ...

Traditional solutions

# *Spatial integration – Spatial synthesis Towards territorial cohesions*



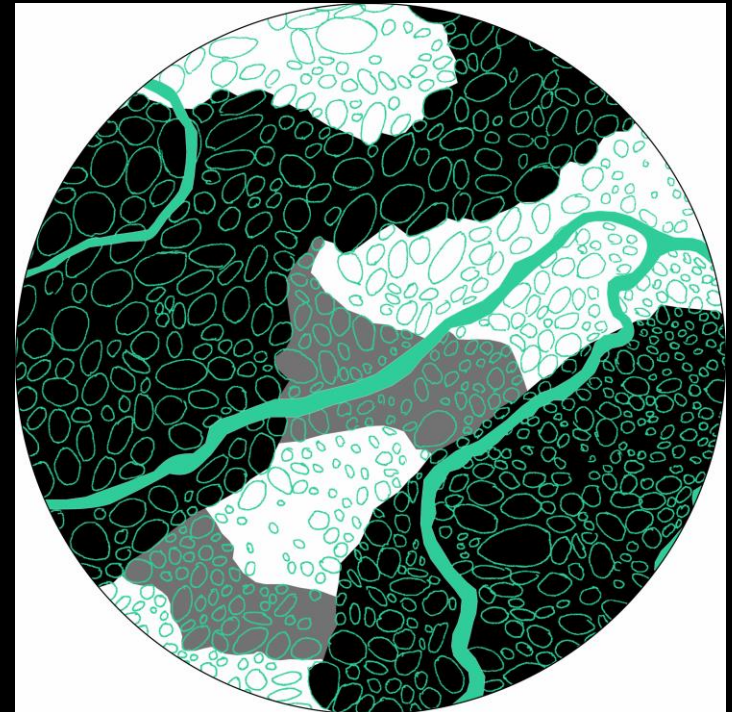
Traditional solutions



# Regional Spatial Visions Metropolis Flanders in 2030

## ➔ Resilient space

- Shockproof territories
- Sponge for climate change
- Green-blue veins through built-up and non-built-up areas
- Space for energy transition



**Transformative capacity**

**Governance**

**Transformative capacity  
related to water bodies and  
river deltas**





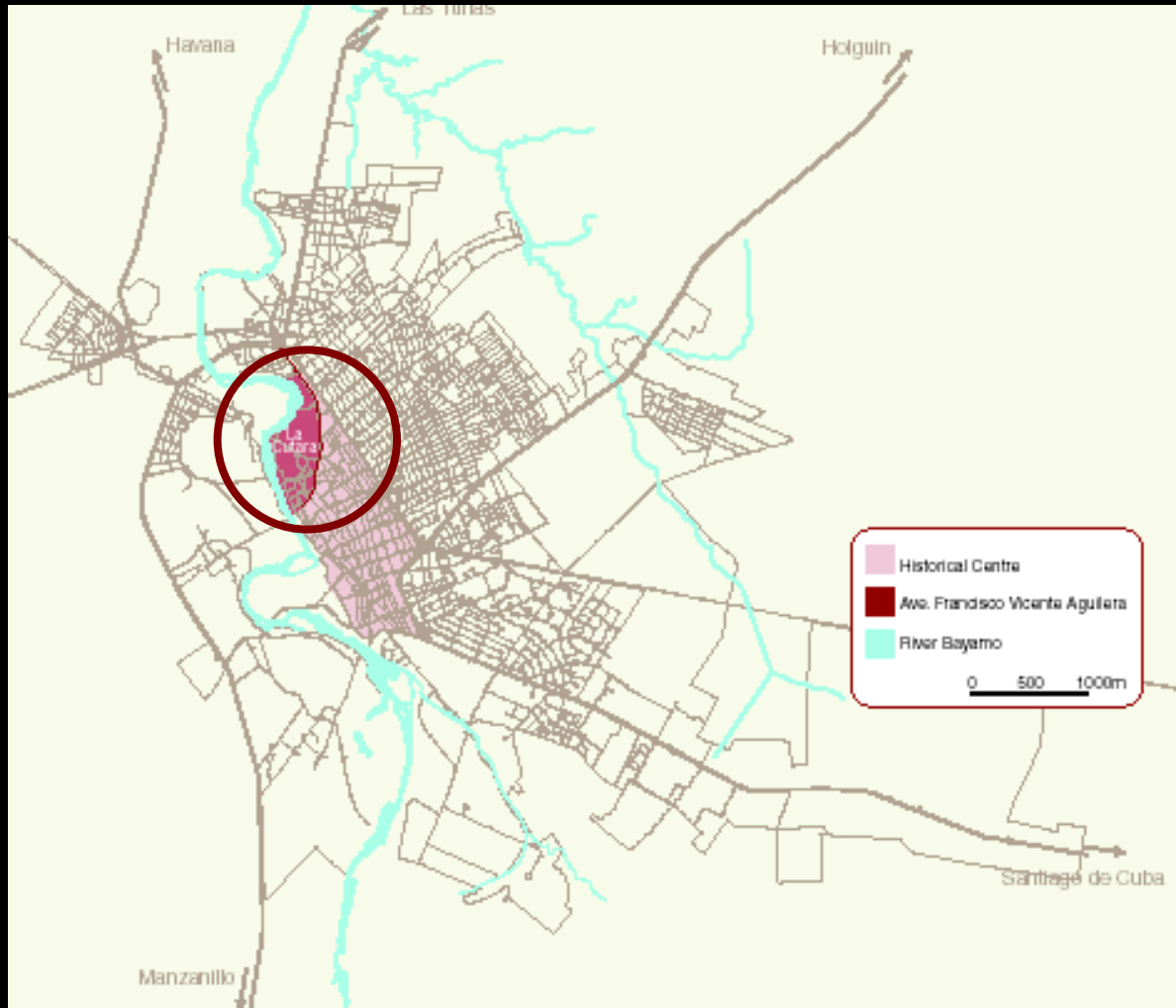








# Urban planning coping with flood issues and adapted use (case Bayamo Cuba)



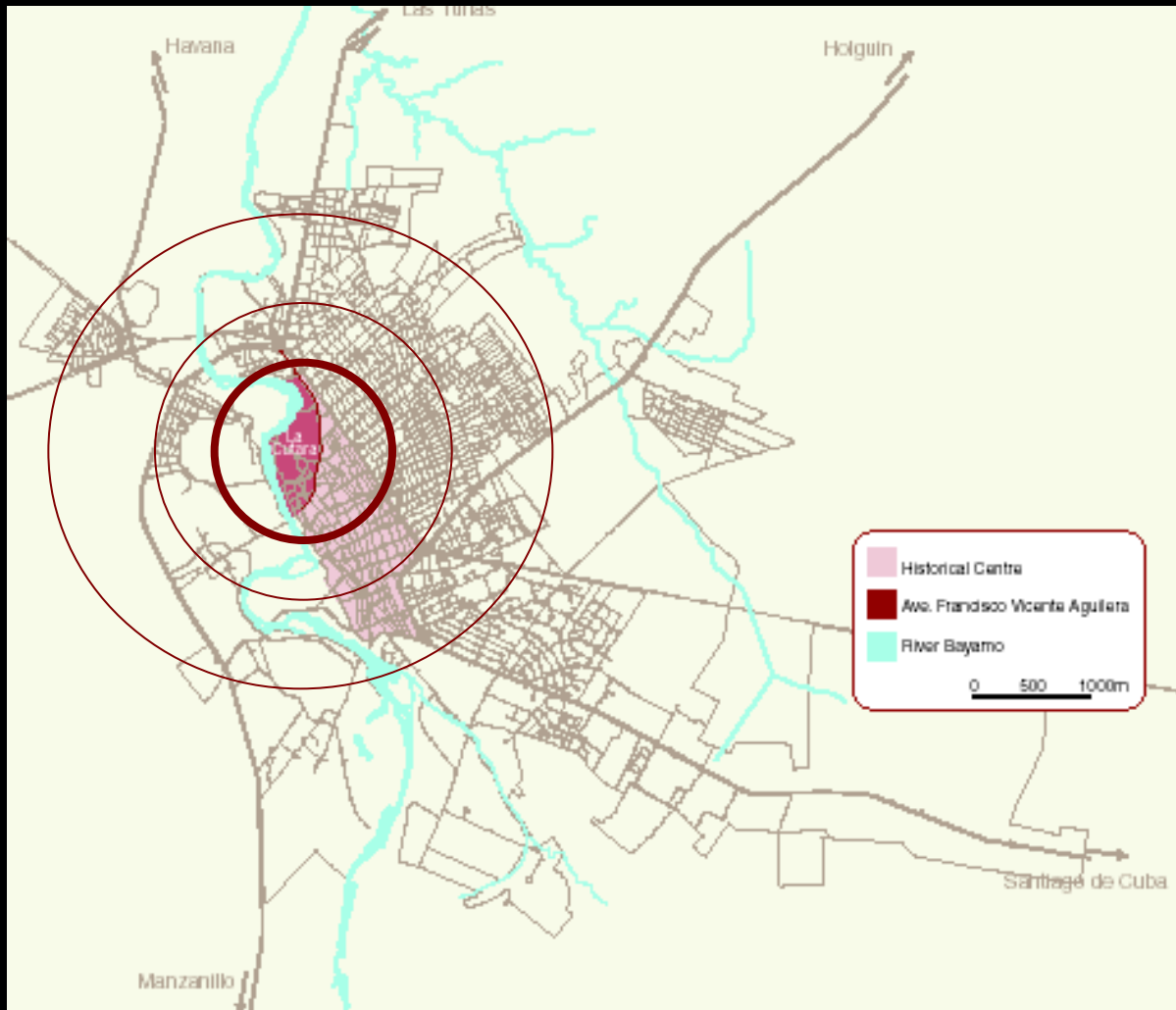
Key location  
between the left  
bank and the right  
bank and

