

# PLUREL



## Peri-urban policy-scenario research workshop

9th February 2009

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with Jeremy Carter, Nick Green, Duncan Thomas

University of Manchester



SIXTH FRAMEWORK  
PROGRAMME



# Outline of workshop

## Objectives

- Present the peri-urban agenda and first research results.
- Review current strategies & policies in different areas.
- First stage of 'policy-scenario' testing.

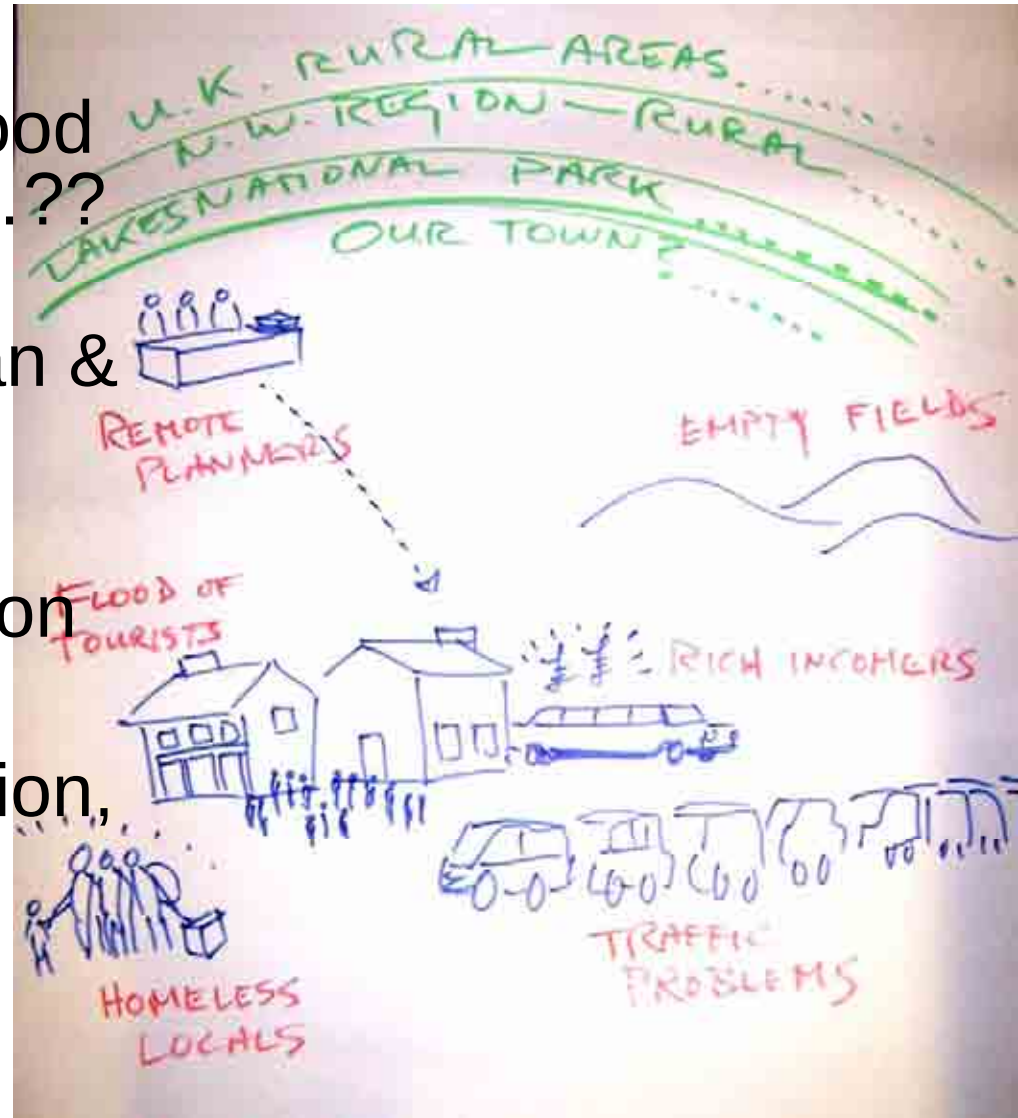
## AGENDA

1. Introduction to PLUREL & research results
2. Review of policy & activity from the east / west / whole city-region
3. Policy scenario testing.

# “PLUREL” – THE PROJECT

# Challenges

- where to build 3 million houses – green belts, flood plains, brownfield sites...??
- Rapid change of small towns & villages, to urban & global outposts.
- climate change impacts,
- mobility, traffic, congestion
- ageing population,
- landscape stress & erosion,
- farm decline etc



# Questions ...

- What is the peri-urban and why is it important ?
- What do we know about conditions and trends ?
- How to understand the complexity and the inter-connections? & how to communicate?
- What are the future challenges and opportunities ?
- Are current policies & programmes future-proofed?
- How can policies respond to these challenges and opportunities ?

# Large complex research models

## THE PROJECT

- 31 partners, 84 researchers, 16 countries,
- Technical modelling & analysis
- Policy analysis & review
- Stakeholder involvement
- Creative programme

## RESULTS

- Model results
- Scenario results
- Policy review & recommendations
- Sustainability assessment tools.
- EU wide & regional case studies.
- Manchester June 2010.

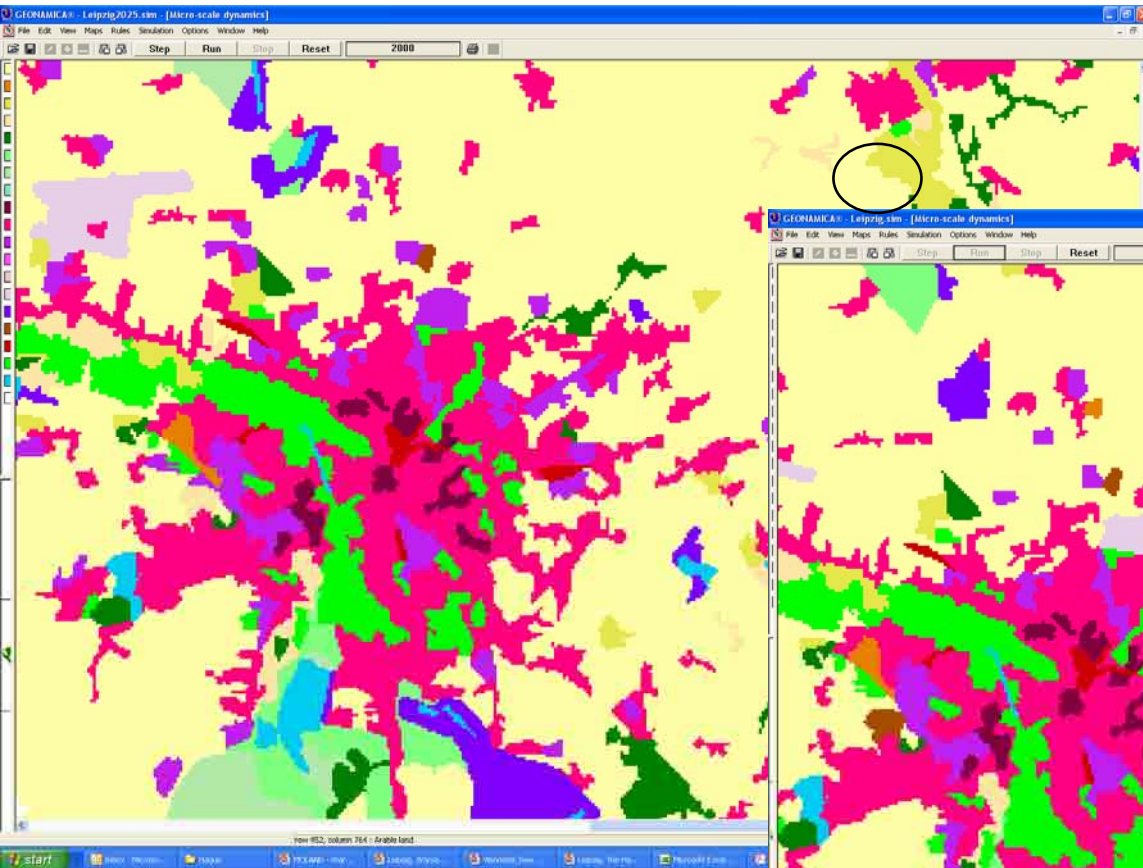
# “Research village”



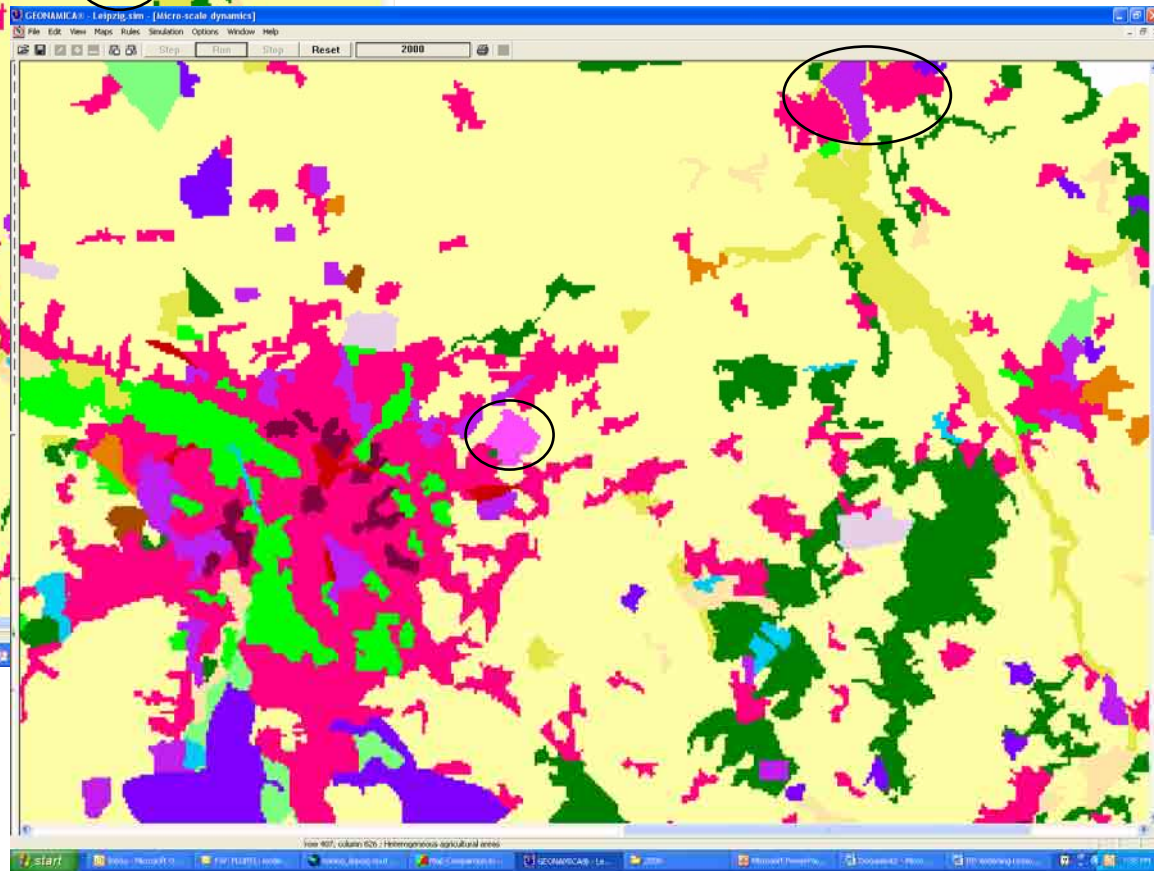


# City-region models

2000 real

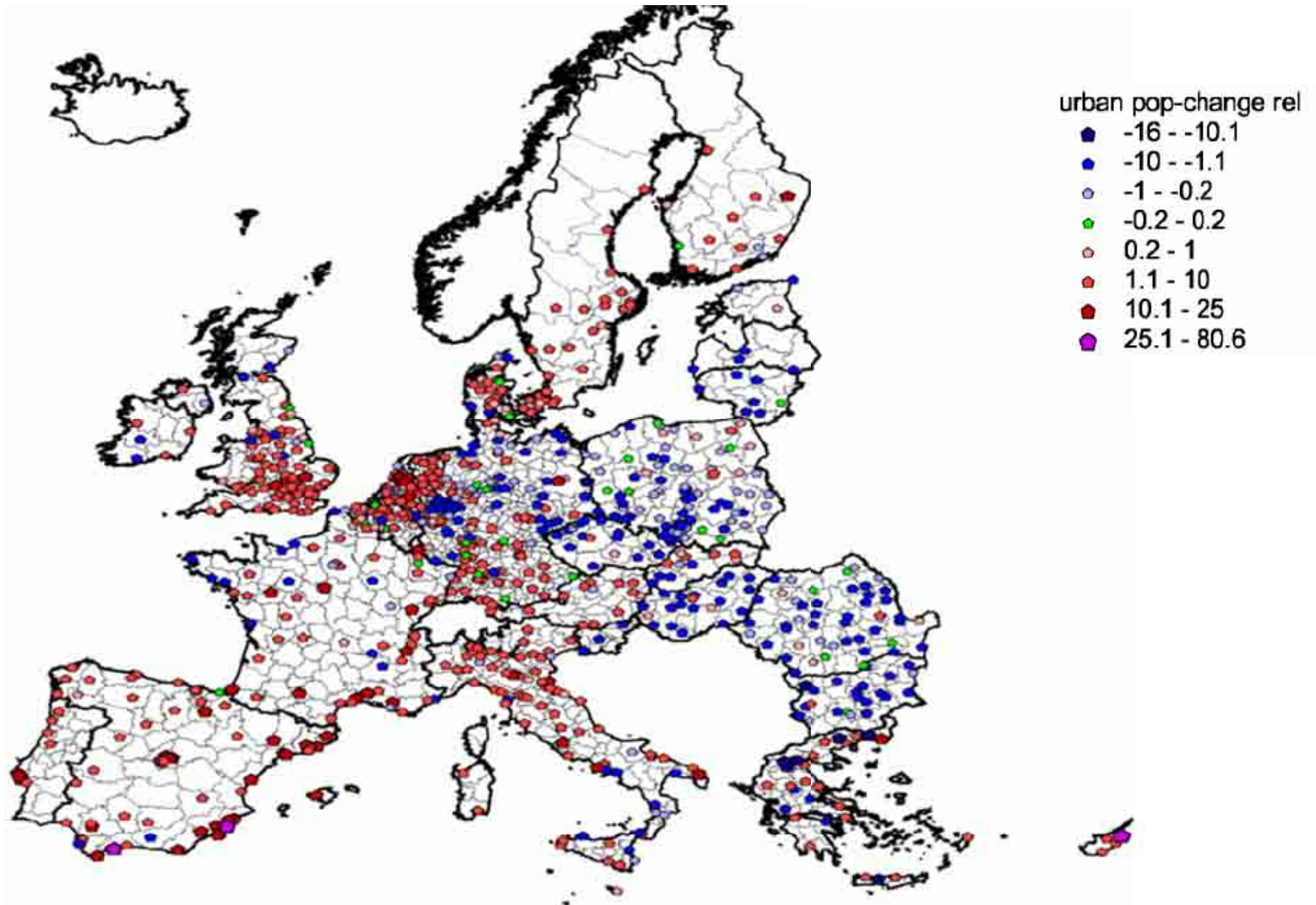


2000sim.