between historic  
centre and northern  
area

Infrastructures:

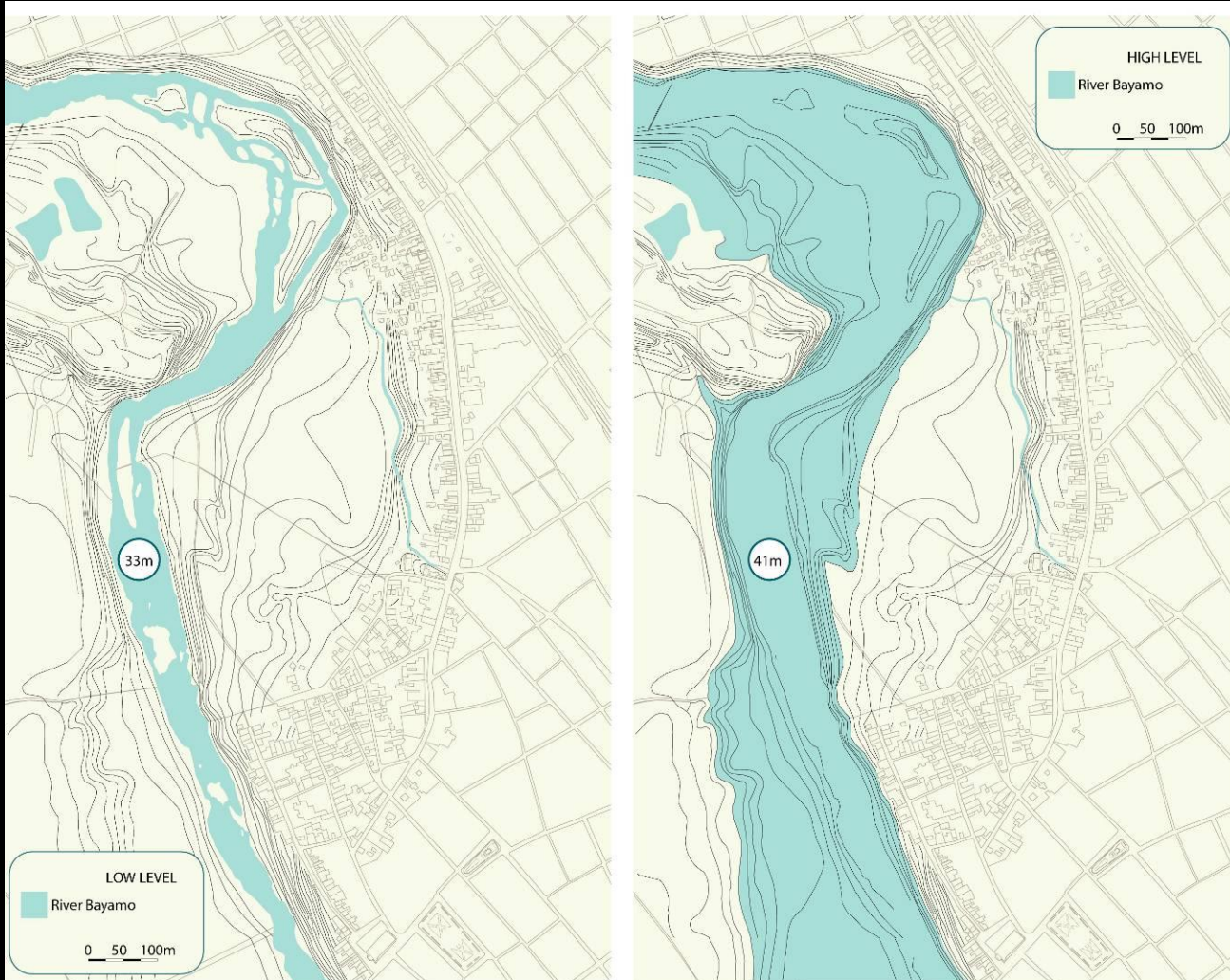
- River
- Railway
- Aguilera Avenue

Does centrality go hand in hand with left bank expansion ?