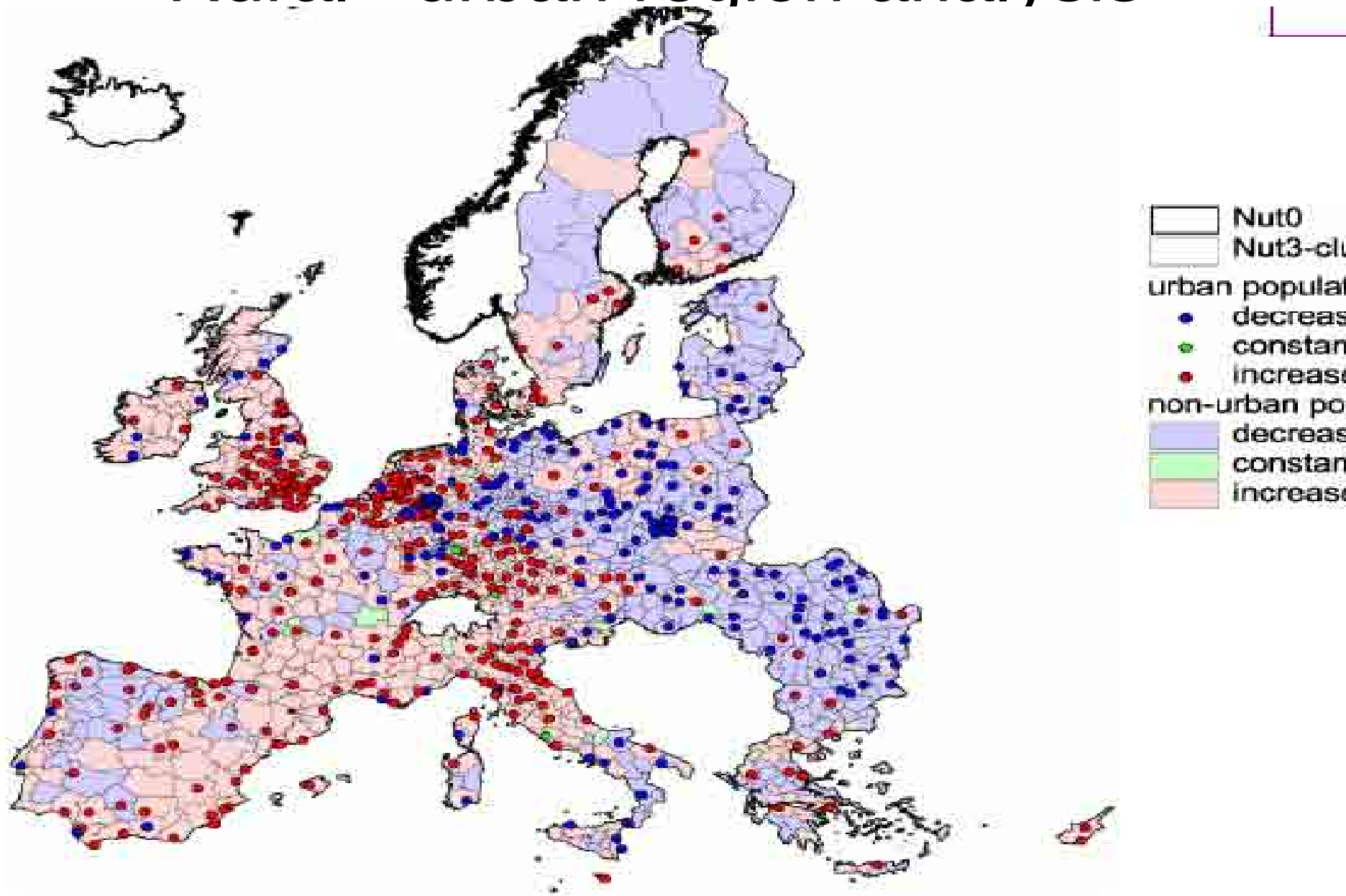




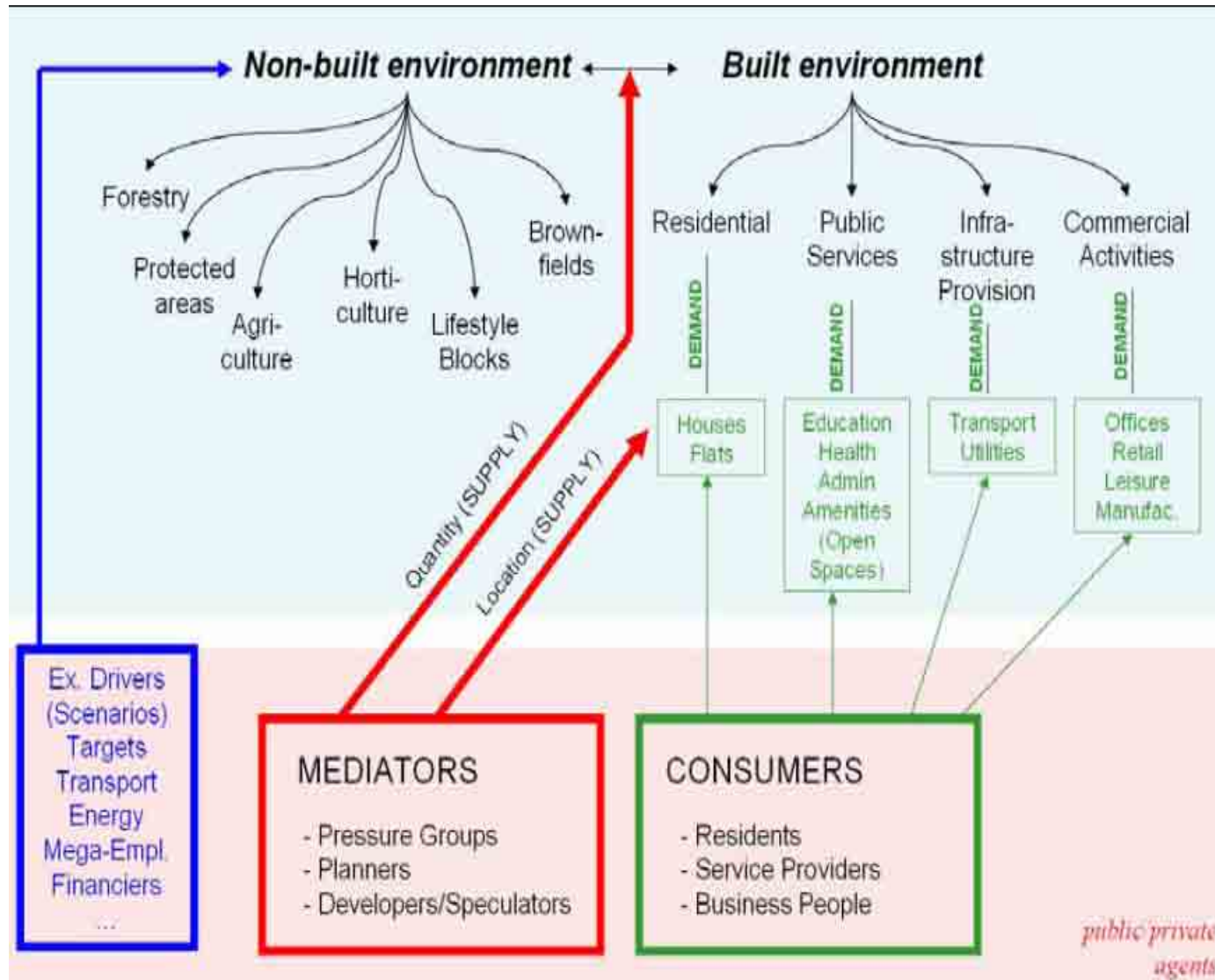
# Rural-urban region analysis



# Rural –urban region analysis



# Integrated modelling



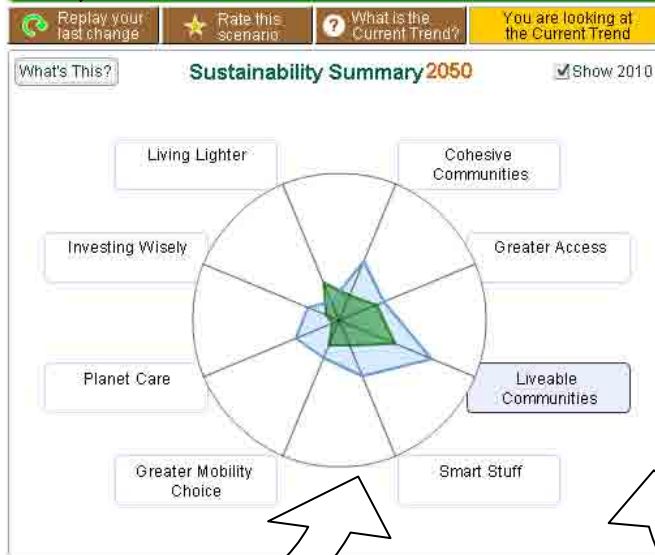
# Example sustainability tools - NW Quest

Prototype available on [www.eco-region.org](http://www.eco-region.org)

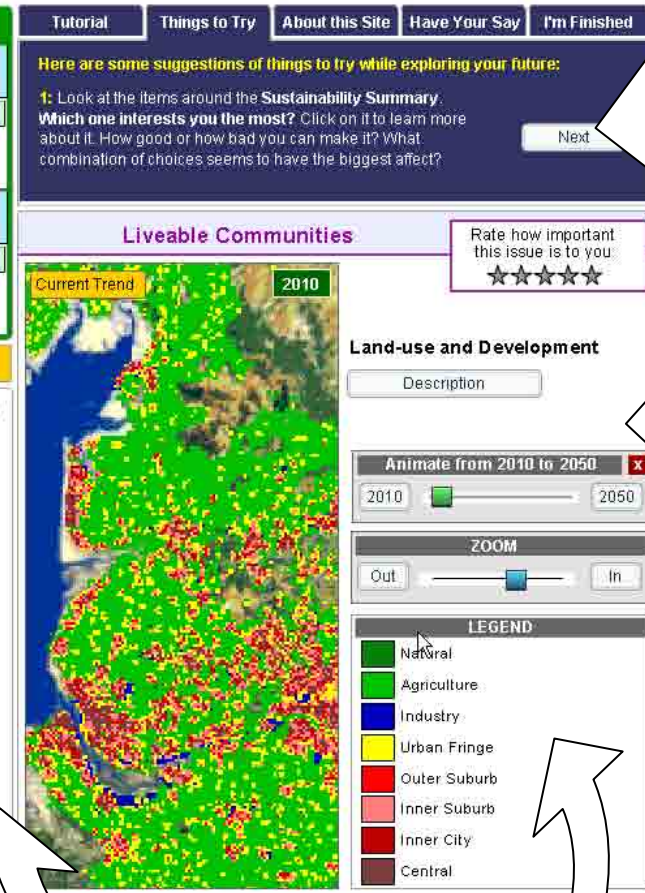
1. Make your choices, to experiment with the future

See what North West UK might look like in the year 2050!

| Urban Development                                                                       | Housing Location                                                                           | Waste Management                                                                            |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <input checked="" type="radio"/> Existing Trend<br><input type="radio"/> Higher Density | <input checked="" type="radio"/> Suburban Idyll<br><input type="radio"/> Urban Renaissance | <input checked="" type="radio"/> Existing Actions<br><input type="radio"/> Stronger actions |
| Local Environmental Quality                                                             | Transportation Options                                                                     | Public Investment                                                                           |
| <input checked="" type="radio"/> Programs<br><input type="radio"/> More Programs        | <input checked="" type="radio"/> Mainly Cars<br><input type="radio"/> More Alternatives    | <input checked="" type="radio"/> Business as Usual<br><input type="radio"/> Green Economy   |



2. Watch the sustainability summary change

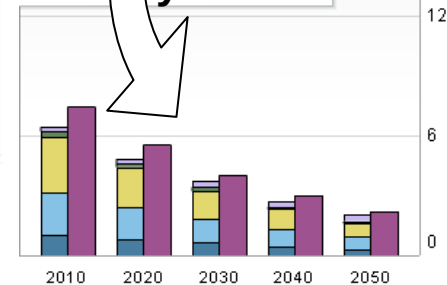


3. Click on indicators for more detail, with maps & graphs

6. Look here for an online tutorial and to learn more

5. Zoom in, call up visuals, run animations of the future

4. Call up charts & analysis of the impacts of your choices





# City-region cases



# MANCHESTER CITY-REGION



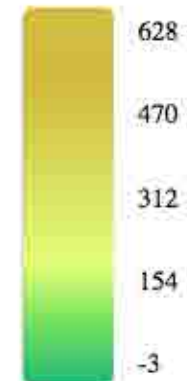
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# GREATER MANCHESTER RURAL-URBAN REGION (PLUREL Study Area)



ELEVATION (METRES)



— District Boundaries (NUTS4)

DISTRICT NAME

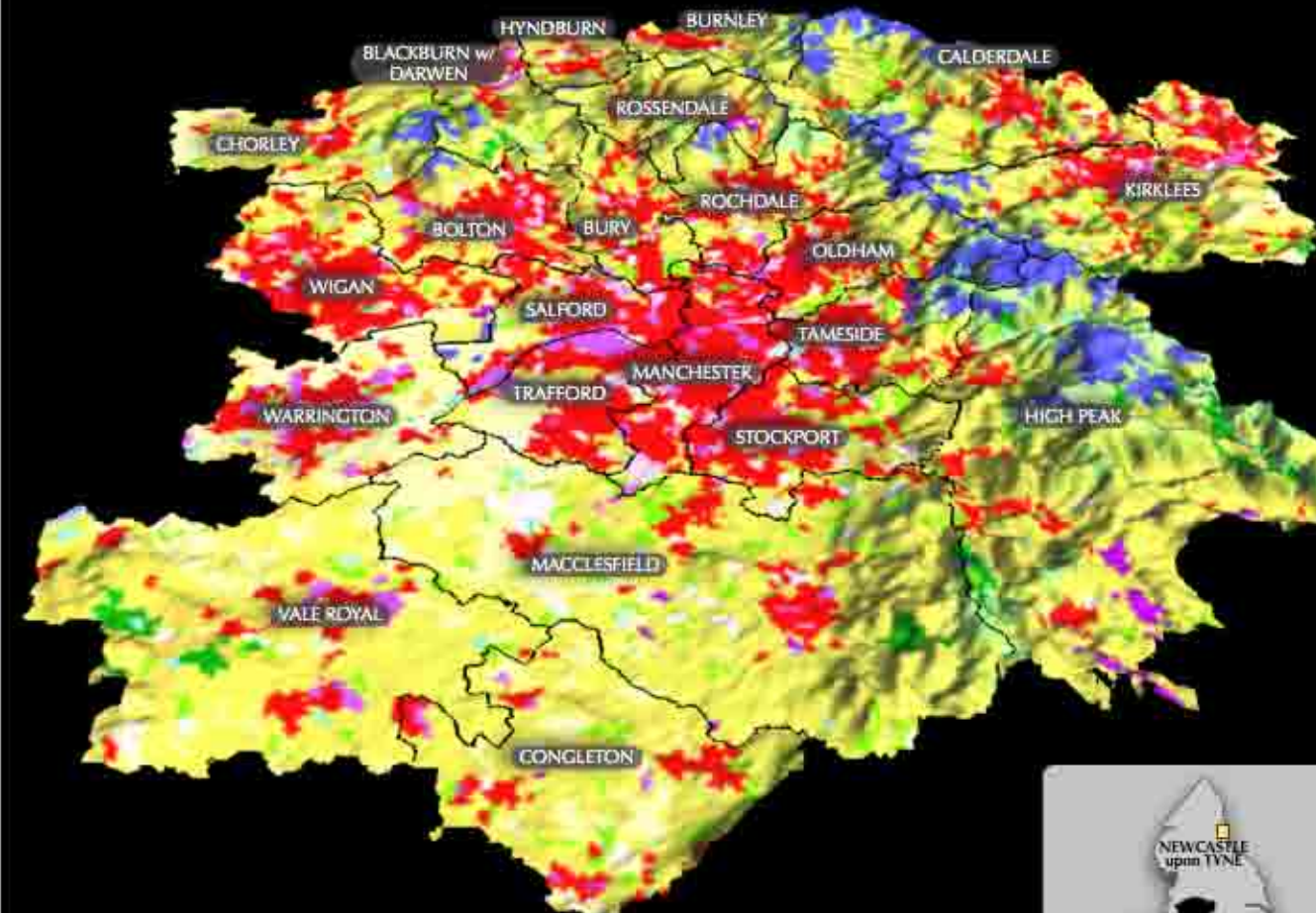


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# GREATER MANCHES

## RURAL-URBAN REGION

(PLUREL Study Area)



CORINE LAND COVER DESIGNATION  
(SIMPLIFIED)

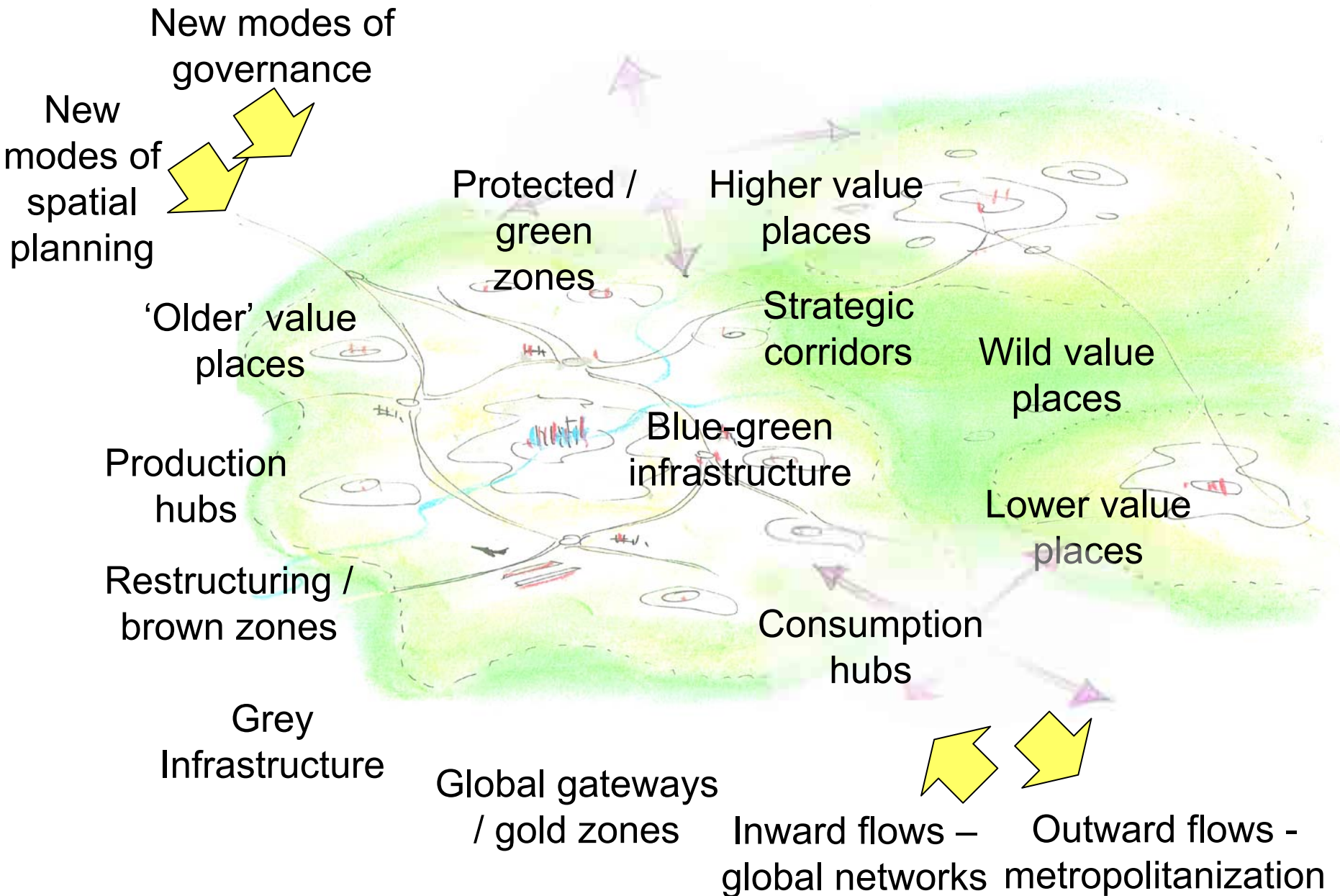
- Urban Fabric
- Industrial, commercial & transport
- Arable Land
- Peat Bogs
- Pastures
- Forests
- District Boundary
- DISTRICT NAME