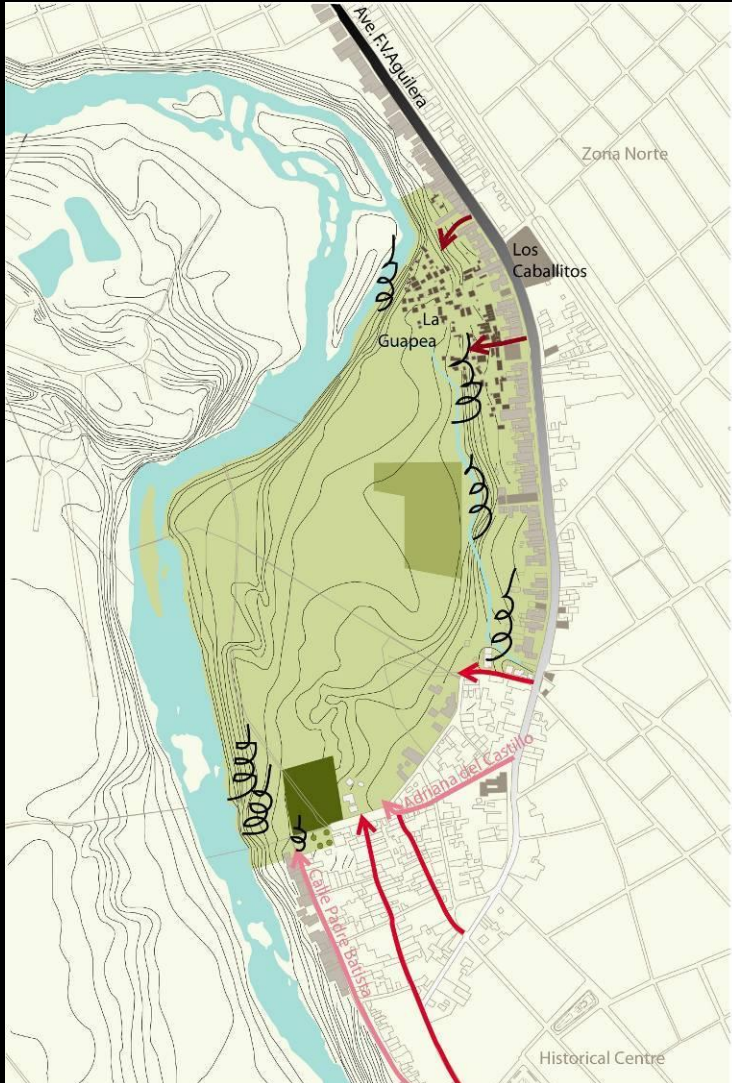




# Flood area



# Spatial analysis of the area



## ACCESS

- River
- City
- Railway
- Historic centre

## FUNCTIONS AND ACTIVITIES

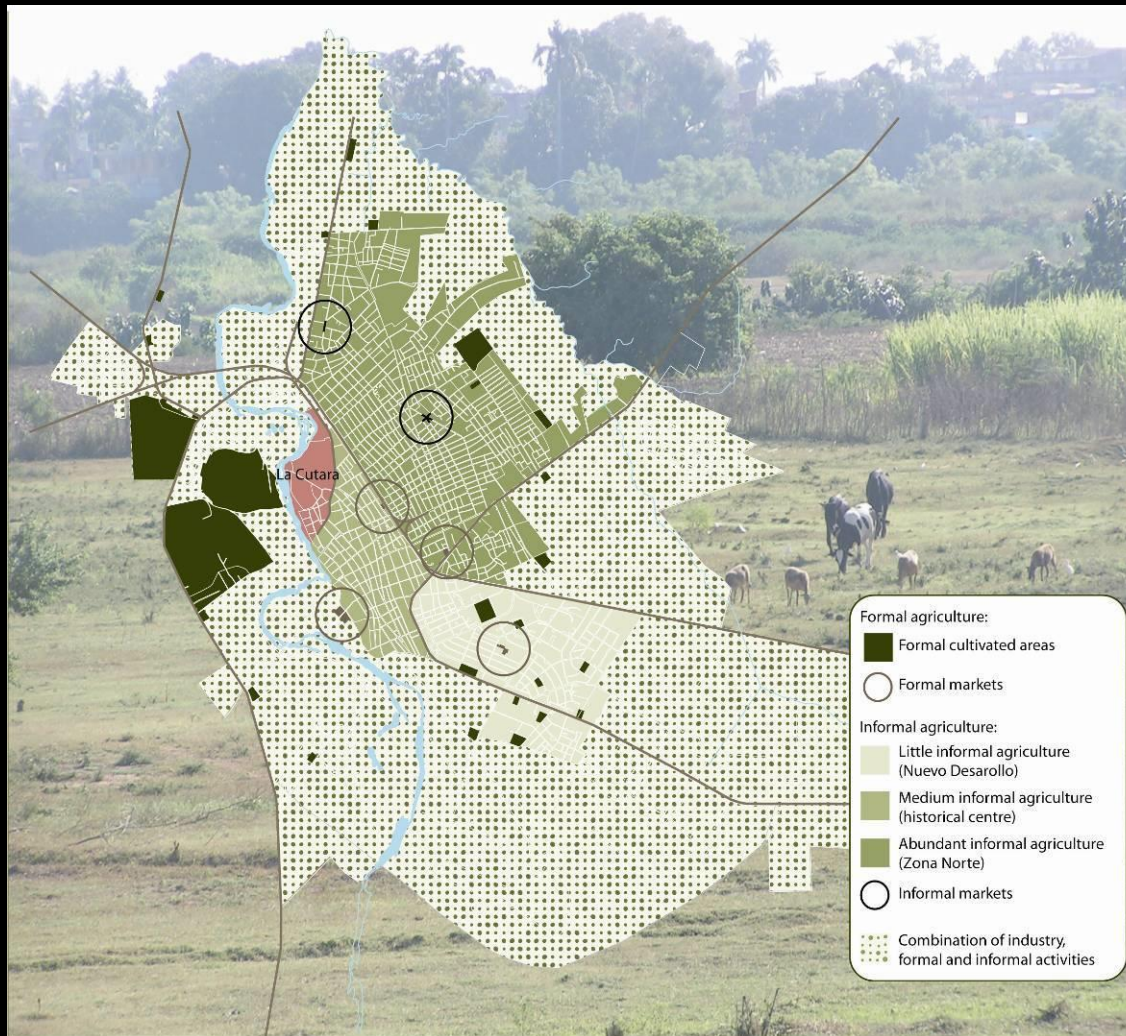
- Cultural area
- Sports activities
- Small disposal site
- Grazing area
- Crops
- Fishing



# Existing Urban Agriculture



# Vocation urban agriculture ?



Fertile soil

Water presence  
(sustainable irrigation)

Good accessibility (F.  
Aguilera Avenue)

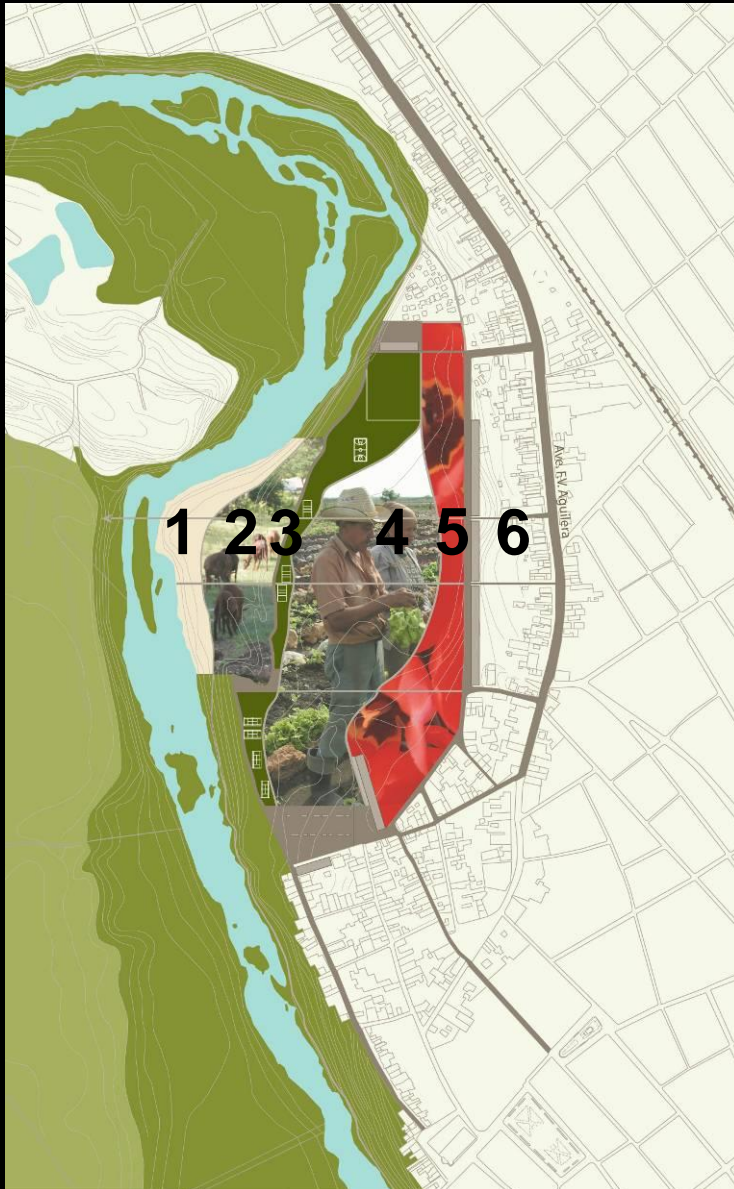
Commercial Position

Relation with the  
Agro-market 'El  
Chapuzón'