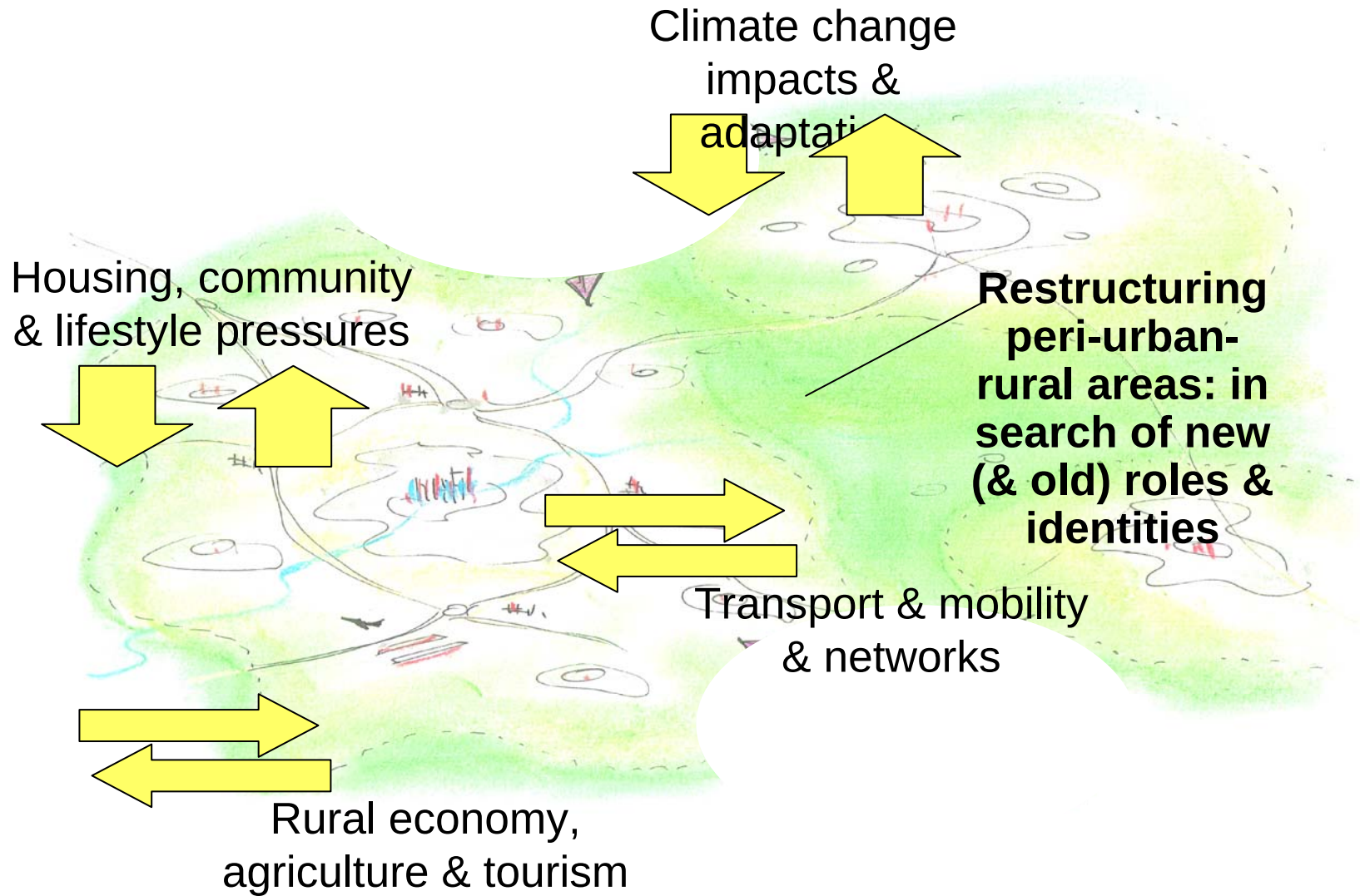
## LAND COVER & PHYSICAL TOPOGRAPHY



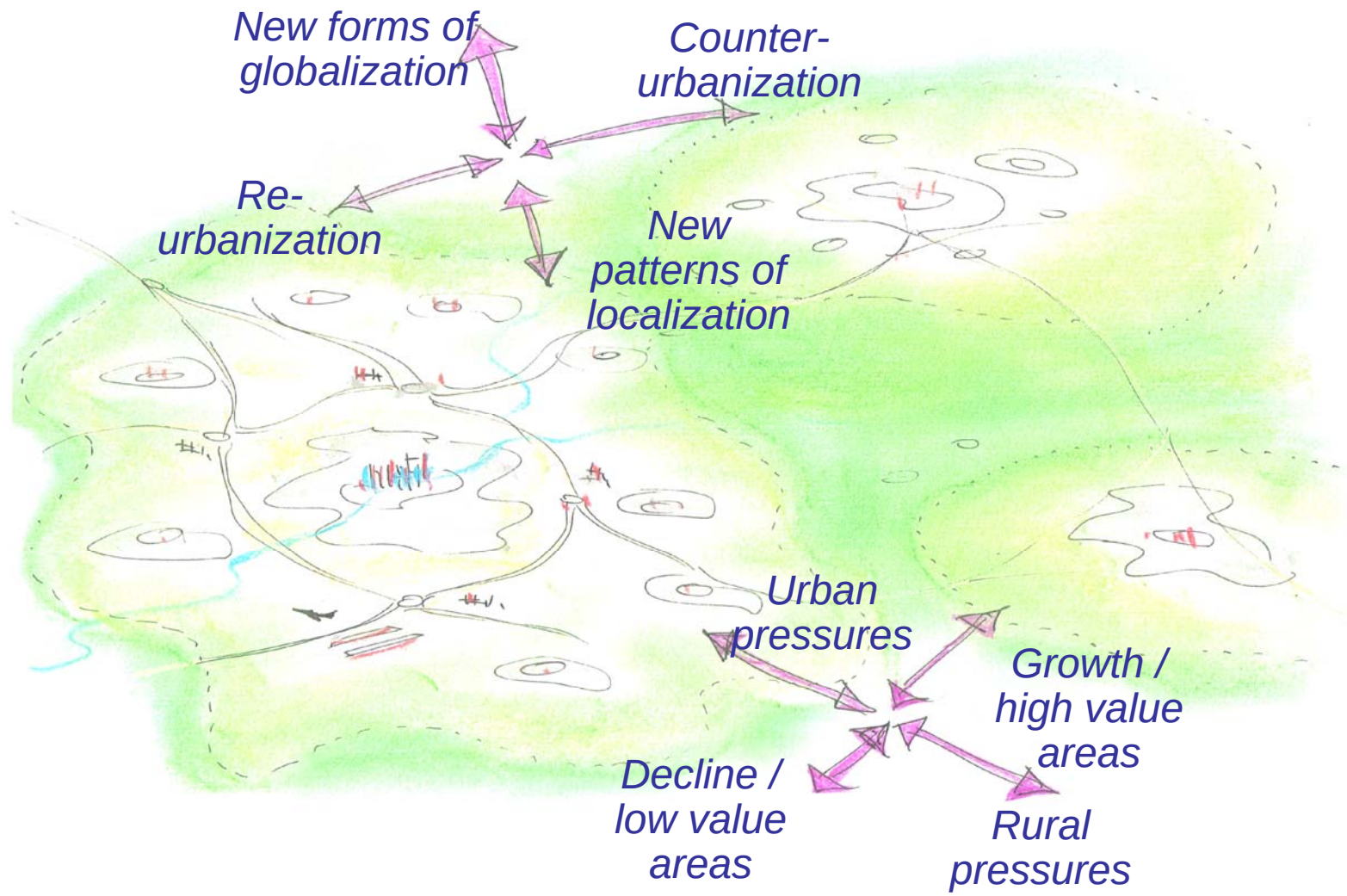
# Peri-urban places & spaces



# Peri-urban driving forces



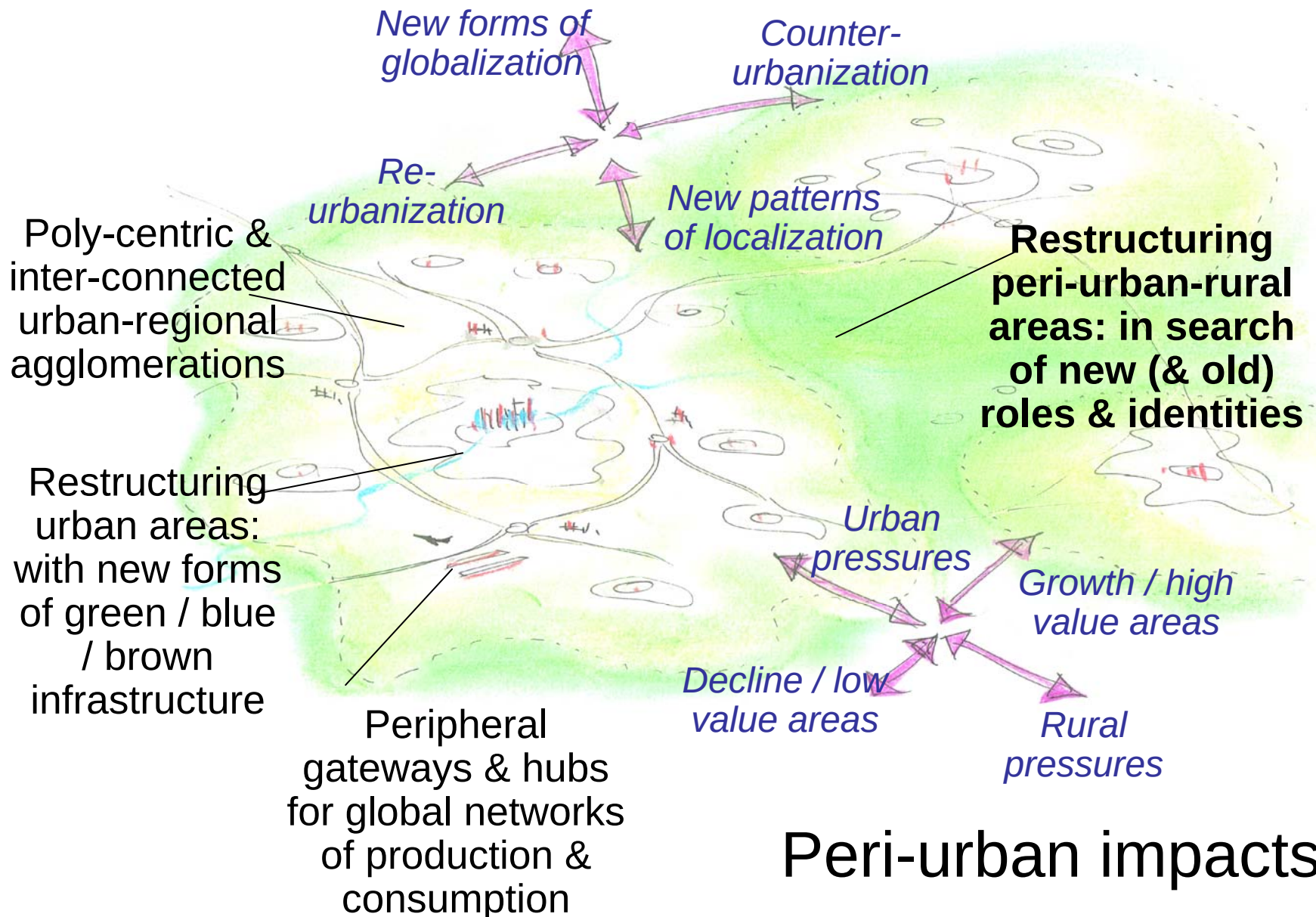
# Peri-urban dynamics



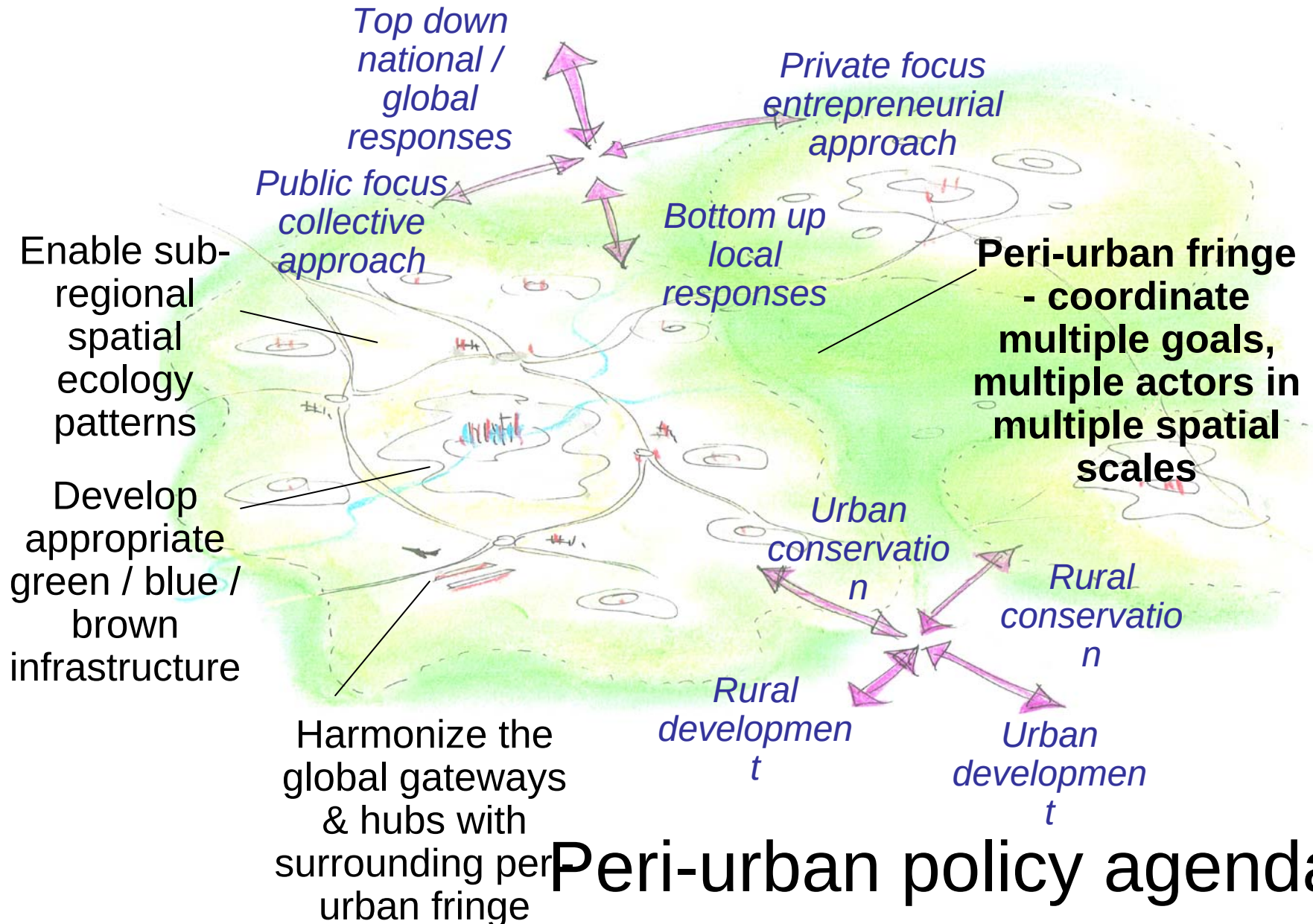
## Peri-urban impacts



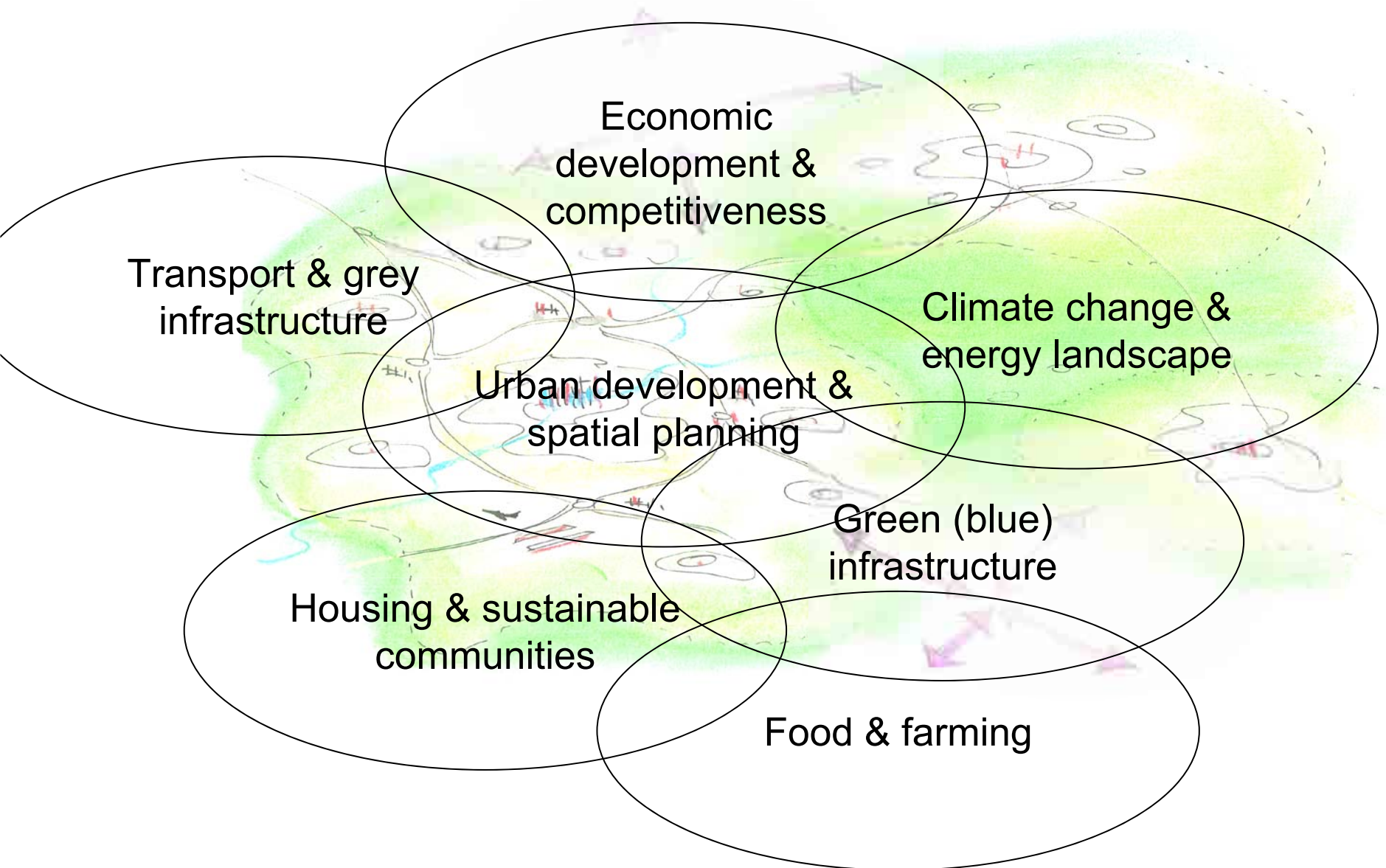
# Peri-urban dynamics



# Peri-urban policy responses



# Peri-urban policy agendas





# Mapping the fringe



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# GREATER MANCHES

## RURAL-URBAN REGION

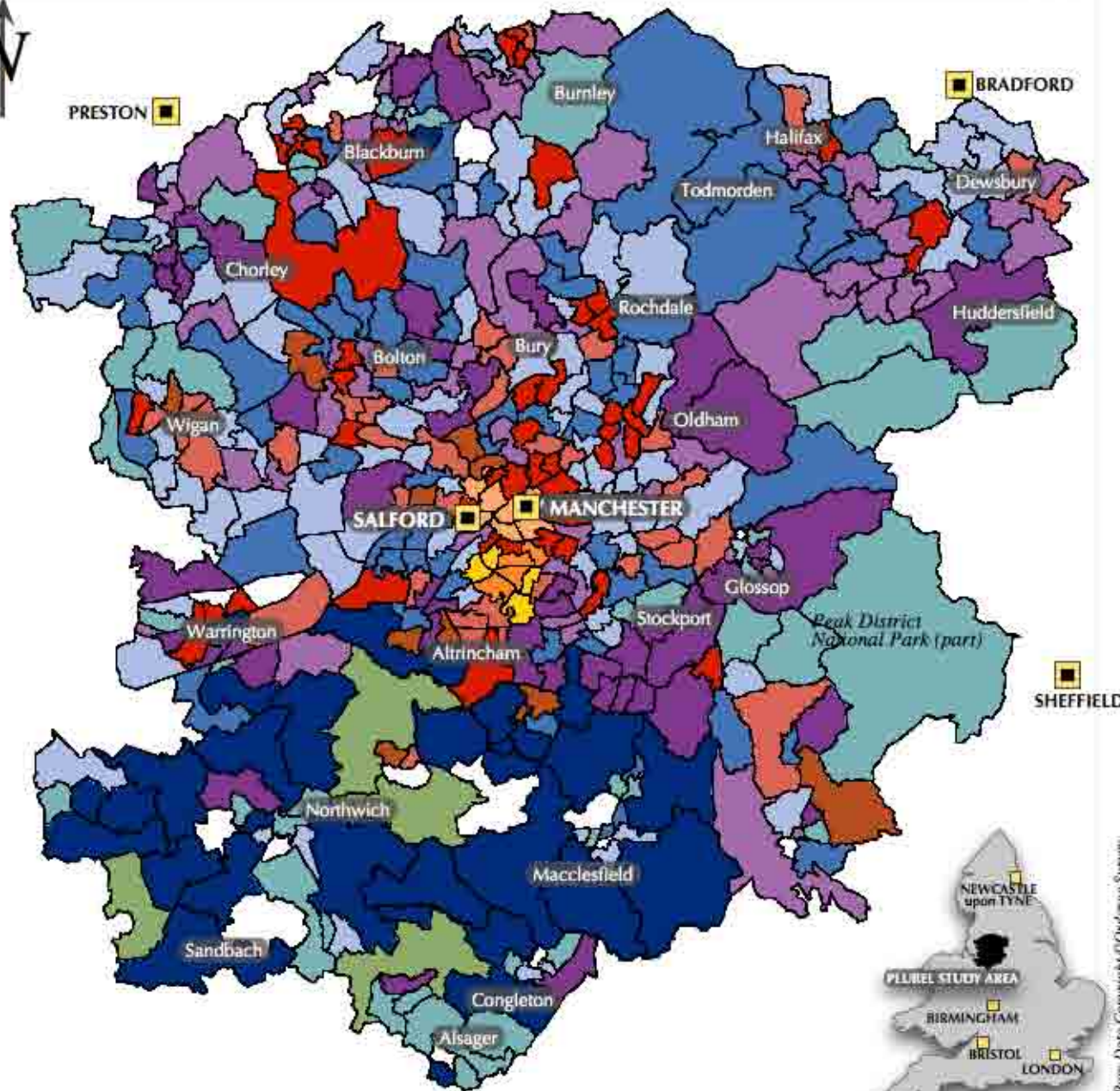
(PLUREL Study Area)

ONS GROUP BY WARD 2001

- Industrial Areas
- Inner City Estates
- Suburbia
- Rural Fringe
- Rural Areas
- Deprived Industrial Areas
- Deprived City Areas
- Prosperous Areas
- Owner Occupiers (Lower Sta
- Owner Occupiers (Established
- Metropolitan Professionals
- Middling Britain
- Mature Populations
- Unclassified

PRIMARY URBAN CENTRE

Name of Town or City



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TYPES OF PLACE

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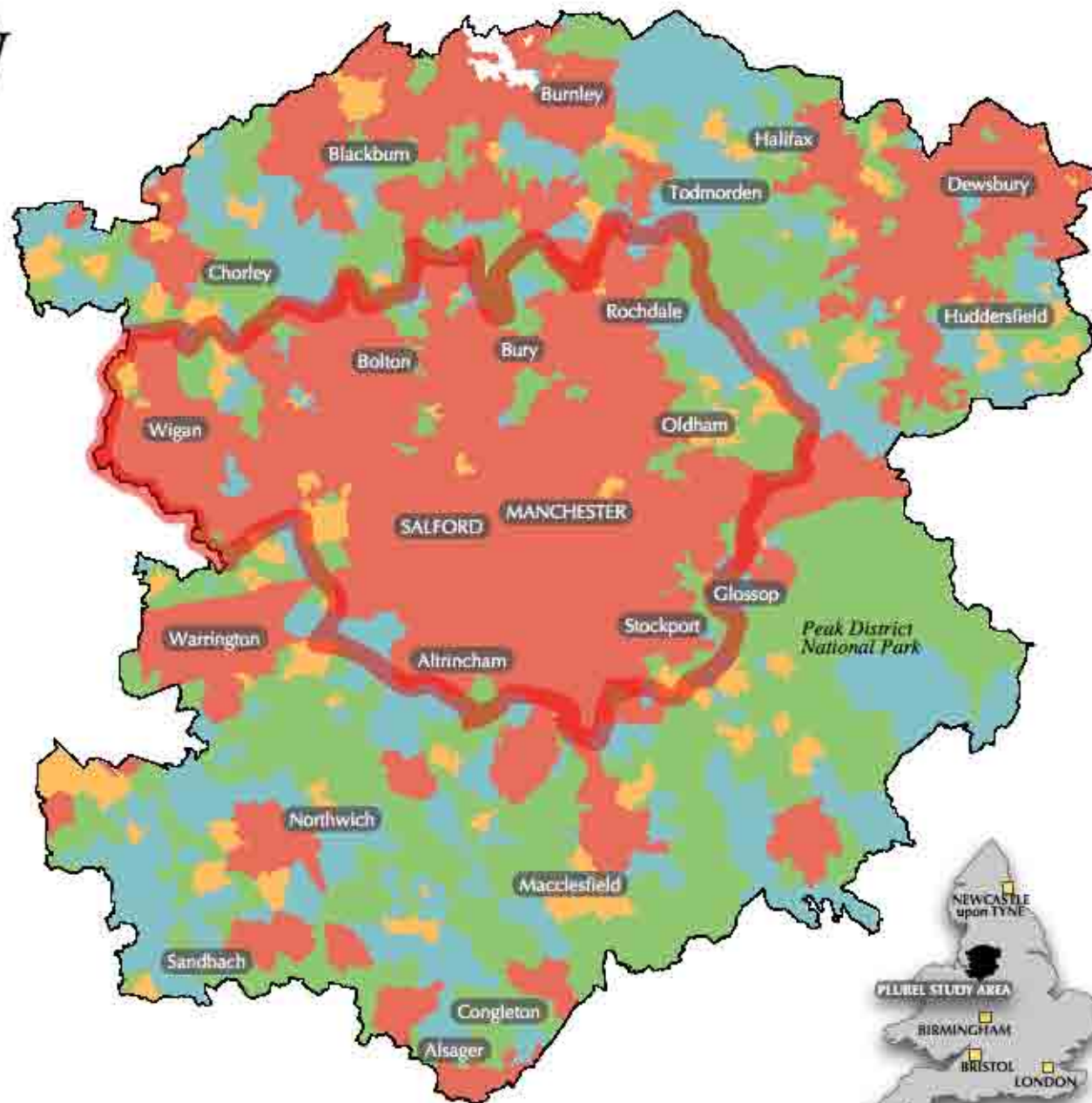
# GREATER MANCHES RURAL-URBAN REGION (*PLUREL Study Area*)

 Boundary of Association of  
Greater Manchester Authorities  
(the 'AGMA Ten')

## URBAN-RURAL CLASSIFICATION BY OUTPUT AREA

-  Urban >10k, Less Sparse
-  Town & Fringe, Less Sparse