Urban Agriculture deficit  
in the North Zone and  
the Historical Centre

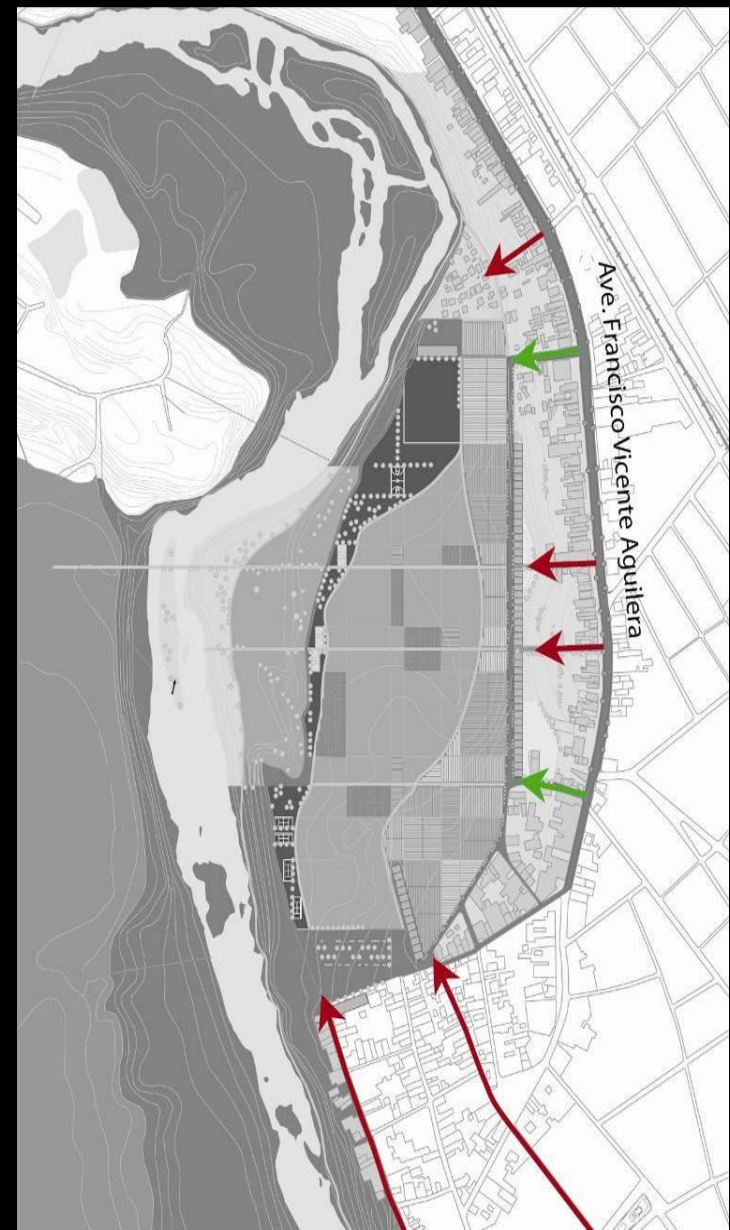
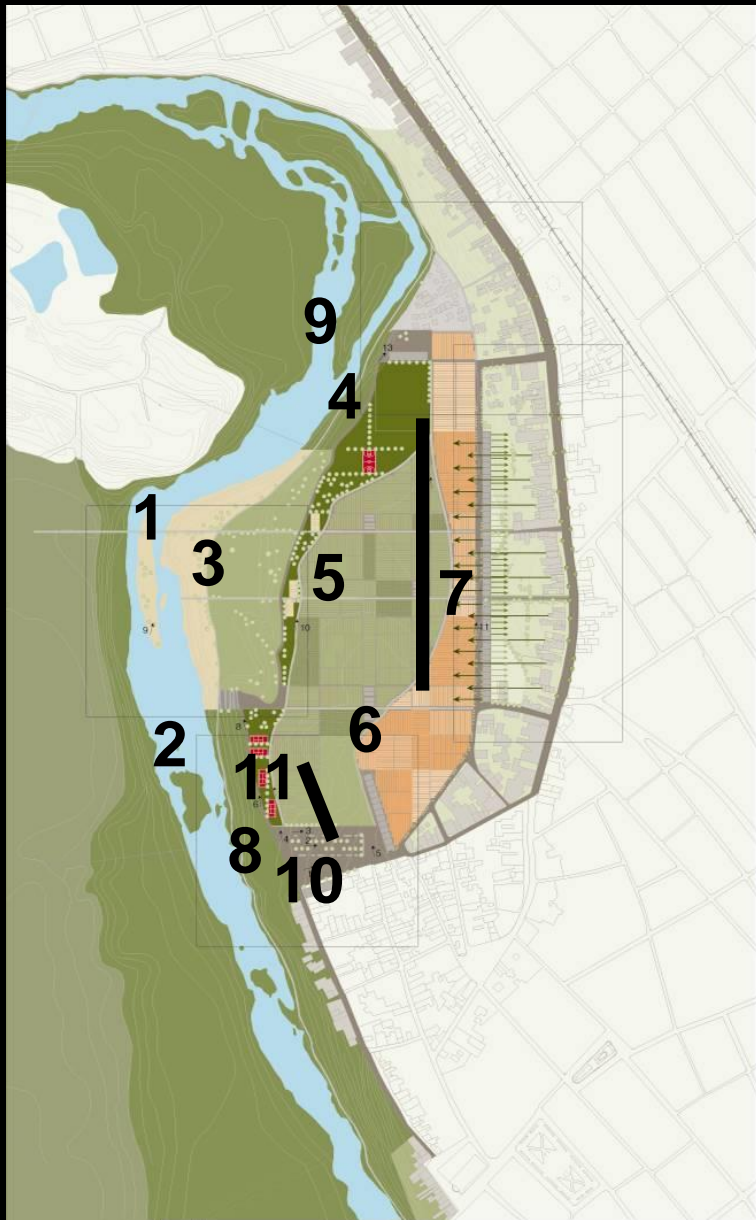


# Strategic spatial plan: general design



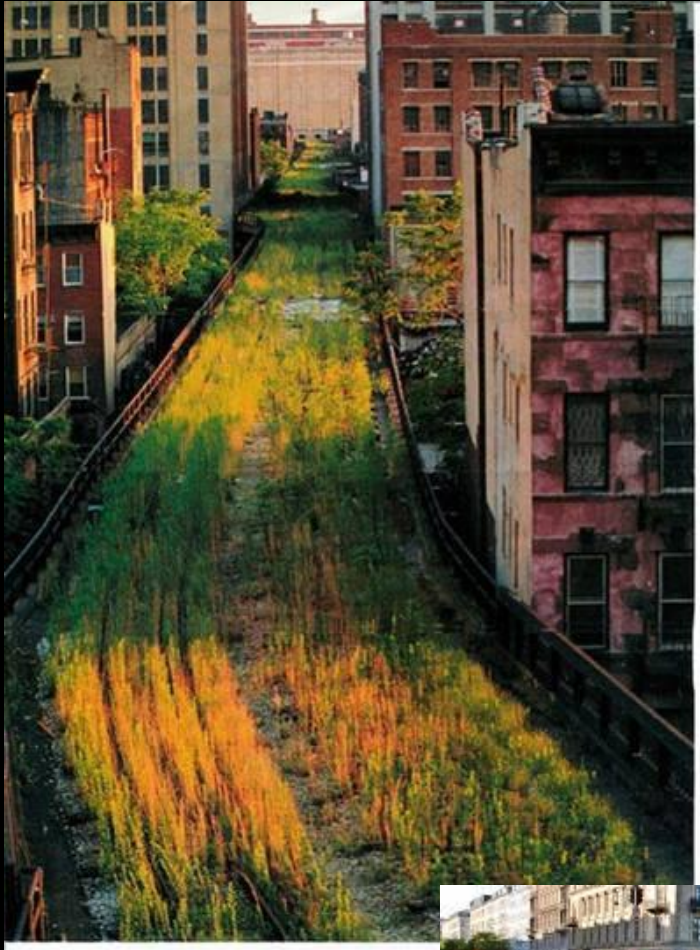
1. Recreation area near the river
2. Areas for grazing
3. Recreation
4. Urban Agriculture (vegetables and fruits)
5. Flowers orchids
6. Residential area

# Strategic spatial plan: detailed design



Transformative capacity  
related to  
urban mobility  
systems









Medellin Colombia

3 years time

220.000 citizens affected

20.000 m2 of new urban space

Culture, security and mobility

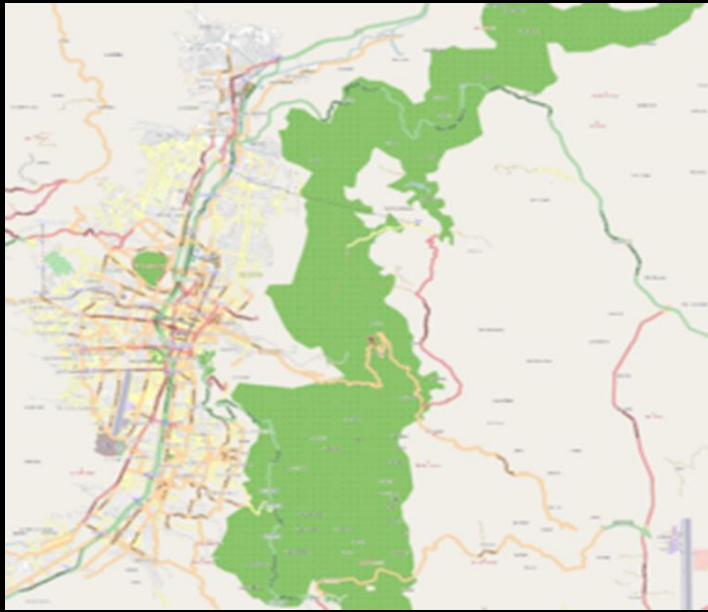




























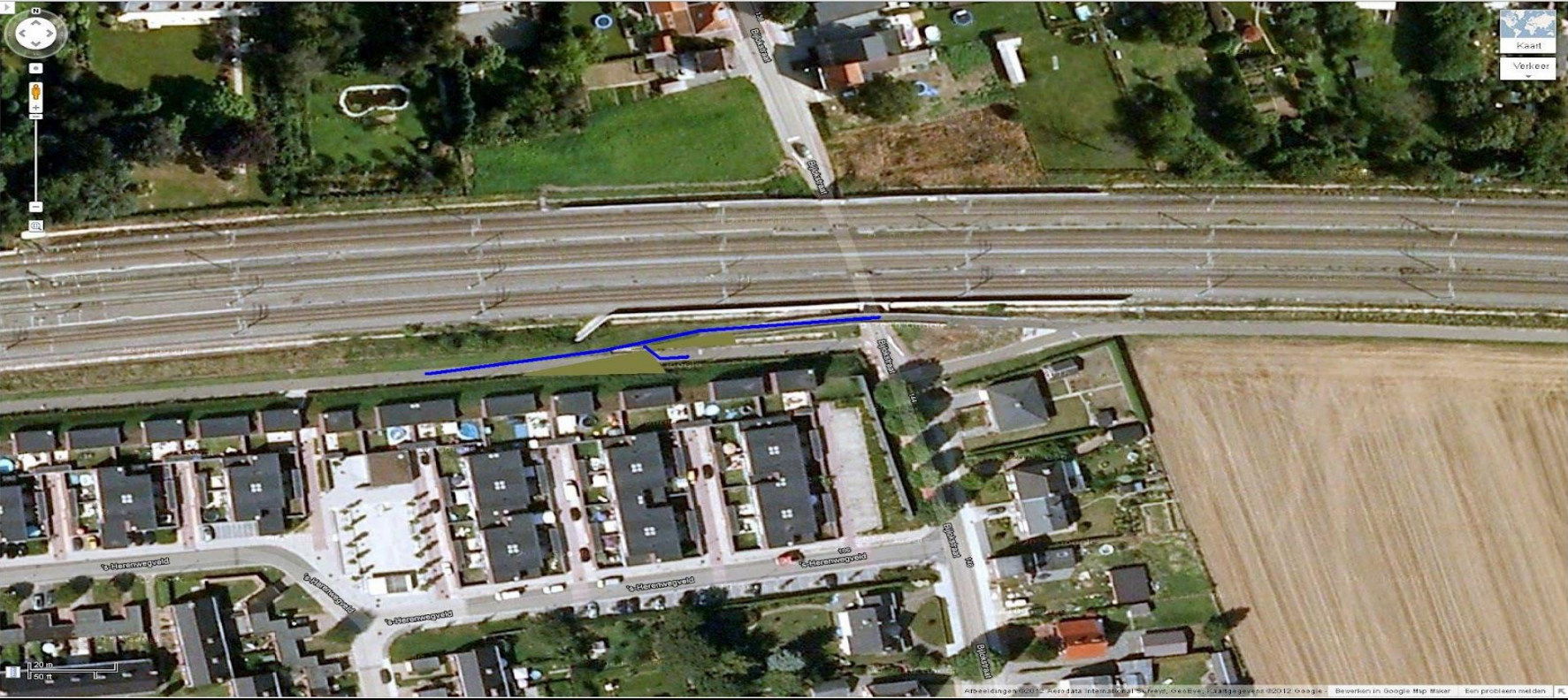




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# HASSELT WIL MINDER VERVUILENDE VRACHTWAGENS

HET  
JOURNAAL

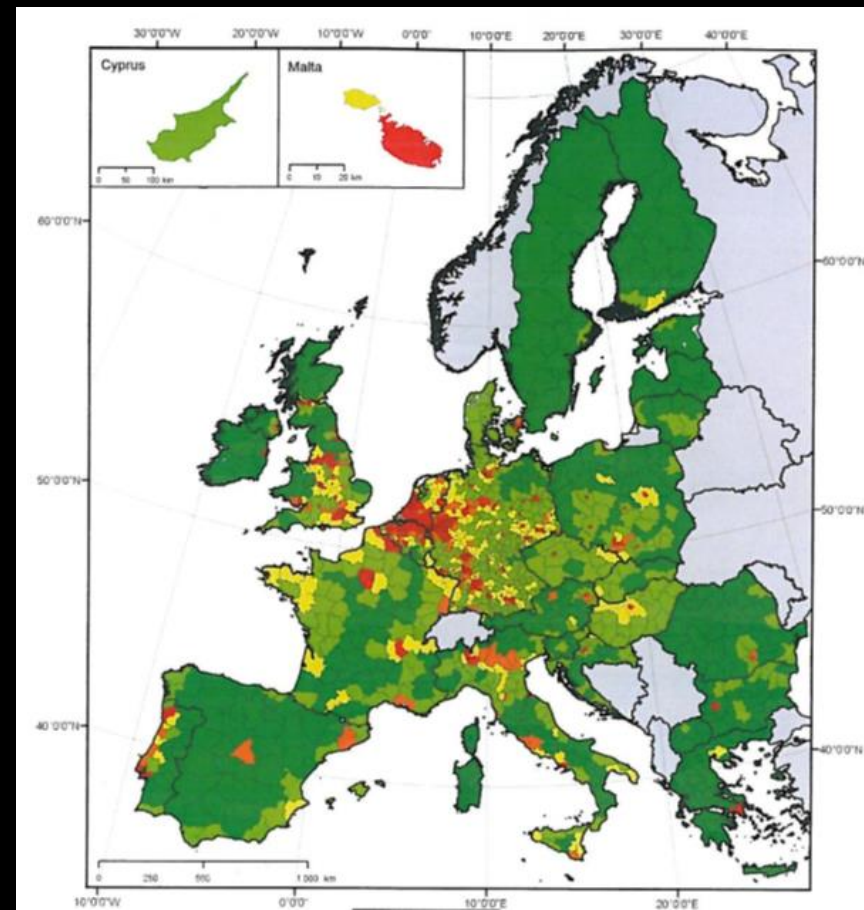


# Transformative capacity of urban areas

# Concept of **zero sum territorial development**

## Transformative capacity

- Soil sealing reduction (Europe)
- Effect of soil sealing on:
  - Water
  - Biodiversity
  - Food security
  - CO<sub>2</sub>-cycle
  - Urban heat island
  - ...





# Zero sum development to 'space neutral region'

=

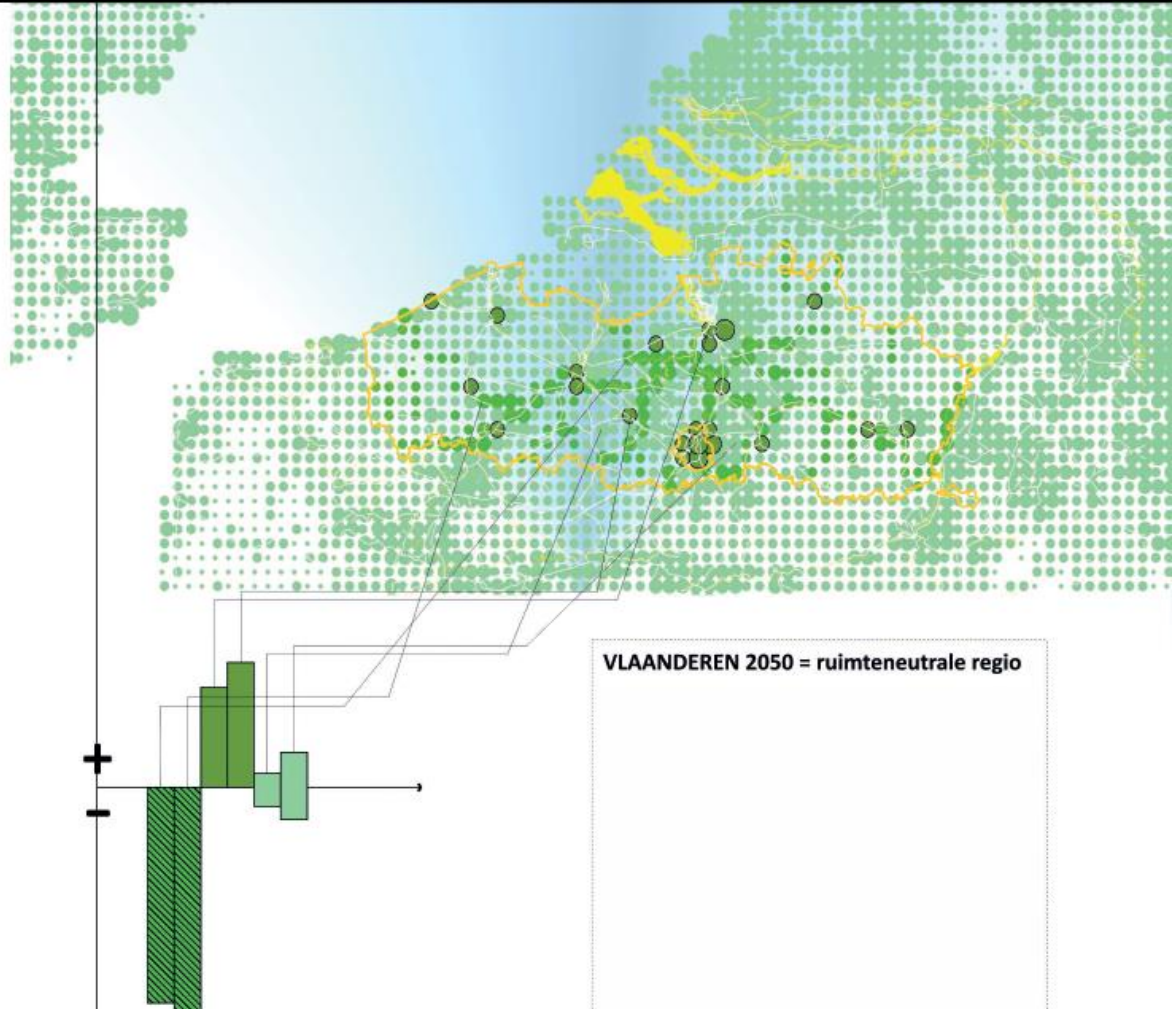
## Transition path to max. 27 % built up area