-  Village
-  Hamlet & Isolated Dwelling

 Name of Town or City



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## URBAN-RURAL CLASSIFICATION

ONE GRID SQUARE = 10KM



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# GREATER MANCHES RURAL-URBAN REGION (PLUREL Study Area)

 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

## DAILY COMMUTING FLOWS, 2001

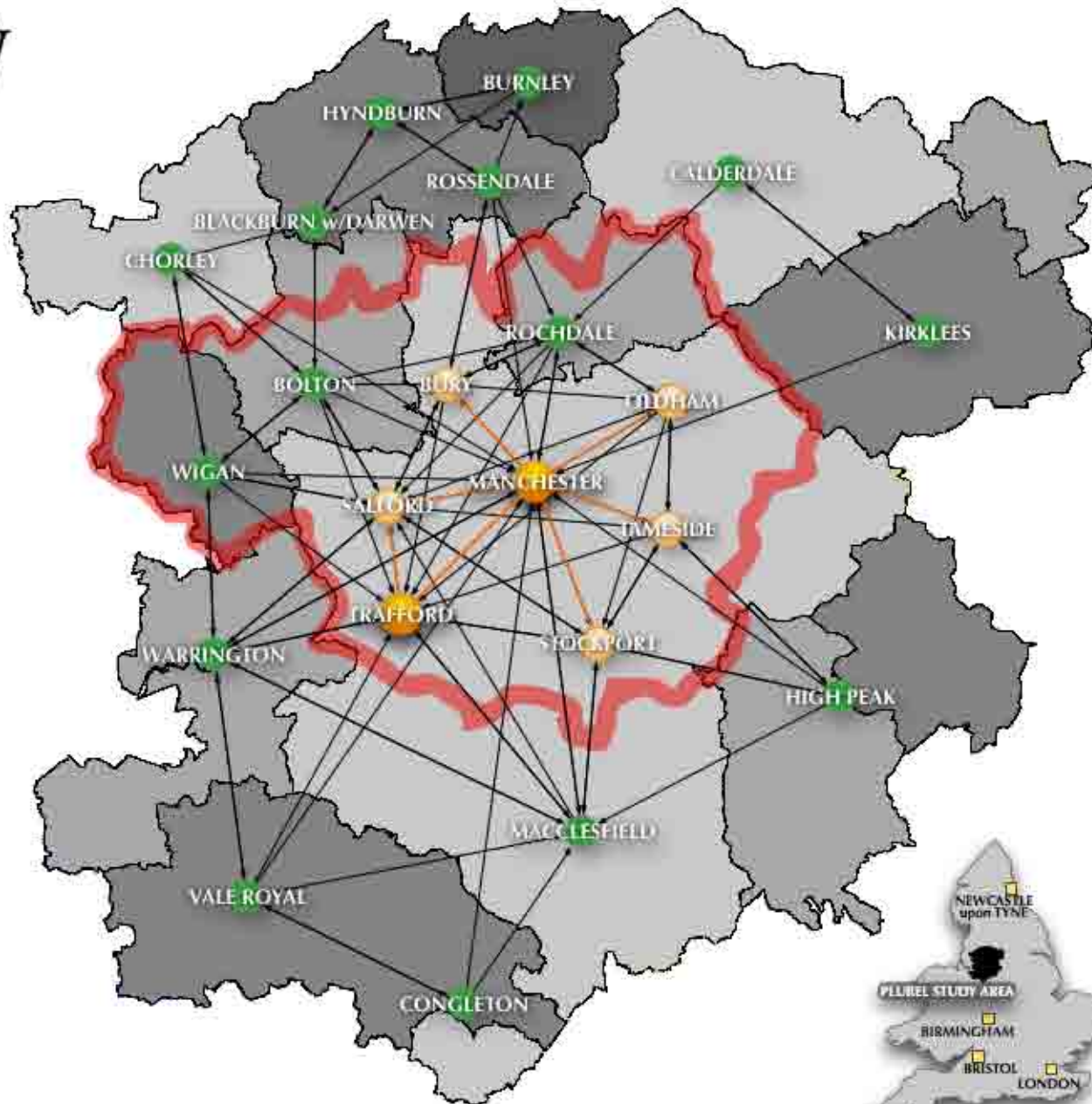
 Destination Node (10k – 100k)  
 Origin Node (10k – 100k)  
 Node (1k – 10k)

 Commuter Flow (10k – 100k, node colour indicates direction)

 Commuter Flow (1k – 10k, arrow indicates direction)

Orange nodes always sit atop nodes; labels refer to the District

 TTWA Boundaries



Map Base Data Copyright © Ordnance Survey

## TRAVEL TO WORK AREAS, 1991 & COMMUTING 2001

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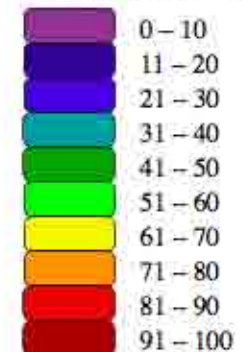
# GREATER MANCHES

## RURAL-URBAN REGION

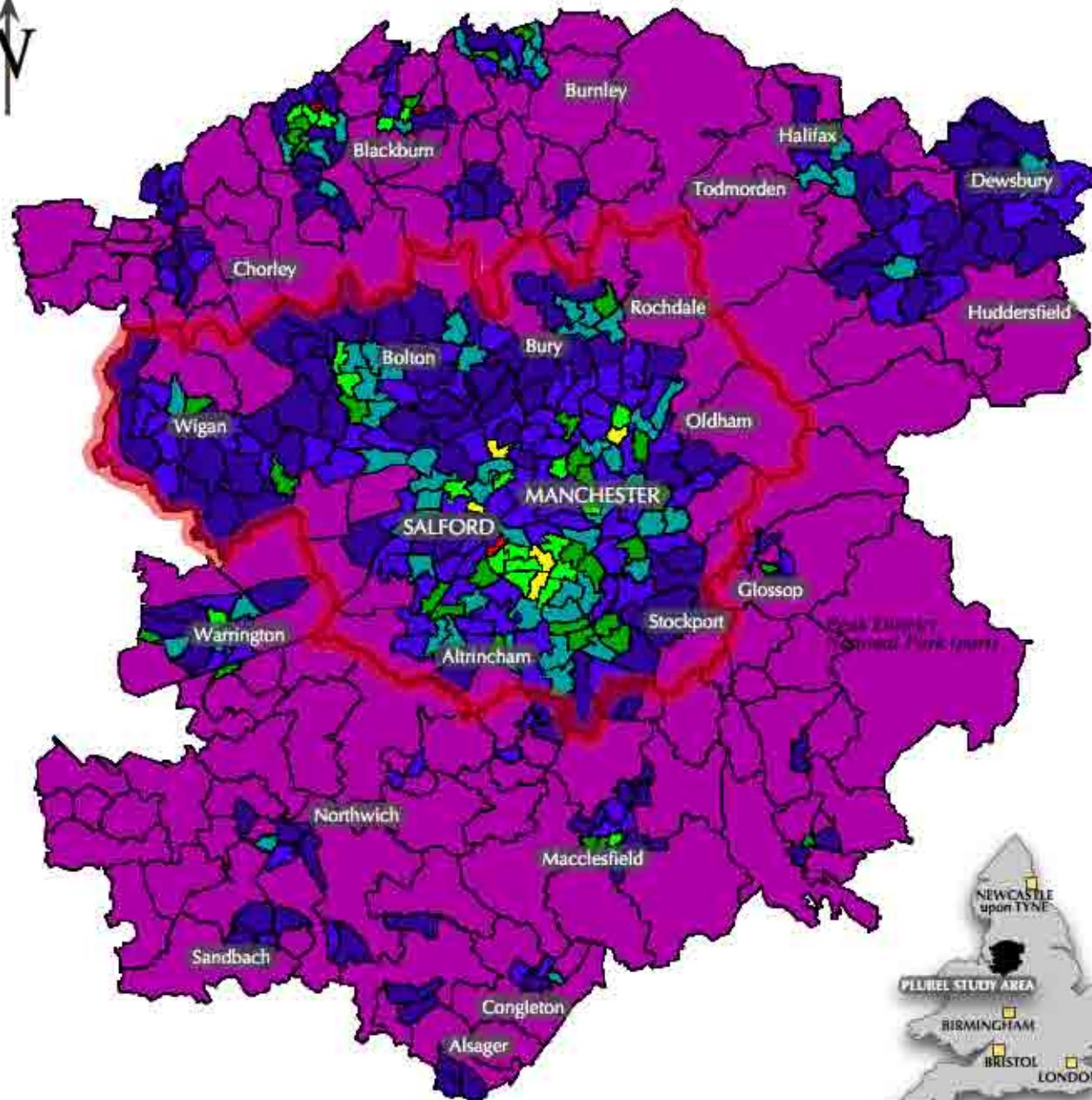
(*PLUREL Study Area*)

 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

POPULATION DENSITY 2001 (cap



Name of Town or City



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ONE GRID SQUARE = 10KM

POPULATION DENS



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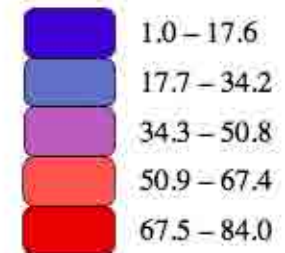
# GREATER MANCHES

## RURAL-URBAN REGION

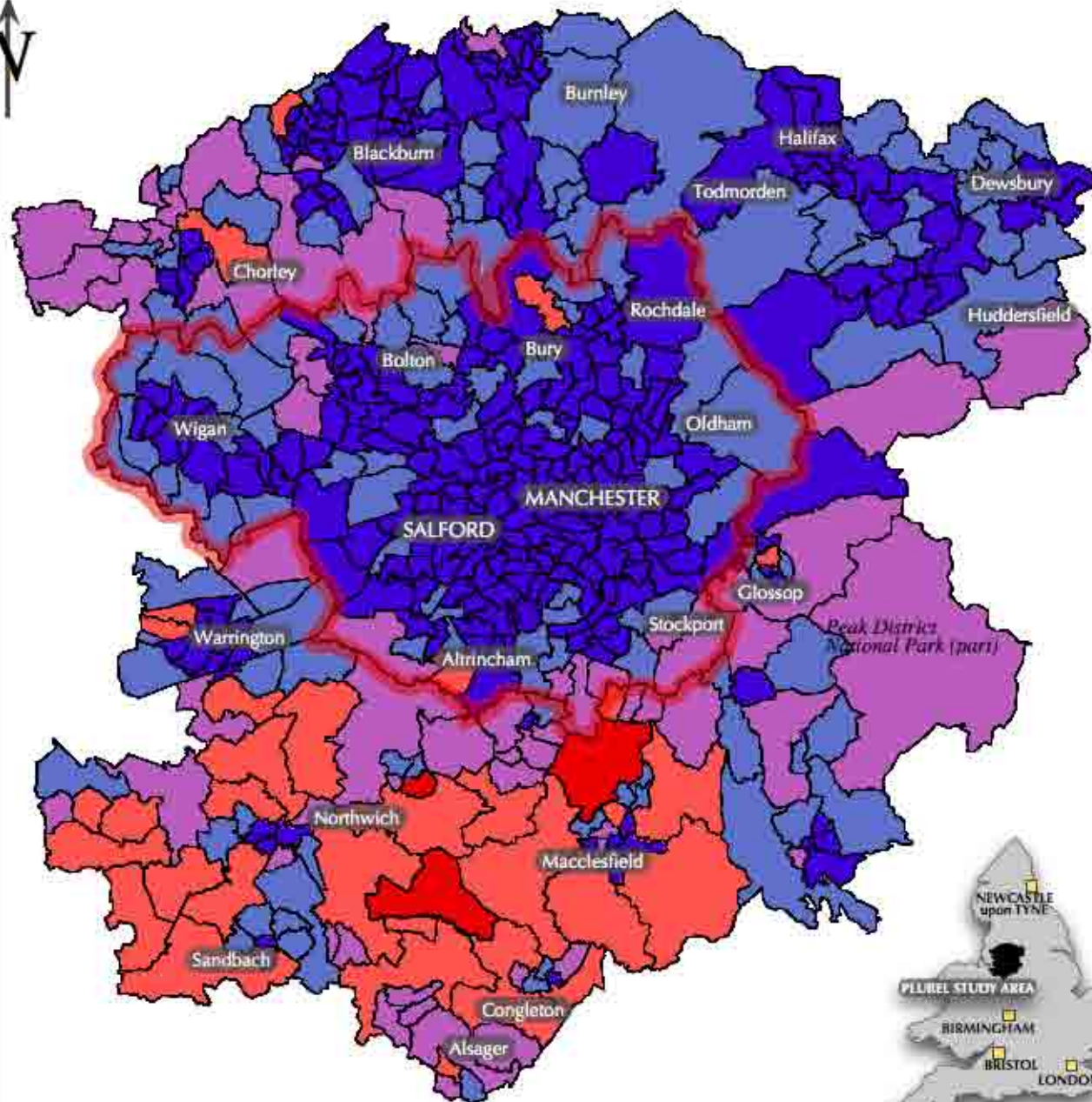
(*PLUREL Study Area*)