**27%**  
max. bebouwing

Now 25 %

Gradual - / 0 / +

Curve target 2030-2050



One billion  
dollar  
question:  
At which  
scale?

- Region
- Metropolitan
- Port ?



# KANN DER HAMBURGER HAFEN SEINE KAPAZITÄT VERDOPPELN, OHNE SEINE FLÄCHE ZU VERDOPPELN? CISCO SAGT: „AUF JEDEN FALL.“

Eigentlich logisch: Damit man etwas hinzufügen kann, braucht man mehr Platz. Aber Deutschlands größter Seehafen beweist das Gegenteil. Mit Hilfe des Cisco® Intelligent Network wird der Hamburger Hafen seine Kapazität verdoppeln - ohne die Gesamtfläche zu verdoppeln: Stattdessen werden die Transportsysteme zu Wasser, auf Straße und Schiene an einem zentralen Knotenpunkt perfekt aufeinander abgestimmt - das beschleunigt den Warenfluss und vermeidet Verzögerungen. Die Fracht kann schneller umgeschlagen werden, da jedes Schiff zur richtigen Zeit am richtigen Ort ist. Dadurch wird die Kapazität verdoppelt - nicht der benötigte Platz. Auch wenn das eigentlich nicht logisch ist. Sehen Sie, was Sie mit unseren Lösungen, Partnern und Services im Cisco Intelligent Network erreichen können. [cisco.de/go/built](http://cisco.de/go/built)



HAMBURG PORT AUTHORITY, BUILT ON THE CISCO INTELLIGENT NETWORK

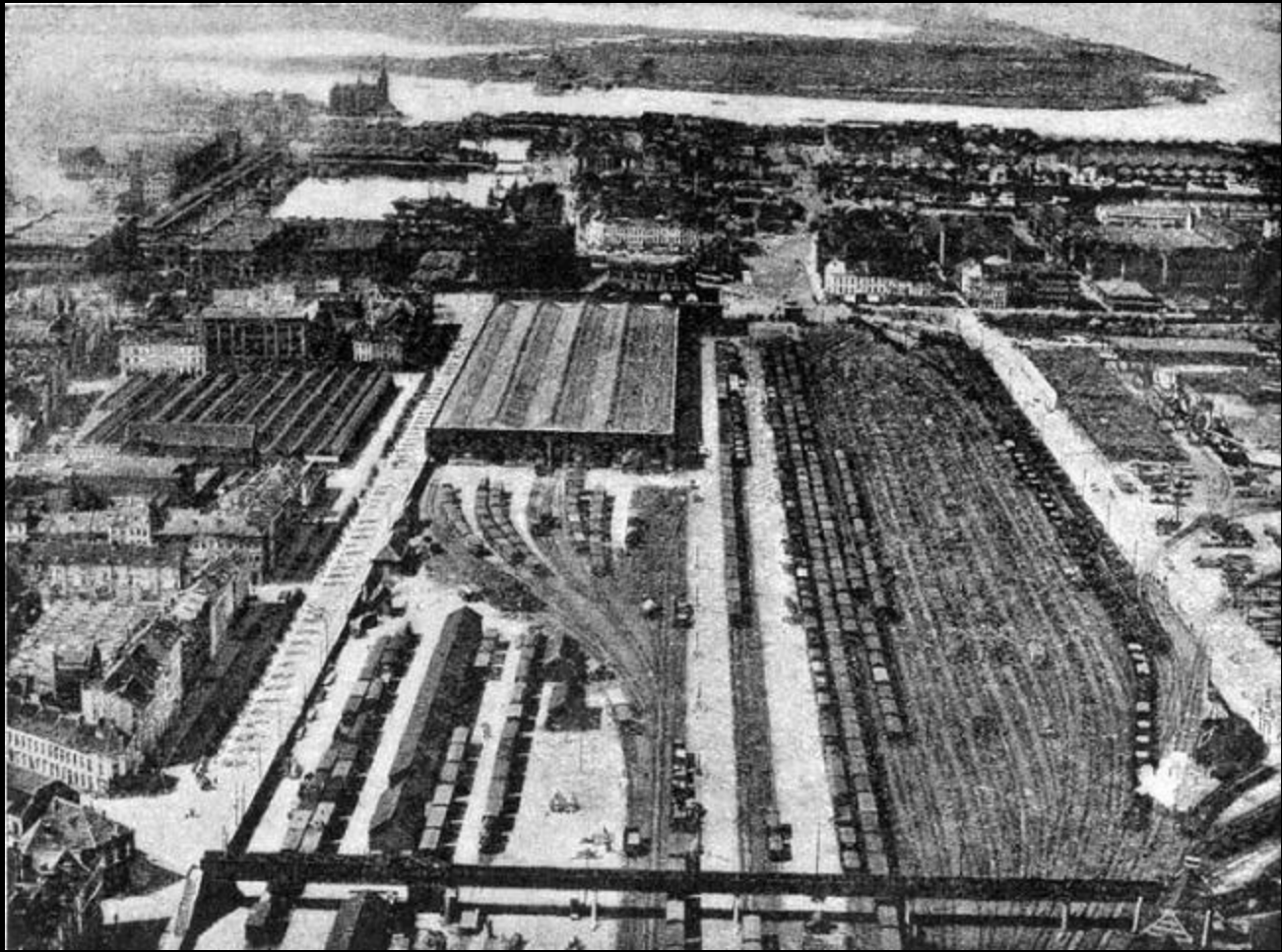
Süddeutsche Zeitung 23-11-2012





# Antwerpen (Flanders-Belgium) Park Spoor Noord



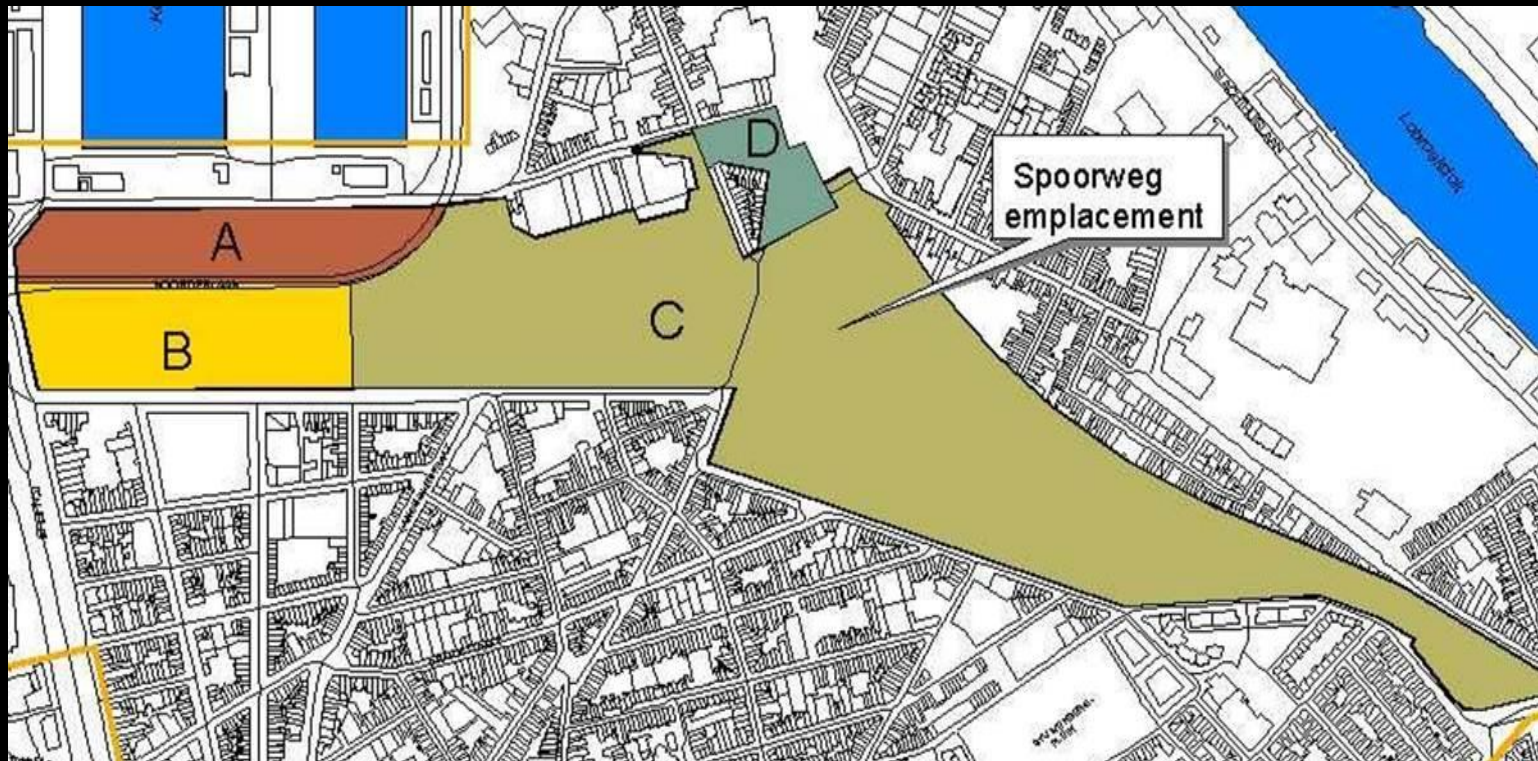




# Antwerpen Spoor Noord - Park and urban development

24 ha in total

$\frac{1}{4}$  (6 ha) urban development and  $\frac{3}{4}$  (18 ha) public park



# PPP – cooperation: leverage

|                       | <b>Private</b> | <b>Public</b>  | <b>Total</b>     | <b>Subsidy</b> |
|-----------------------|----------------|----------------|------------------|----------------|
| Call 1<br>8 projects  | 227 mio        | 130 mio        | 357 mio          | 25 mio         |
| Call 2<br>9 projects  | 314 mio        | 114 mio        | 428 mio          | 19 mio         |
| Call 3<br>13 projects | 417 mio        | 220 mio        | 637 mio          | 30 mio         |
| <b>Total</b>          | <b>958 mio</b> | <b>464 mio</b> | <b>1.422 mio</b> | <b>74 mio</b>  |









**Transformative  
capacity of the  
hinterland:  
Energy landscapes**

# Importance of Hinterland

Create space for food, water, biodiversity, recreation and... energy

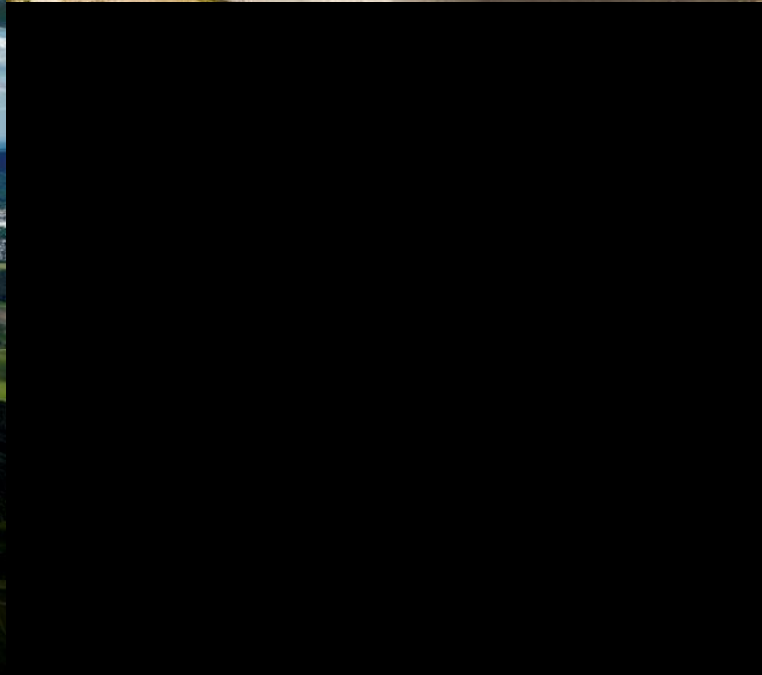
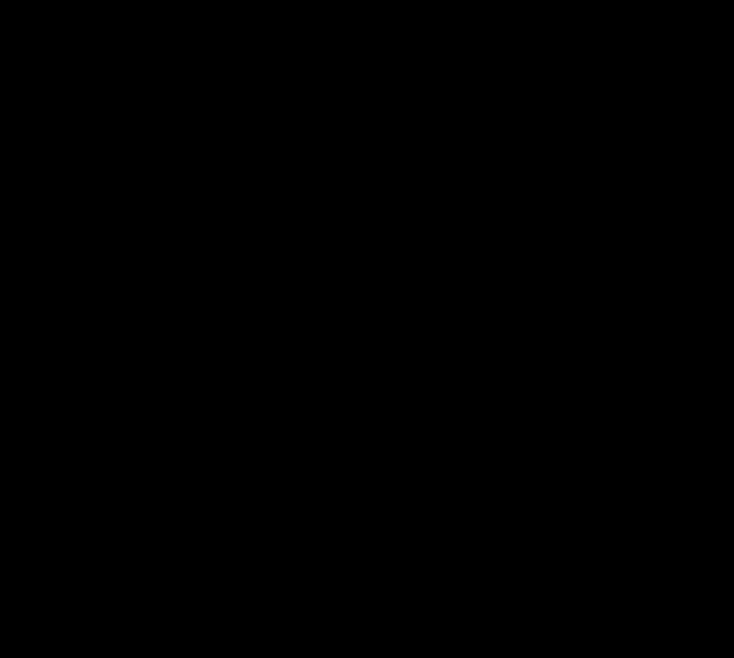
Clear policy needed for Metropolitan fringe

Symbiosis non built area and metropolitan functions.