 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

Percentage of (2001) population living in  
DETACHED HOUSES



 Name of Town or City



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# HOUSING

## DETACHED HOUSES

ONE GRID SQUARE = 10KM



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# GREATER MANCHES

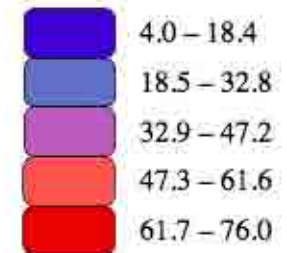
## RURAL-URBAN REGION

(*PLUREL Study Area*)

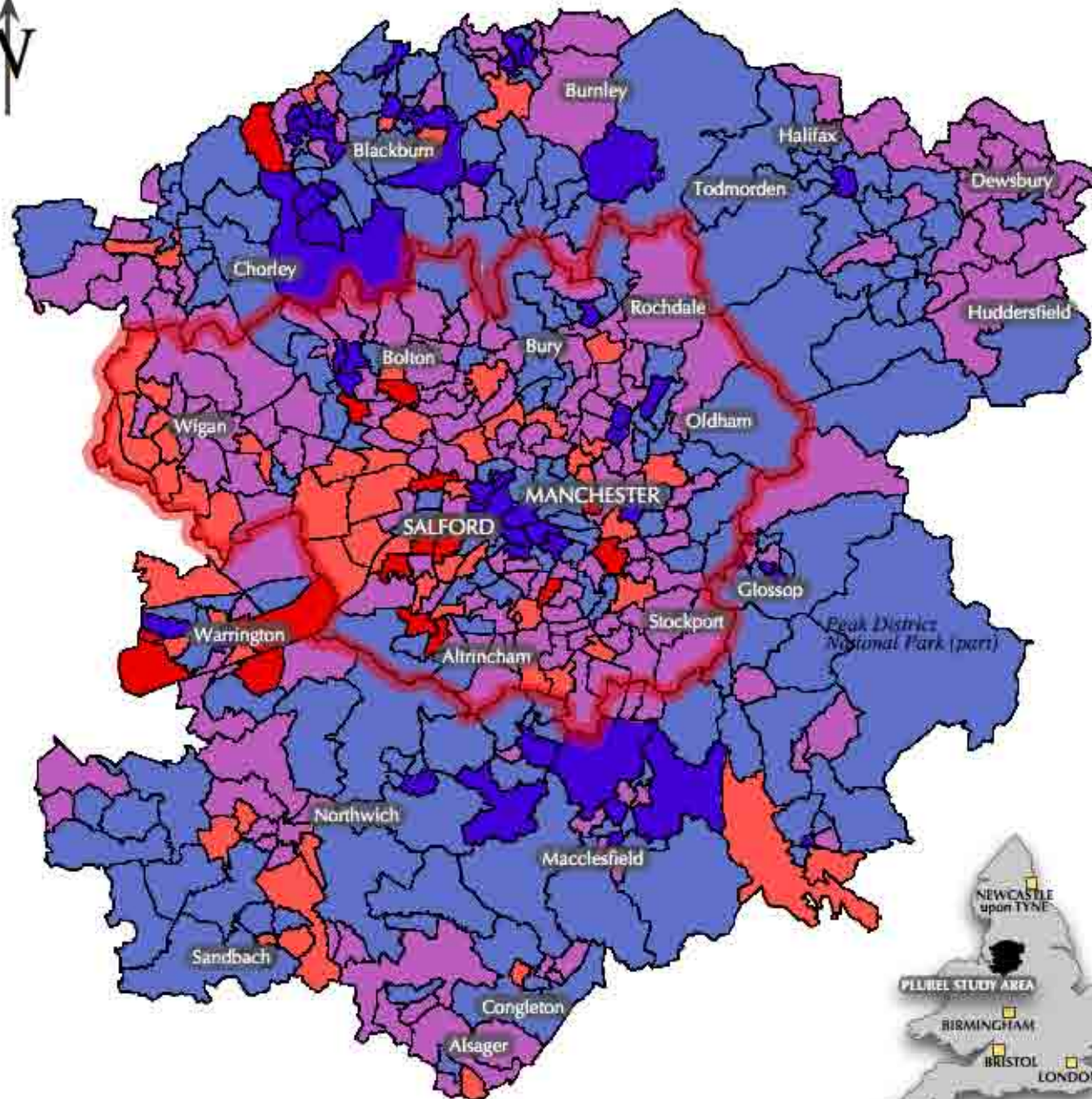
 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

Percentage of (2001) population living in

### SEMI-DETACHED HOUSES



 Name of Town or City



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ONE GRID SQUARE = 10KM

## HOUSING

### SEMI-DETACHED HOUSES



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# GREATER MANCHES

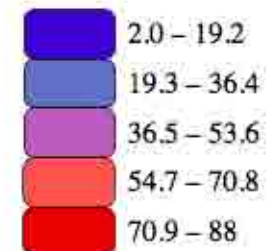
## RURAL-URBAN REGION

(PLUREL Study Area)

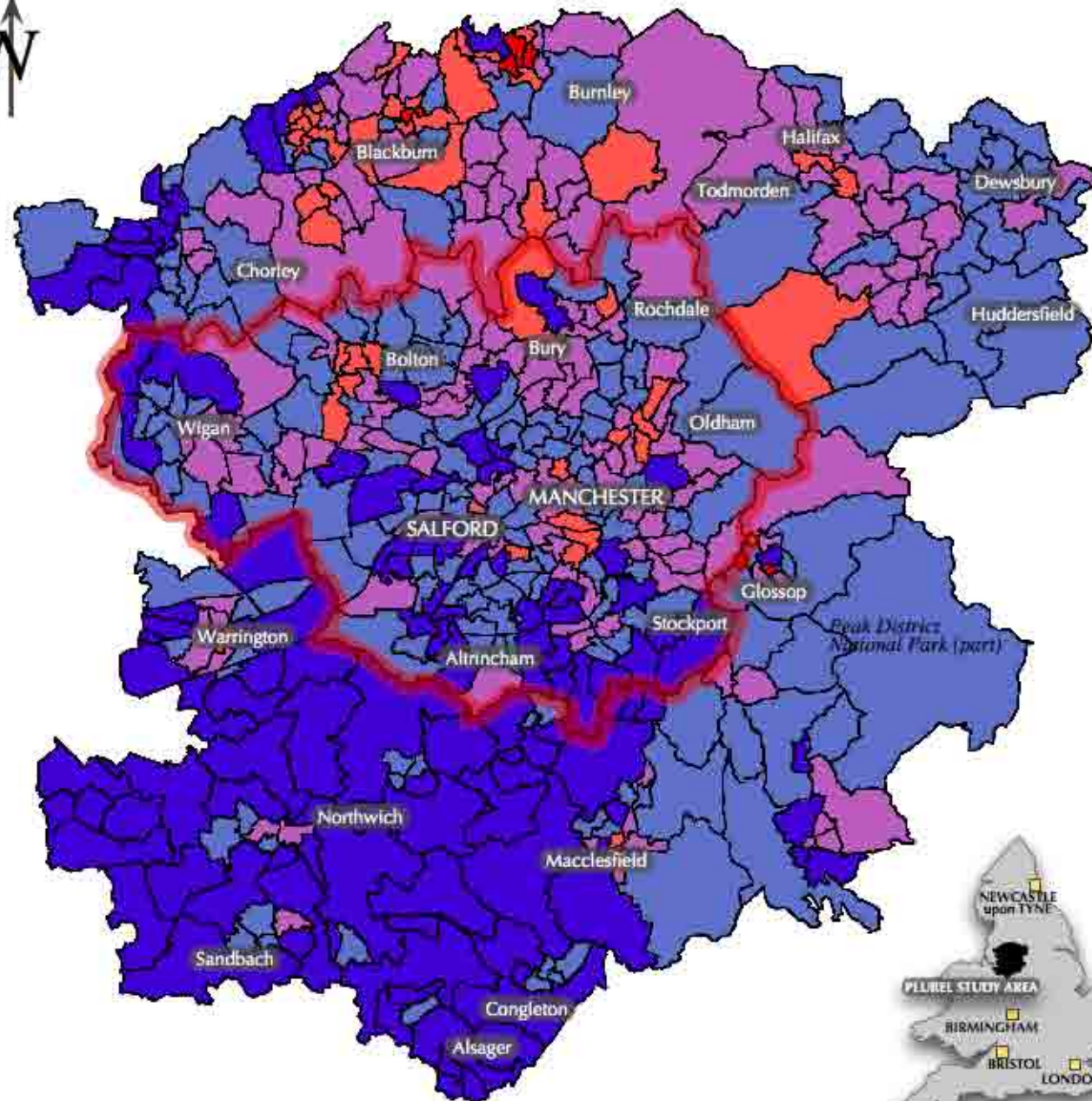
 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

Percentage of (2001) population living in

### TERRACED HOUSES



Name of Town or City



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## HOUSING

### TERRACED HOUSES

ONE GRID SQUARE = 10KM



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# GREATER MANCHES

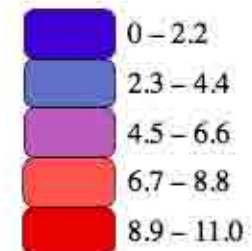
## RURAL-URBAN REGION

(PLUREL Study Area)

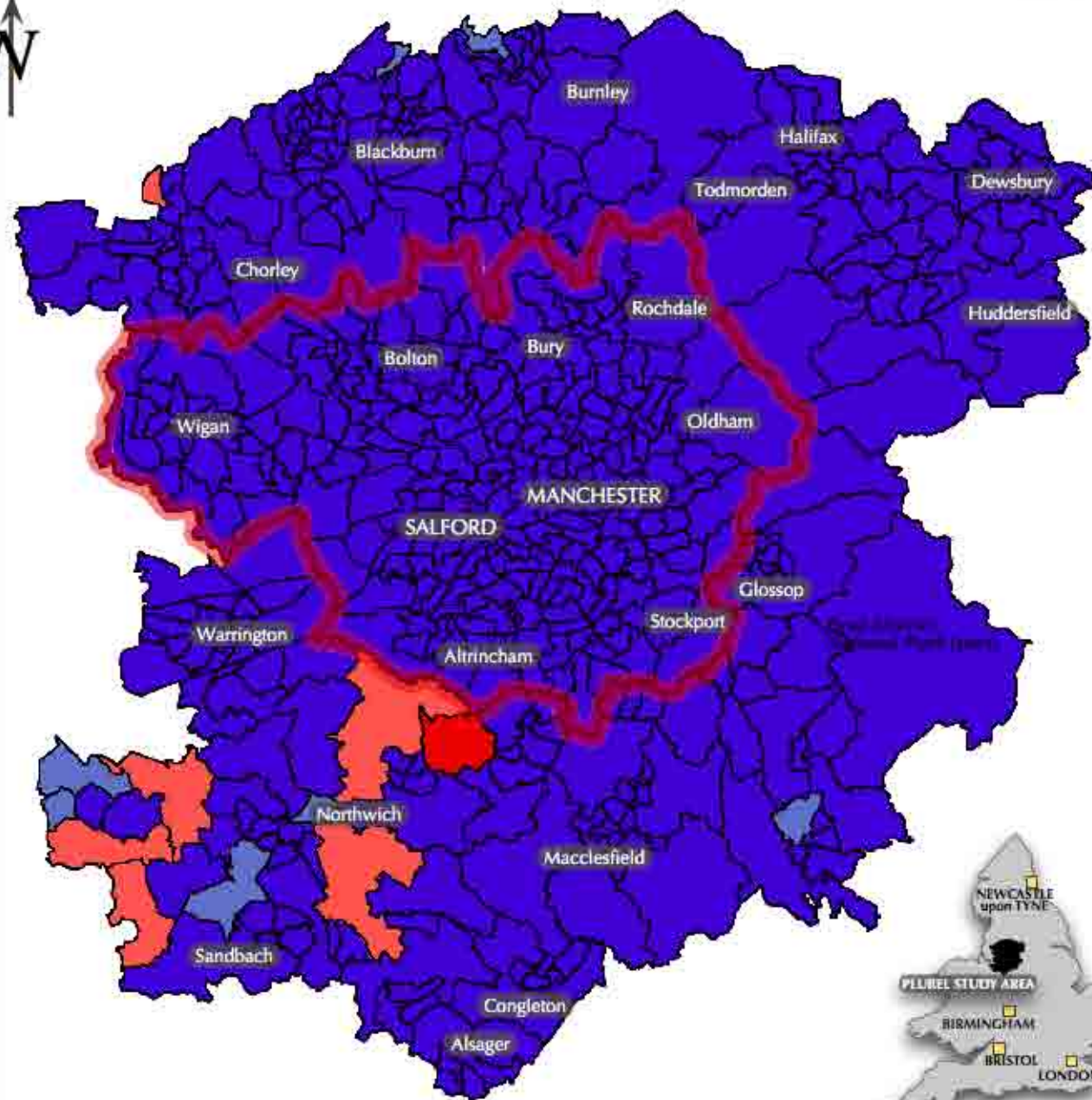
 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

Percentage of (2001) population living in

### CARAVANS



Name of Town or City



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## HOUSING

### CARAVANS

ONE GRID SQUARE = 10KM



# GREATER MANCHES

## RURAL-URBAN REGION

(*PLUREL Study Area*)

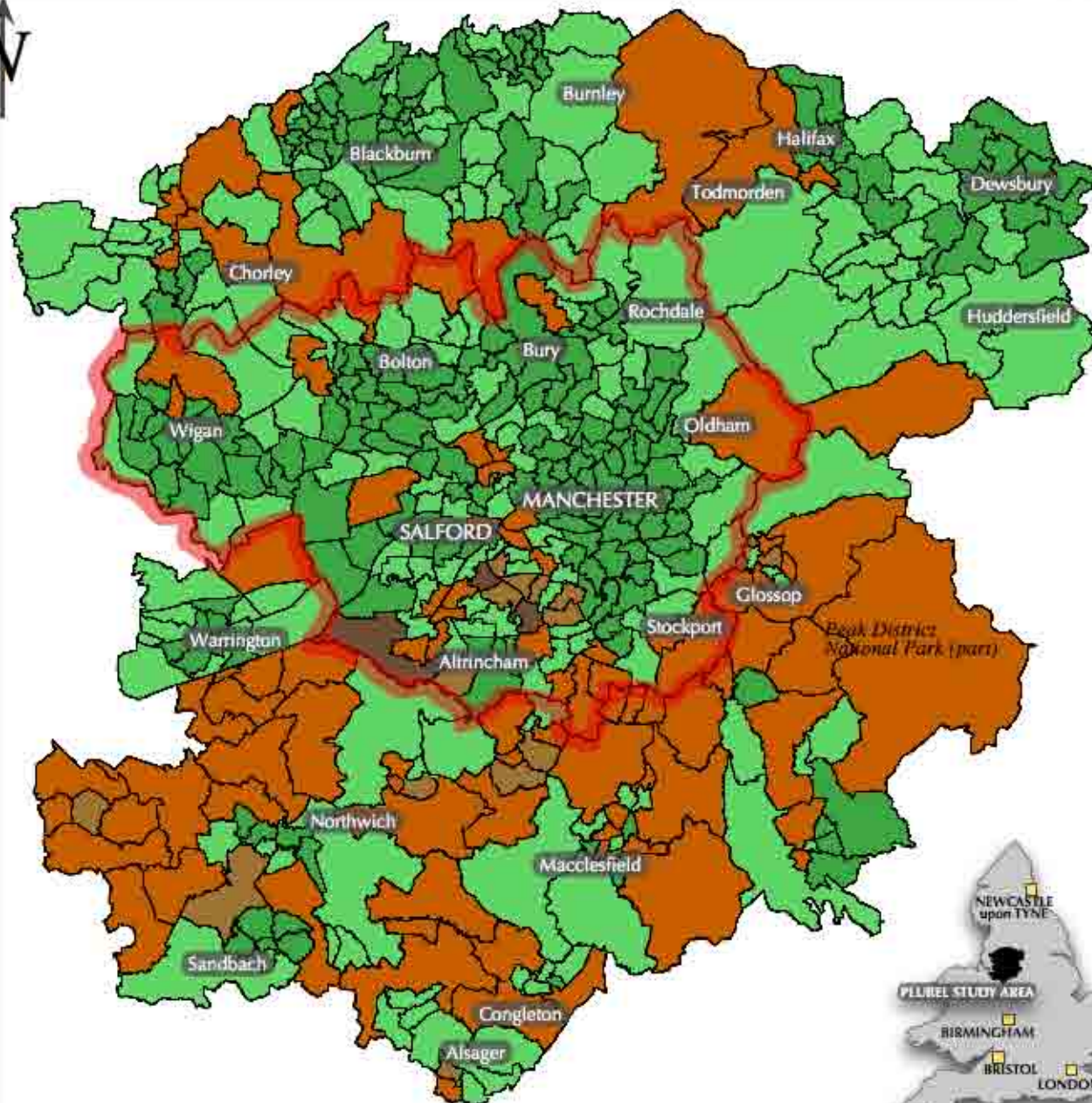
 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

Percentage of people aged 16-74 in employment working as:

### PROFESSIONAL OCCUPATIONS



 Name of Town or City



## OCCUPATION

## PROFESSIONAL OCCUPATION



# GREATER MANCHES

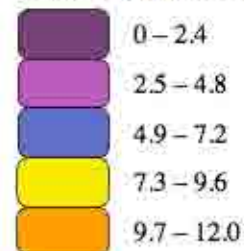
## RURAL-URBAN REGION

(PLUREL Study Area)

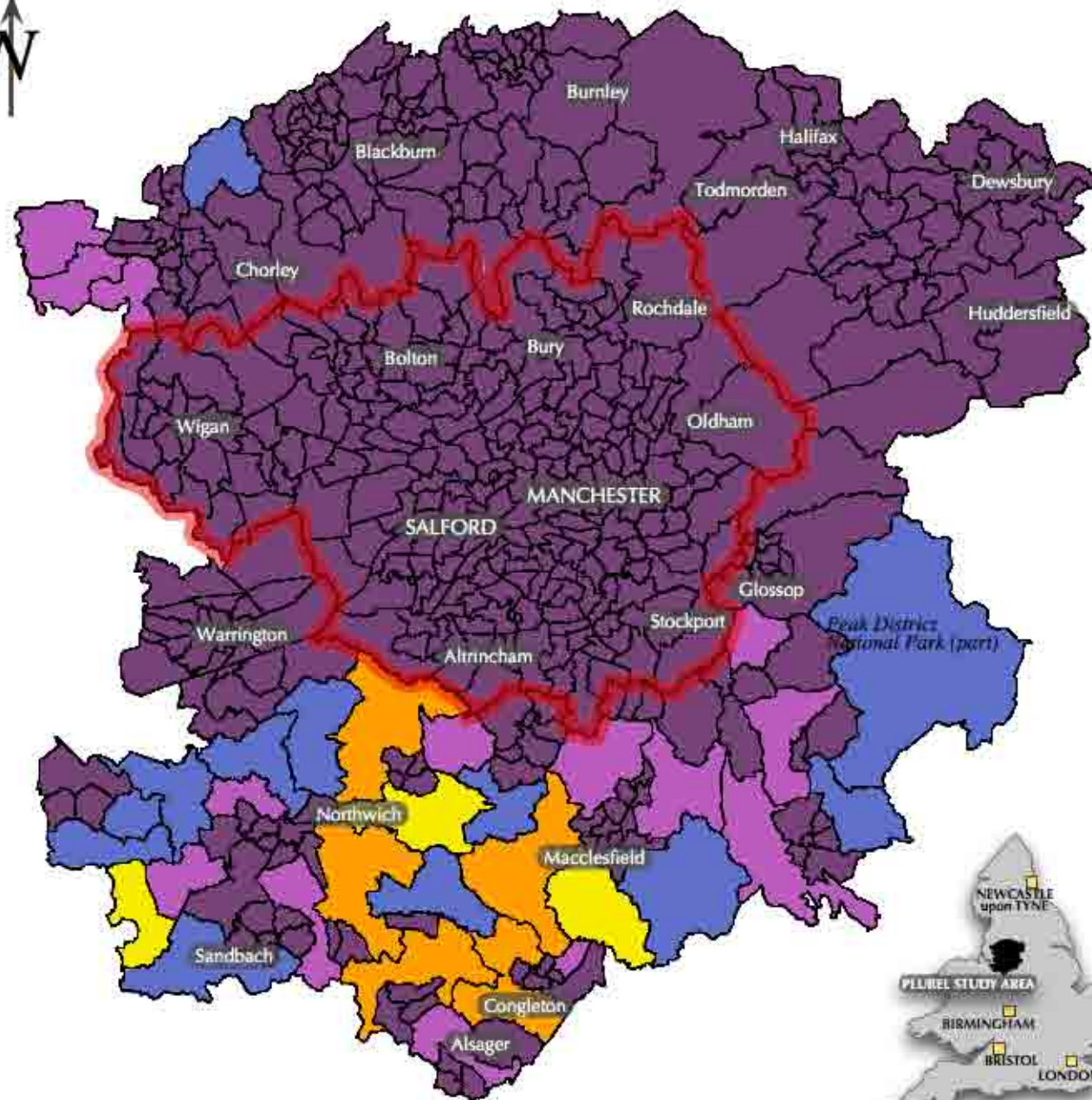
 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

Percentage of people aged 16-74 in employment working in:

AGRICULTURE, HUNTING & FORESTRY



Name of Town or City



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ONE GRID SQUARE = 10KM

## EMPLOYMENT

### AGRICULTURE, HUNTING & FORESTRY



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# GREATER MANCHES

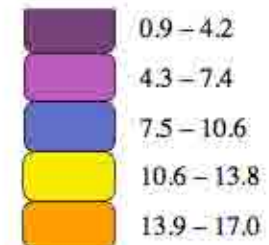
## RURAL-URBAN REGION

(PLUREL Study Area)

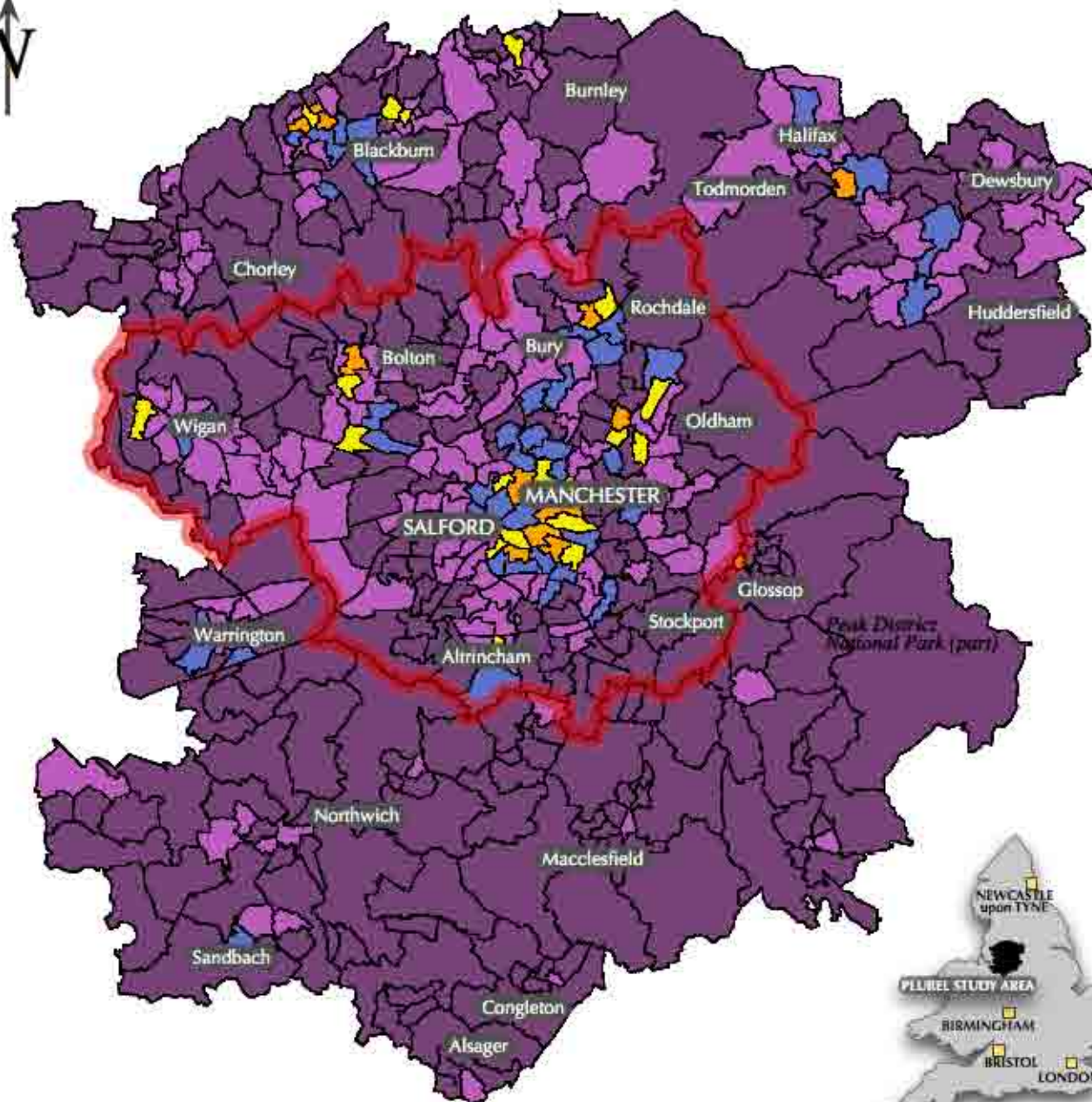
 Boundary of Association of Greater Manchester Authorities (the 'AGMA Ten')

### UNEMPLOYMENT

(2001, %)



Name of Town or City

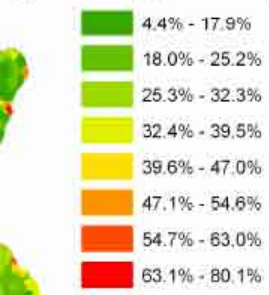


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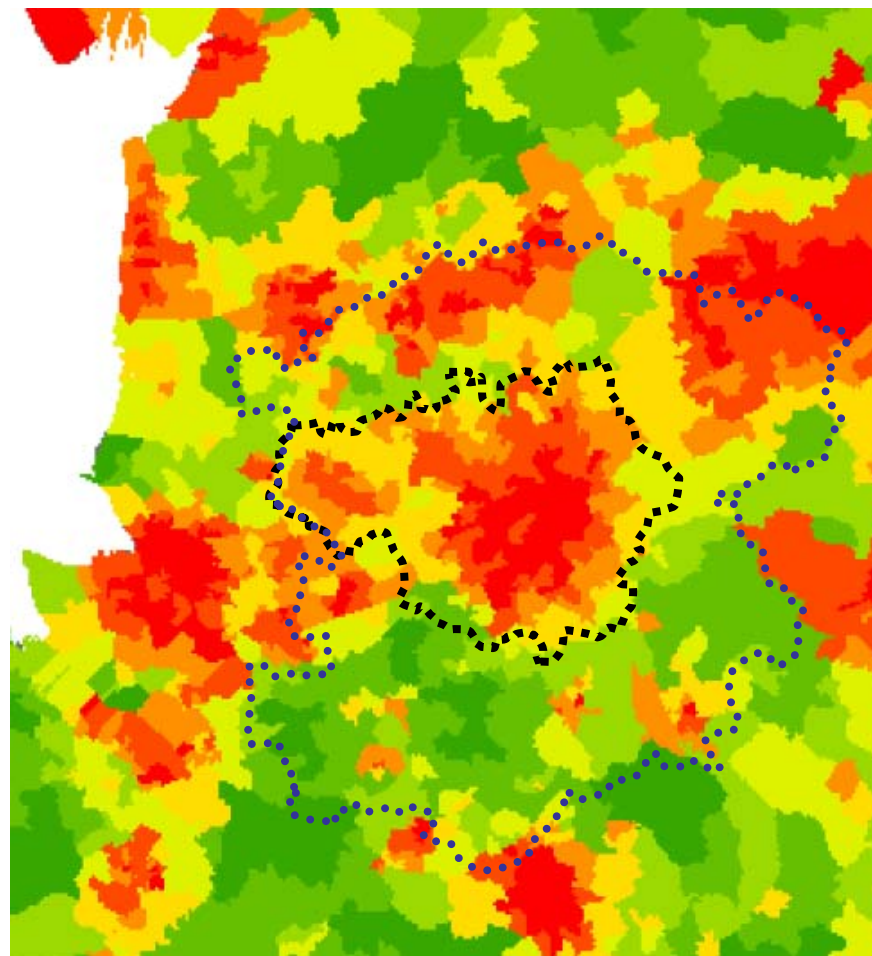
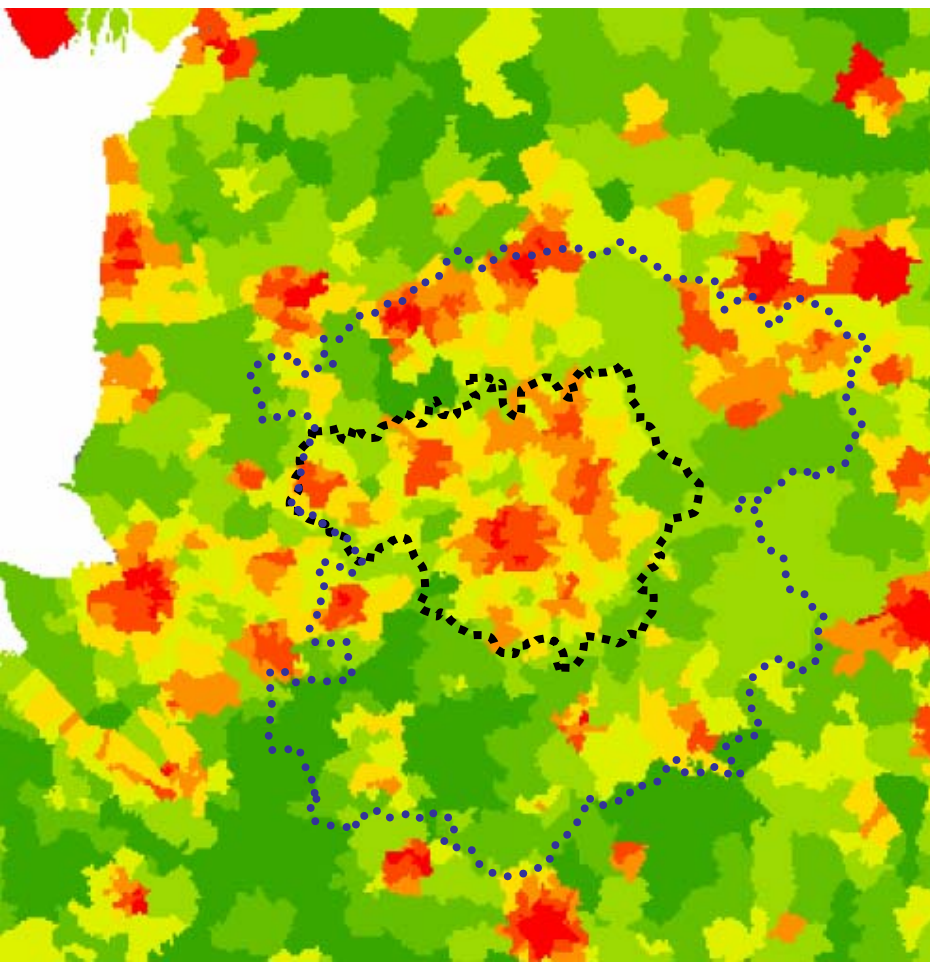
ONE GRID SQUARE = 10KM