Residential pressure







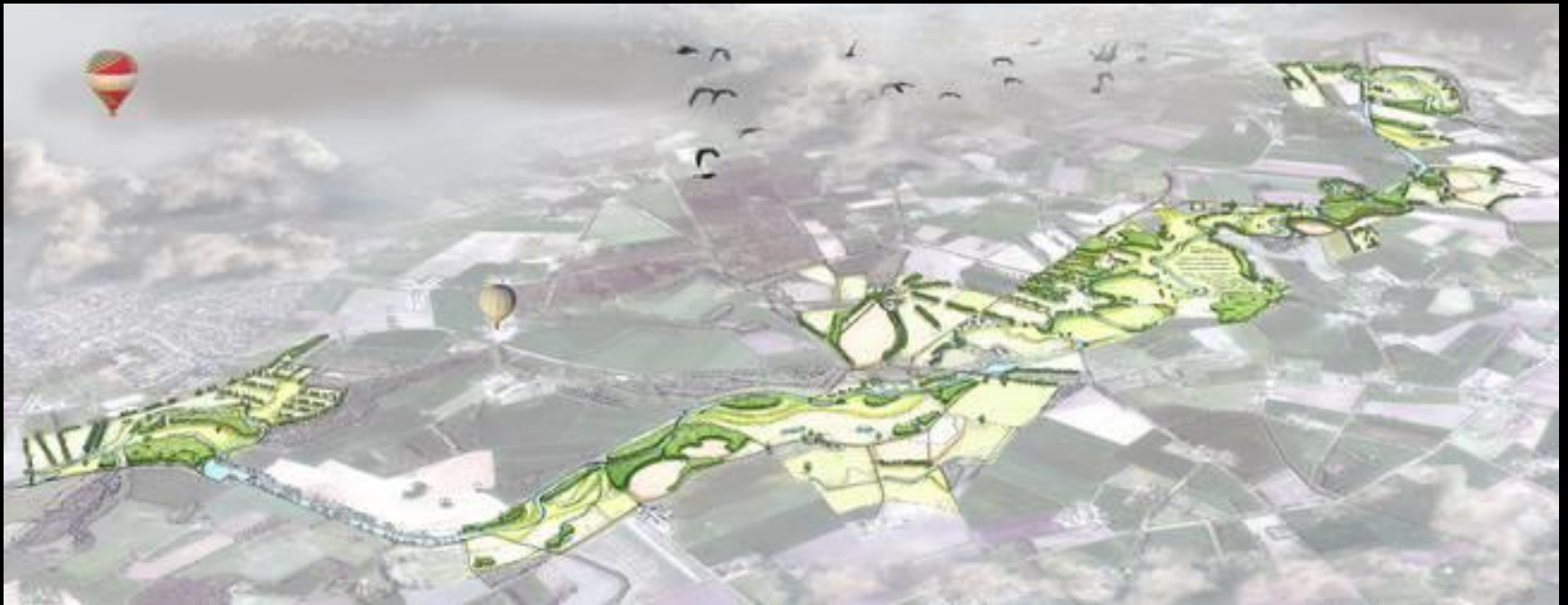


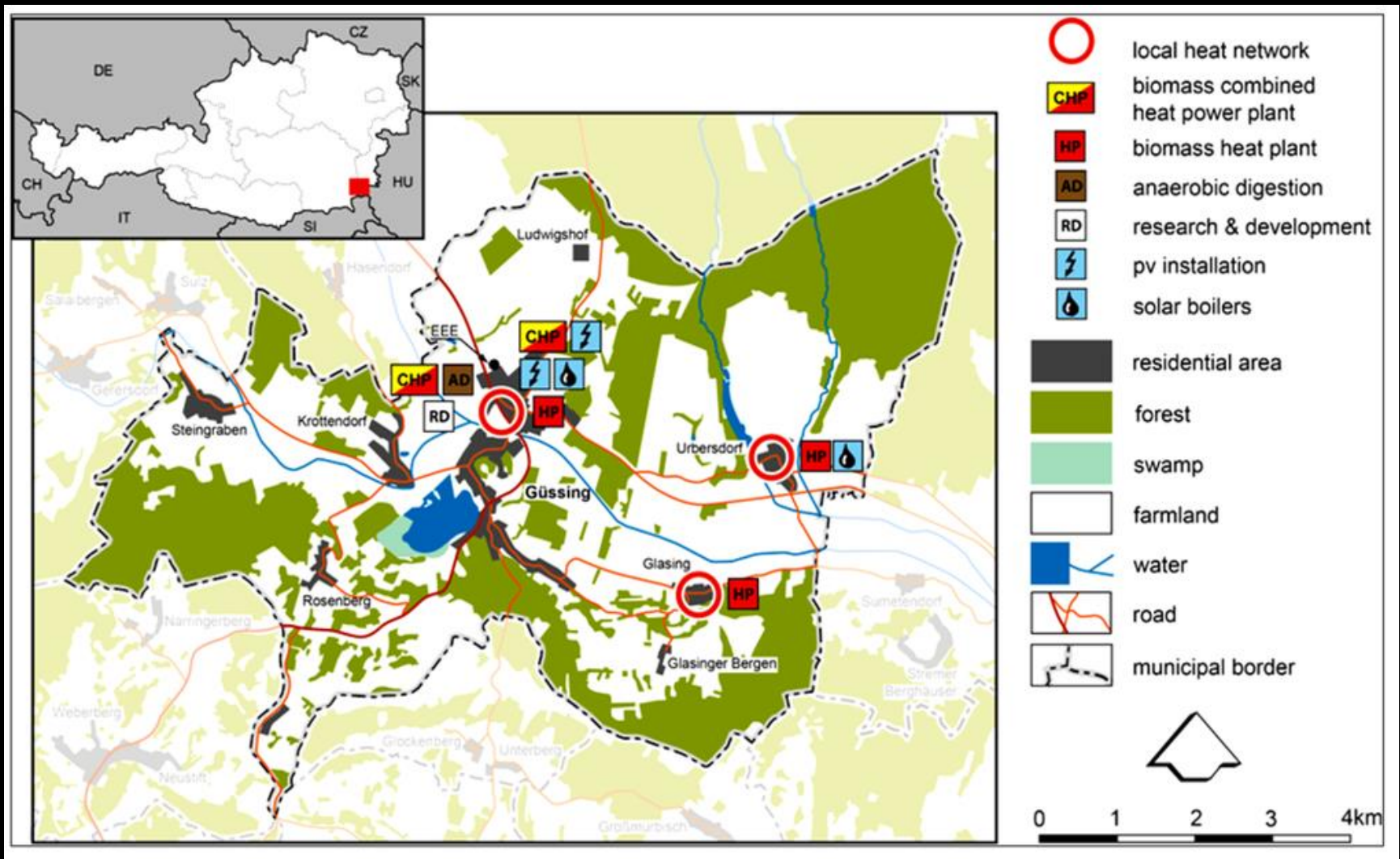




# Energy landscaping

Regional and integrated approach





Güssing (Austria): land use, infrastructure and renewable energy technologies.





IBA-See

Cows  
delivering  
energy in  
Friesland





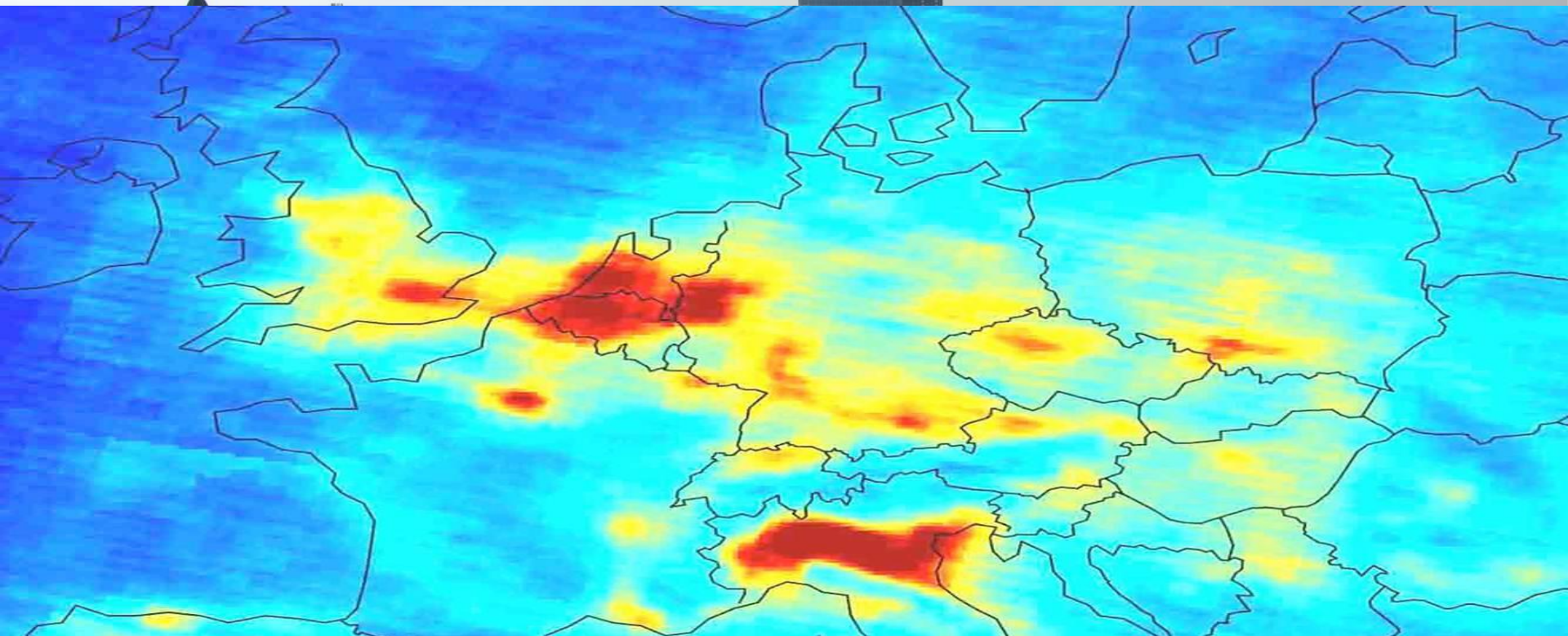
# Governance

- 'Governance force' (strike force) of local subregional and regional governments?
- Multi-actor approach solving specific spatial issues within a network of interdependent actors is particularly successful.
- Governance force monitor: measuring capacity, based on 19 indicators (quantitative and qualitative).

# Environment, climate and energy: Urban sustainable development ?

- Specific condition
- Set of complexities
- Density
- Diversity
- Need for coordination
- Many powerful players
- Integrated but above all creative approach





# Köszönöm a figyelmet

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