UNEMPLOYMENT

Short Distance Commuting  
by Wards (up to 5 km) 2001

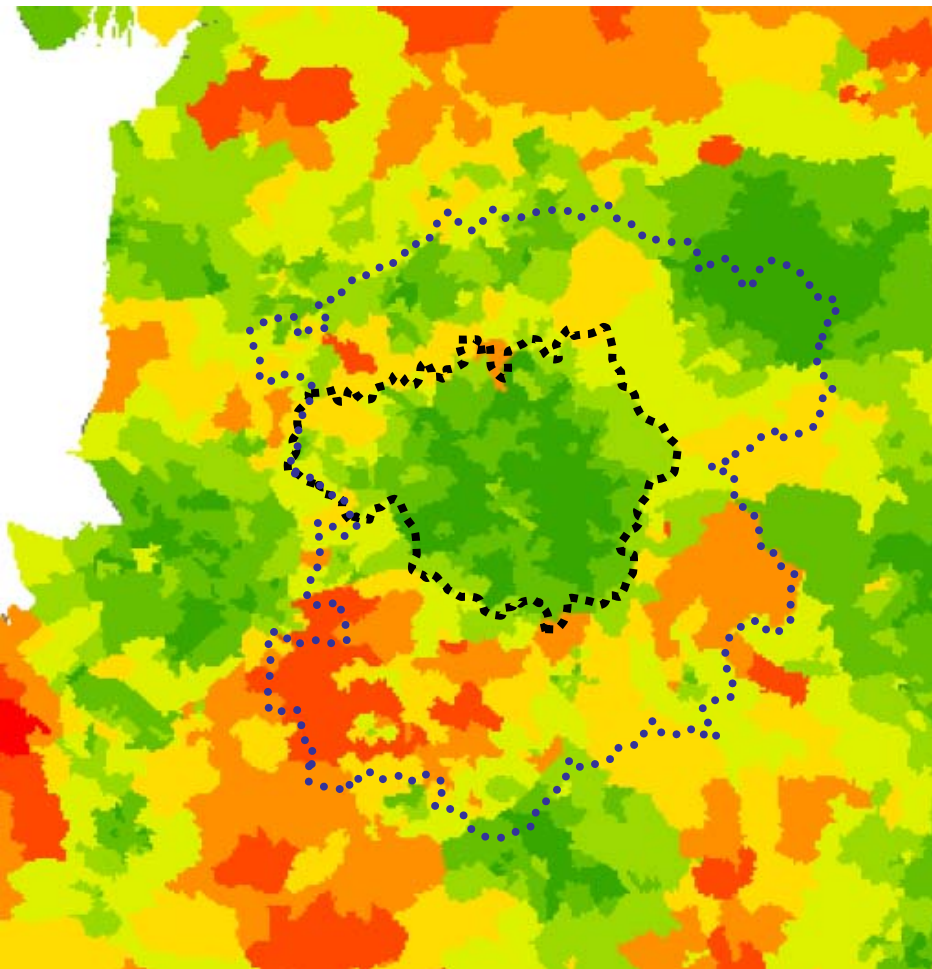


# Peri-urban commutersheds

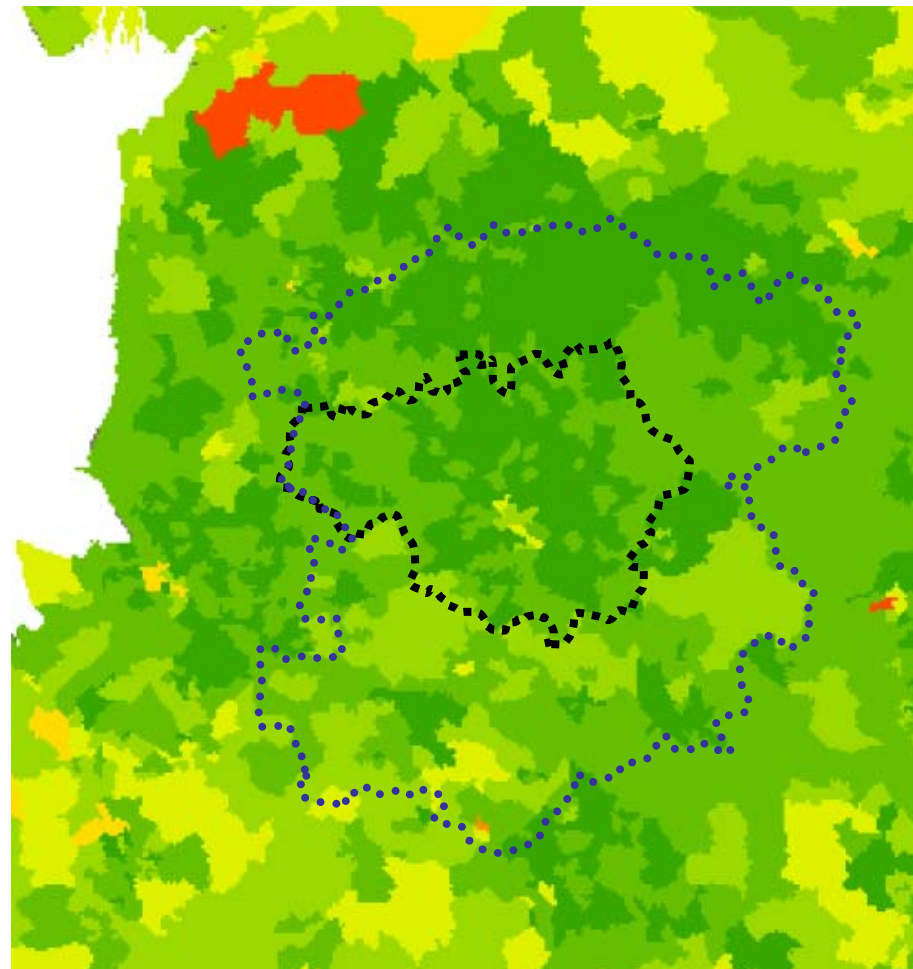




Long Distance  
Commuting by Wards  
(more than 20 km) 2001



# Peri-urban commutersheds

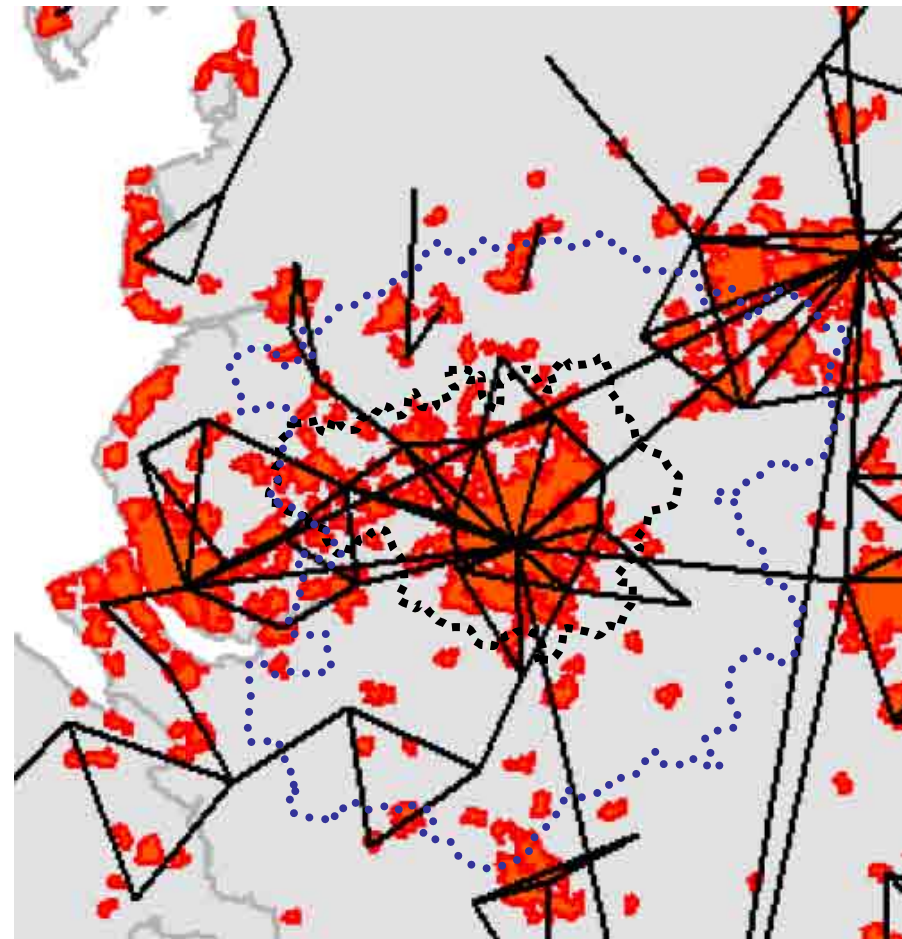
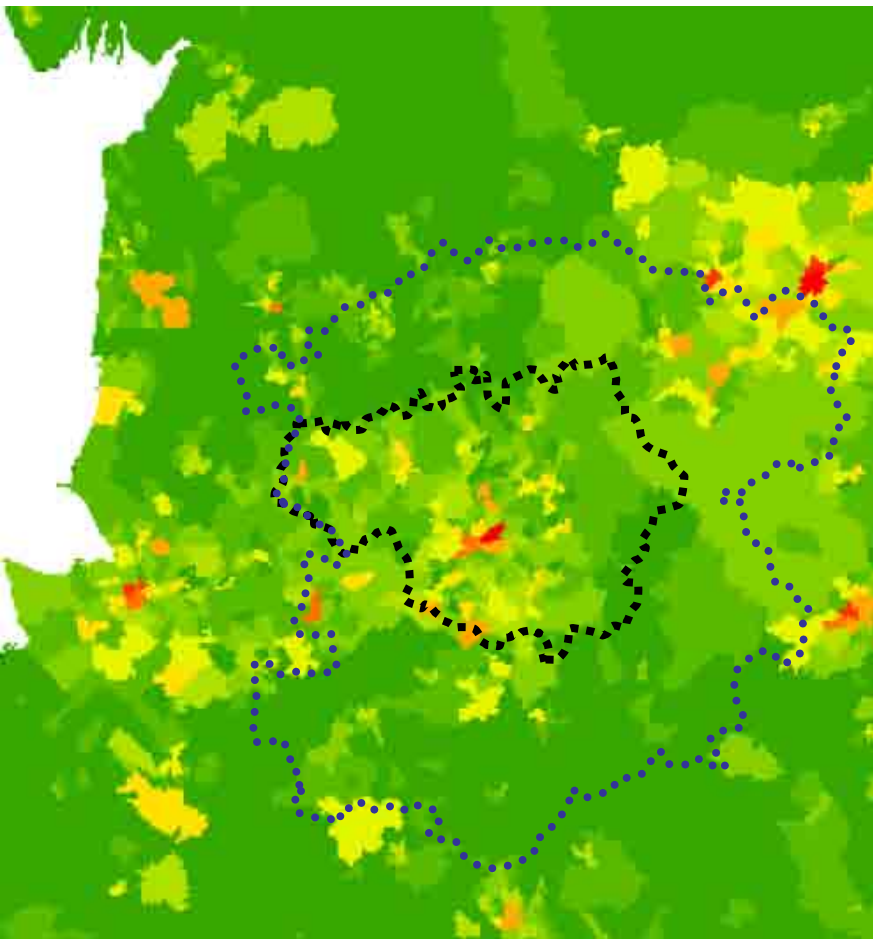




# Peri-urban high-tech links

High-Tech and Knowledge Industries:

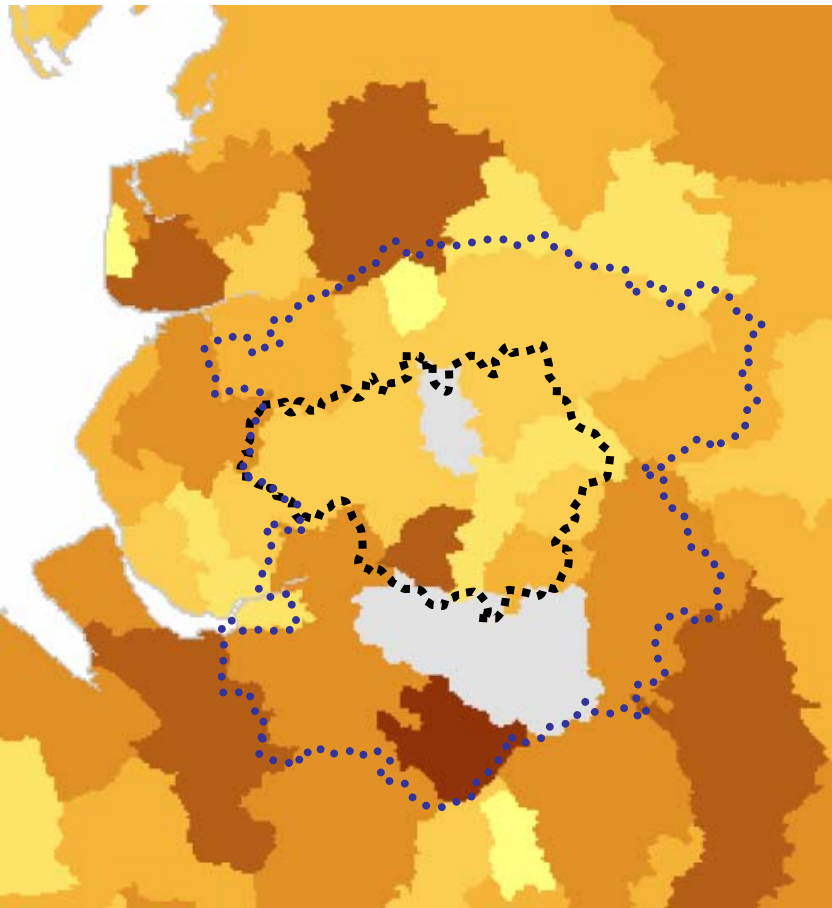
% of GB Total, by Ward



Gross Annual Income  
(Median Value) 2005



# Peri-urban wealth & poverty



# Beyond the maps



# Managing complexity

***DRIVERS      PRESSURES      STATES      IMPACTS      RESPONSES***

Climate  
change

Water  
shortage

Water  
conflicts

Soil  
erosion

Land  
manage

In -  
migration

Social  
change

Rural  
displace  
mt

Health  
impacts

Rural  
restructuri  
n

Farm  
decline

Skills gap

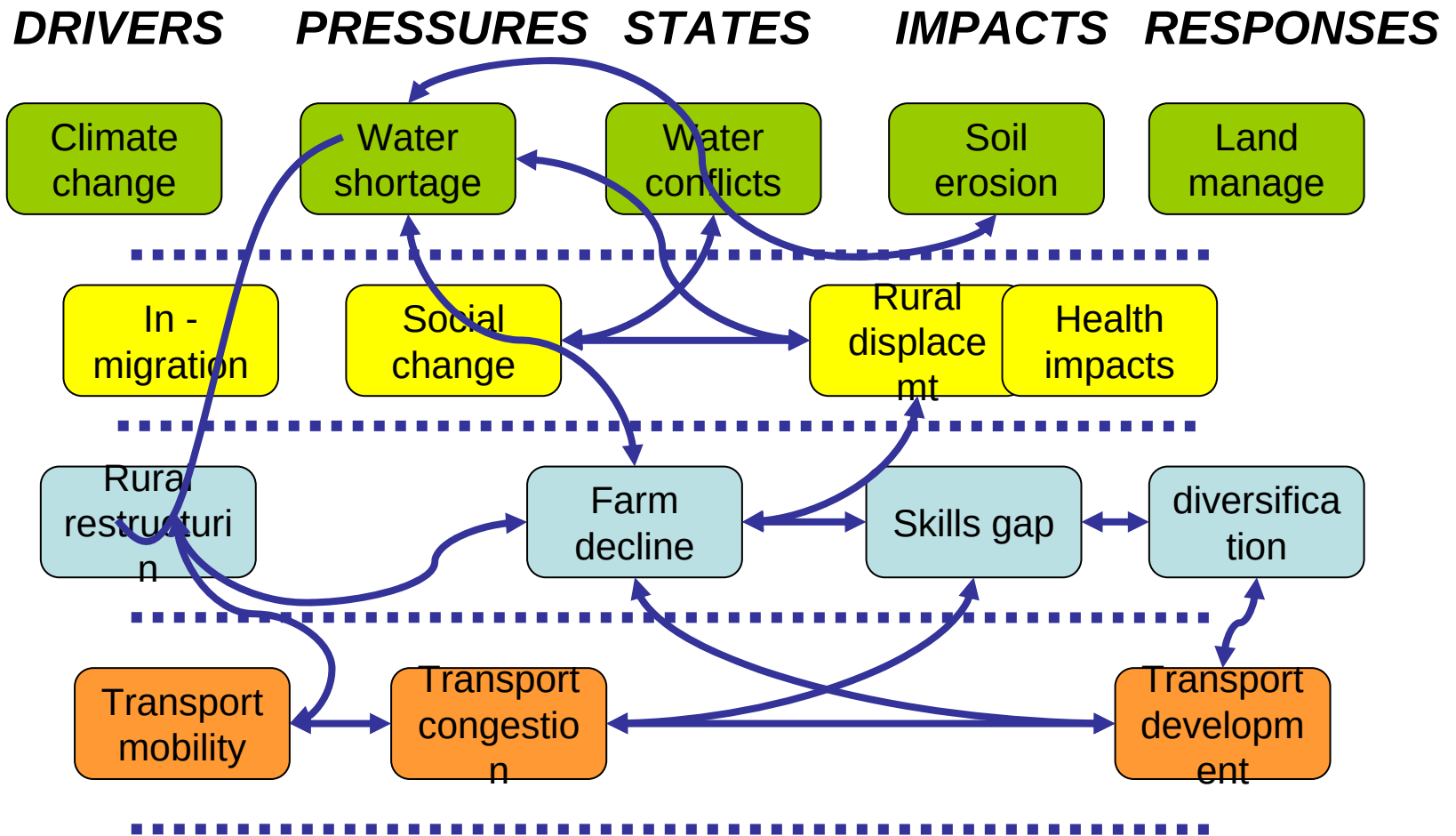
diversifica  
tion

Transport  
mobility

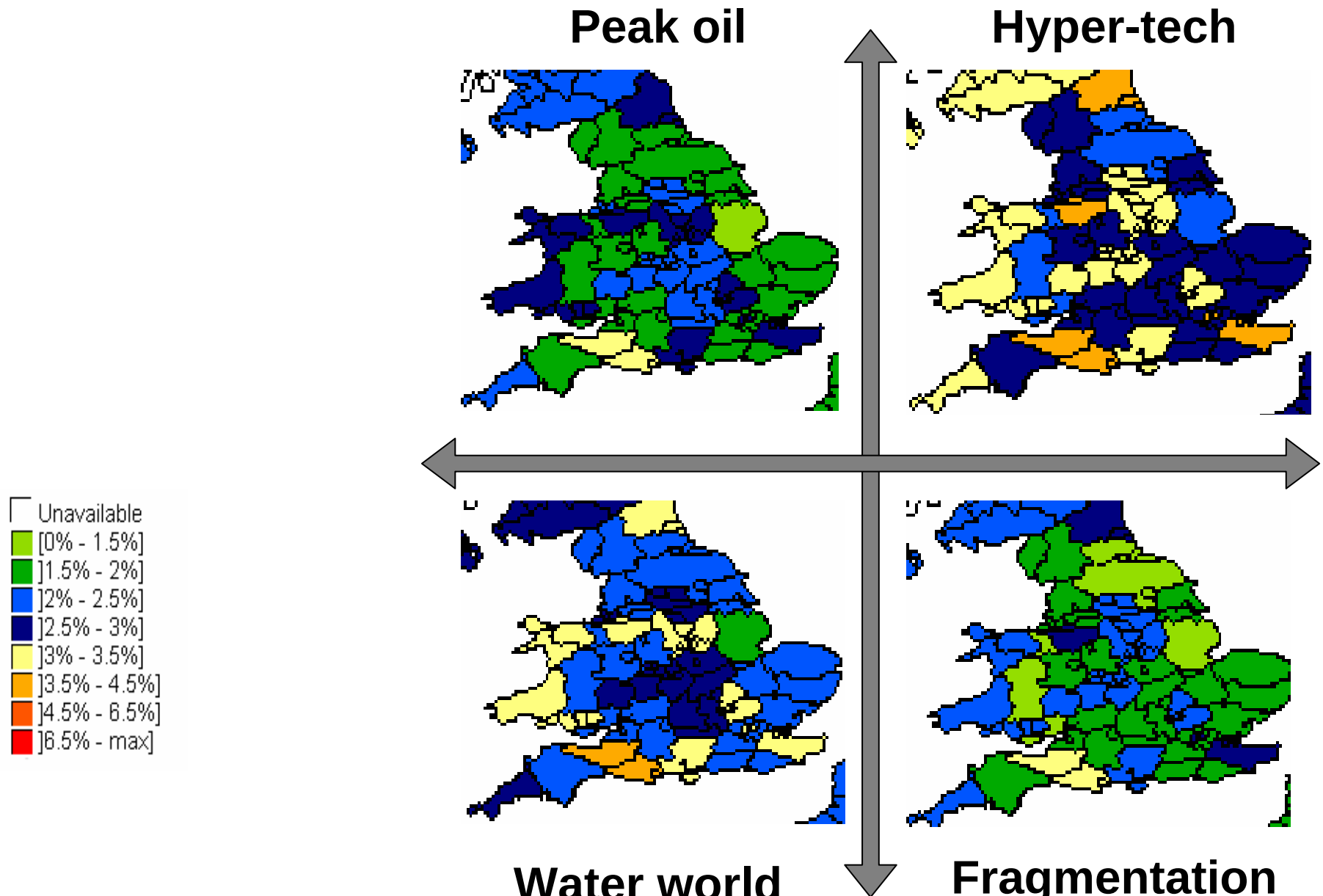
Transport  
congestio  
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Transport  
developm  
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# Managing complexity

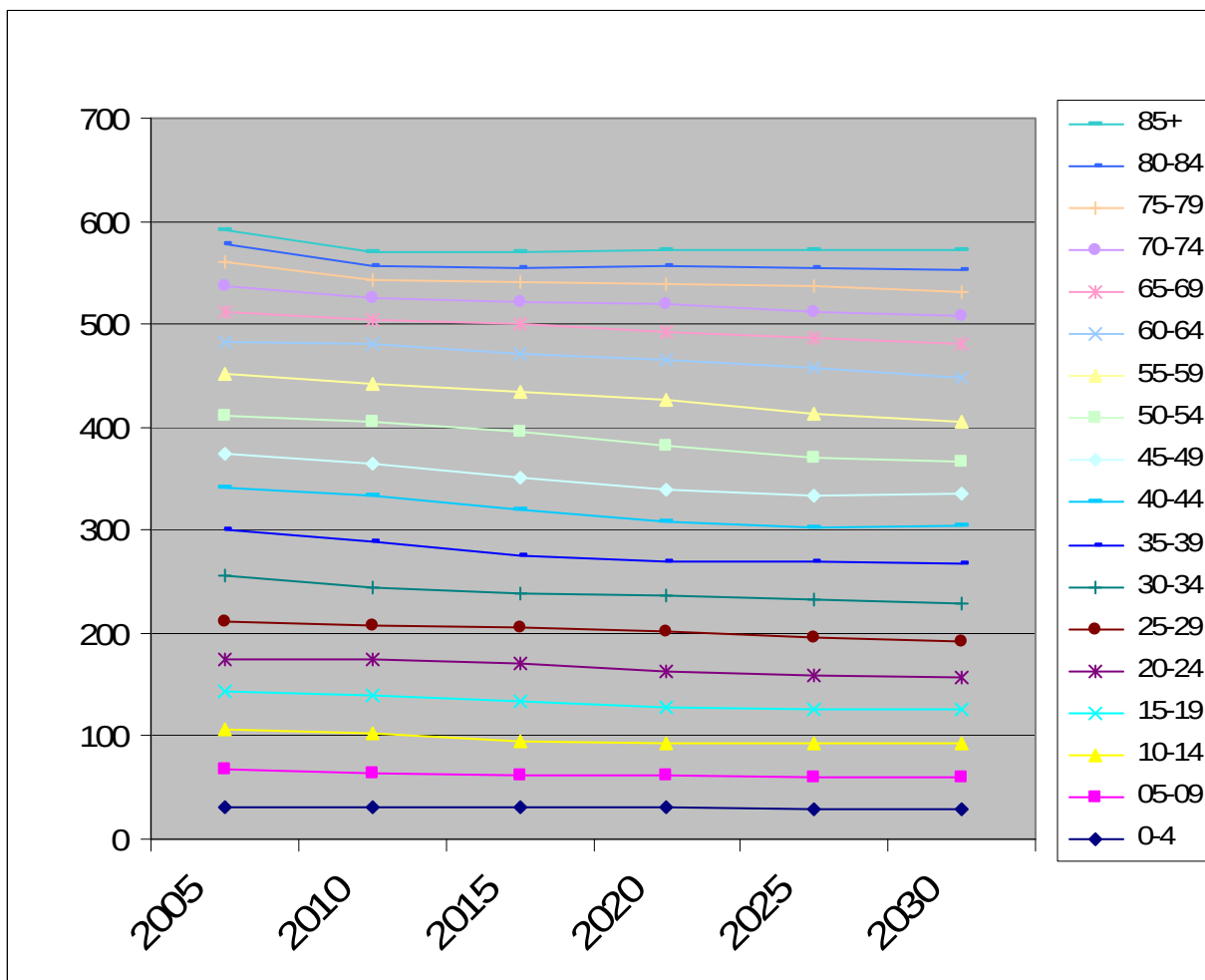


# Economic model scenarios

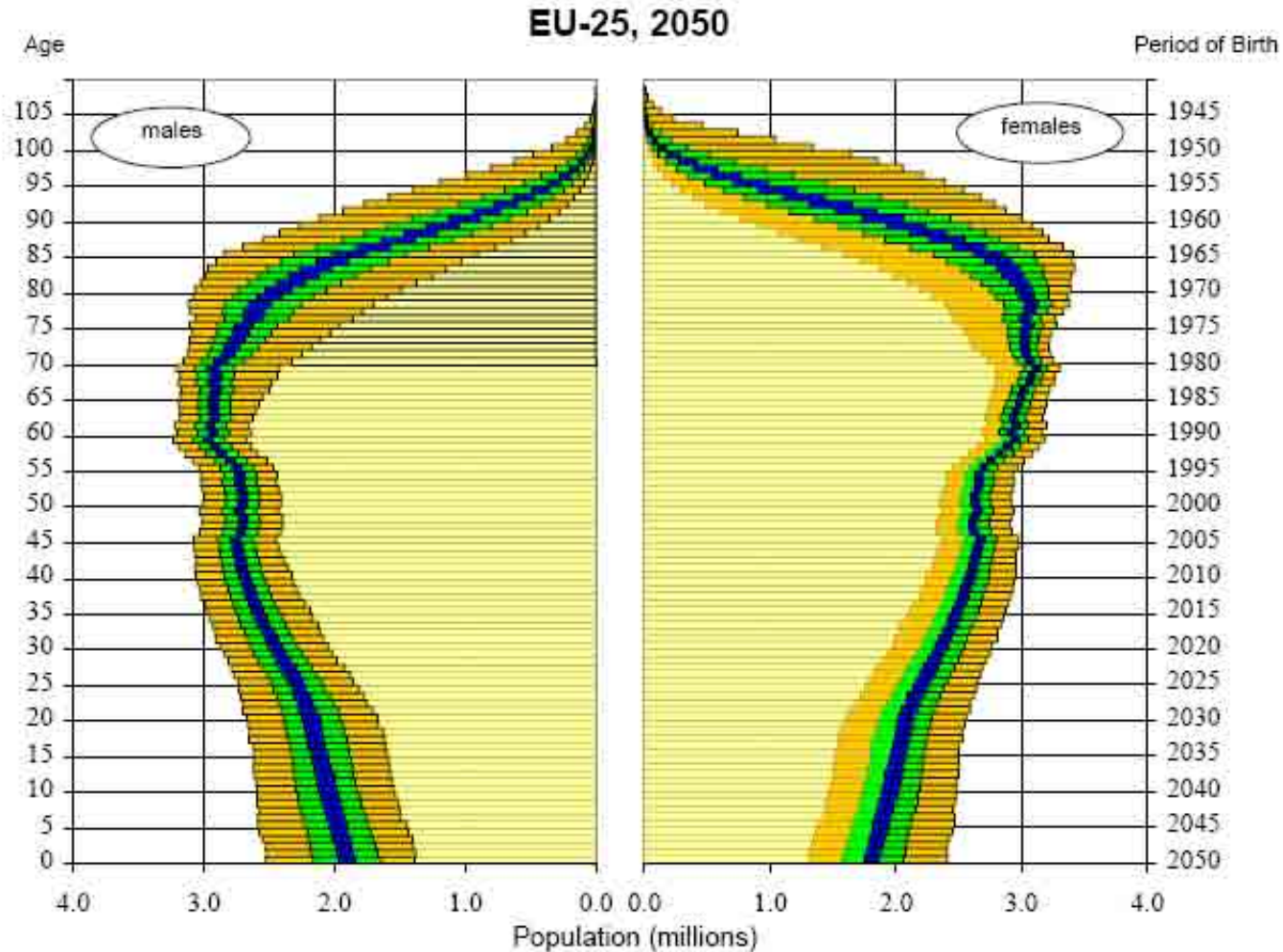




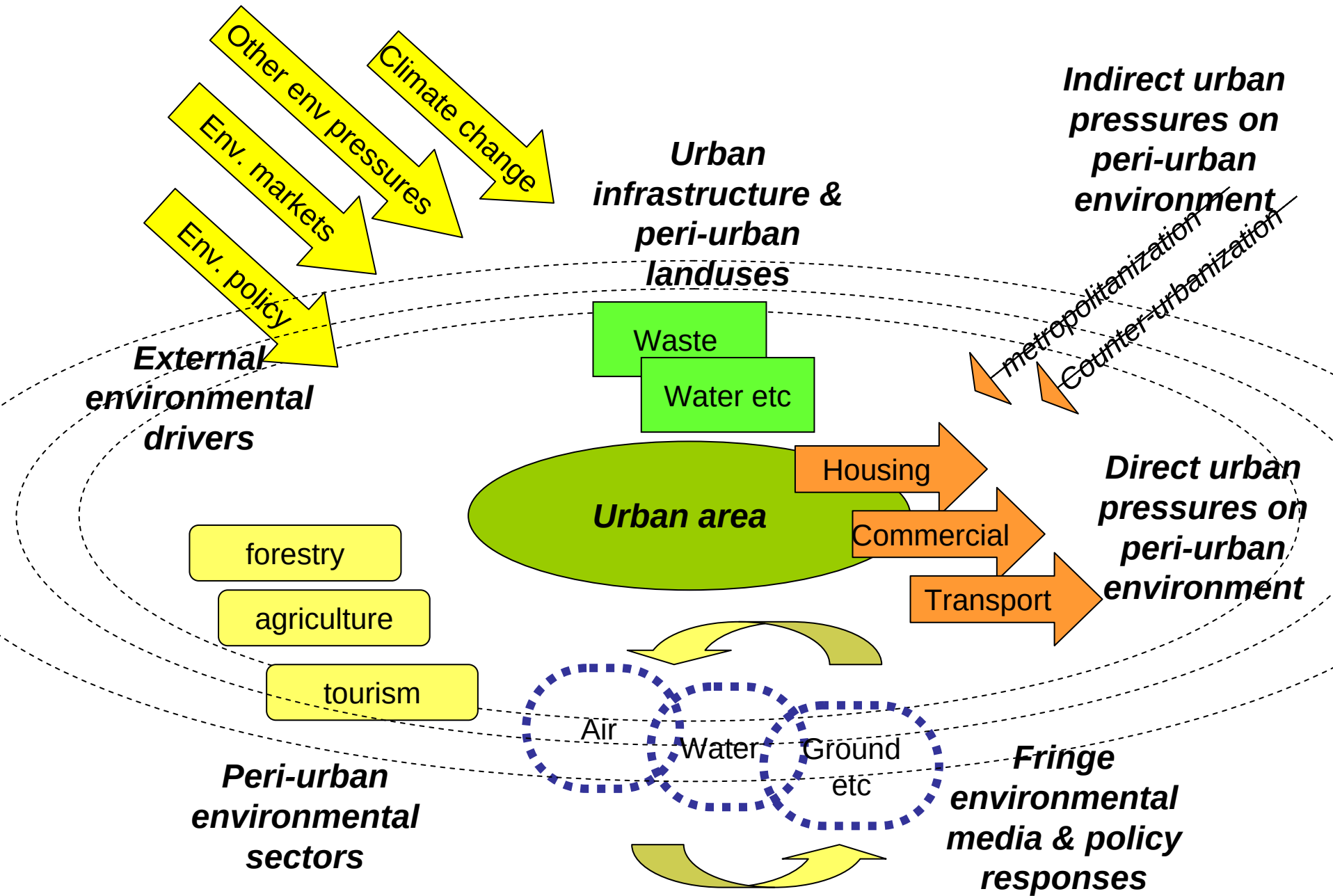
# Demographic scenarios – NW 2030



# Demographic scenarios - EU

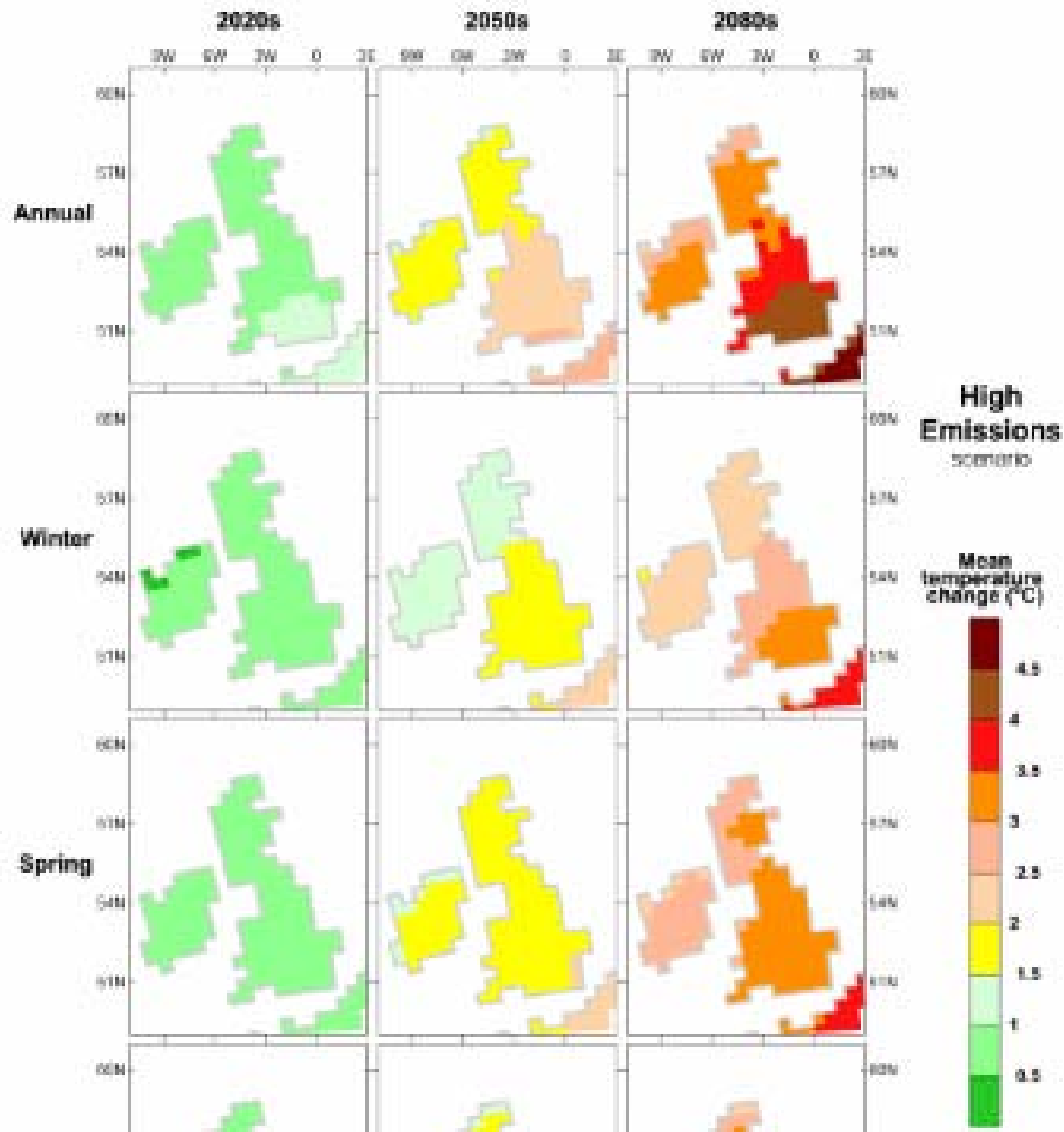


# ***'Environmental drivers' on peri-urban landuse***





# Climate & environment scenarios



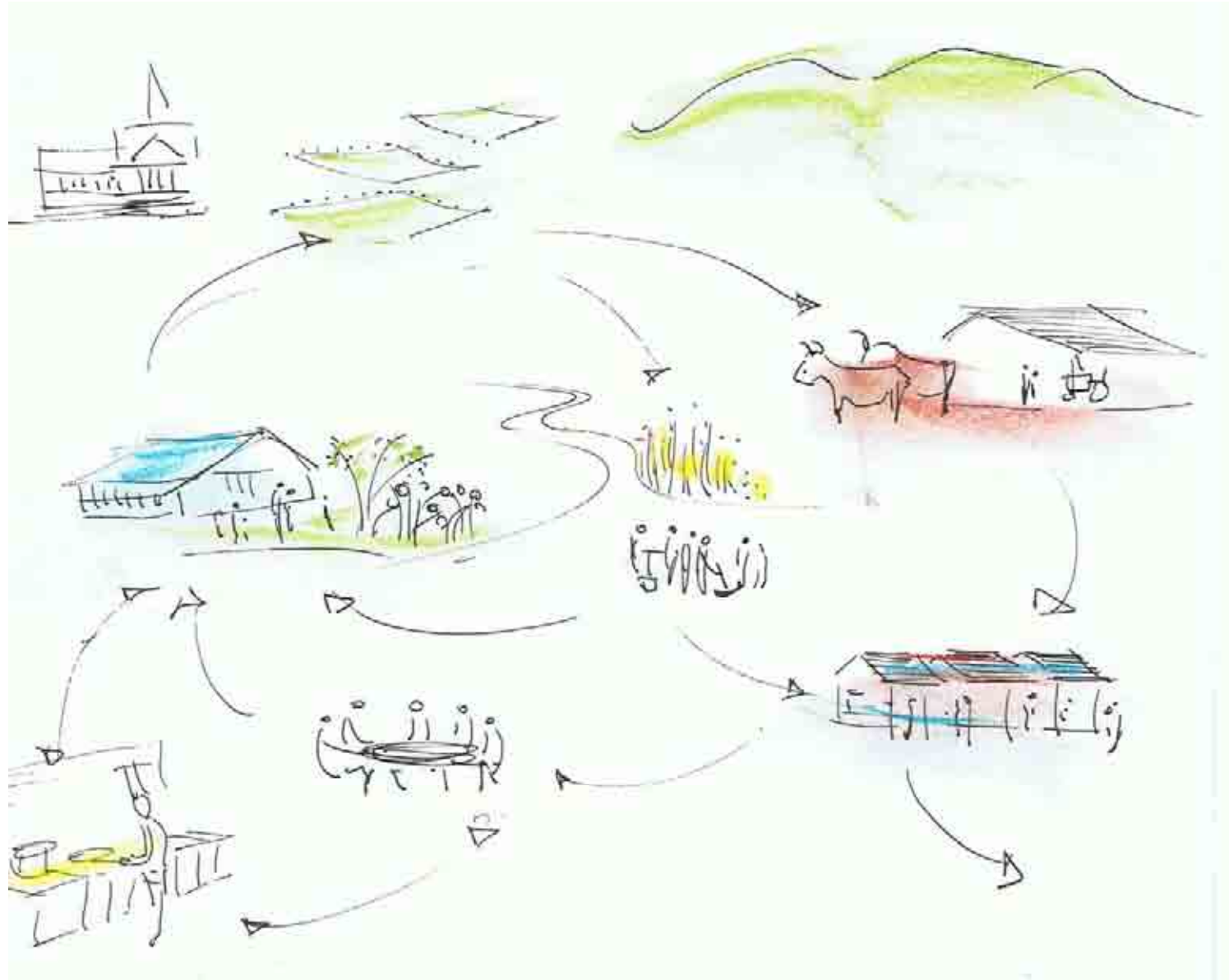
# Policy agendas

# Policy agenda questions

- Will the policy be robust against future changes?
- Does this policy integrate with other policies?
- Is there coordination between public, private and civic sectors?
- Which are the winners, losers and unintended side effects?
- Does the policy encourage innovators and entrepreneurs?



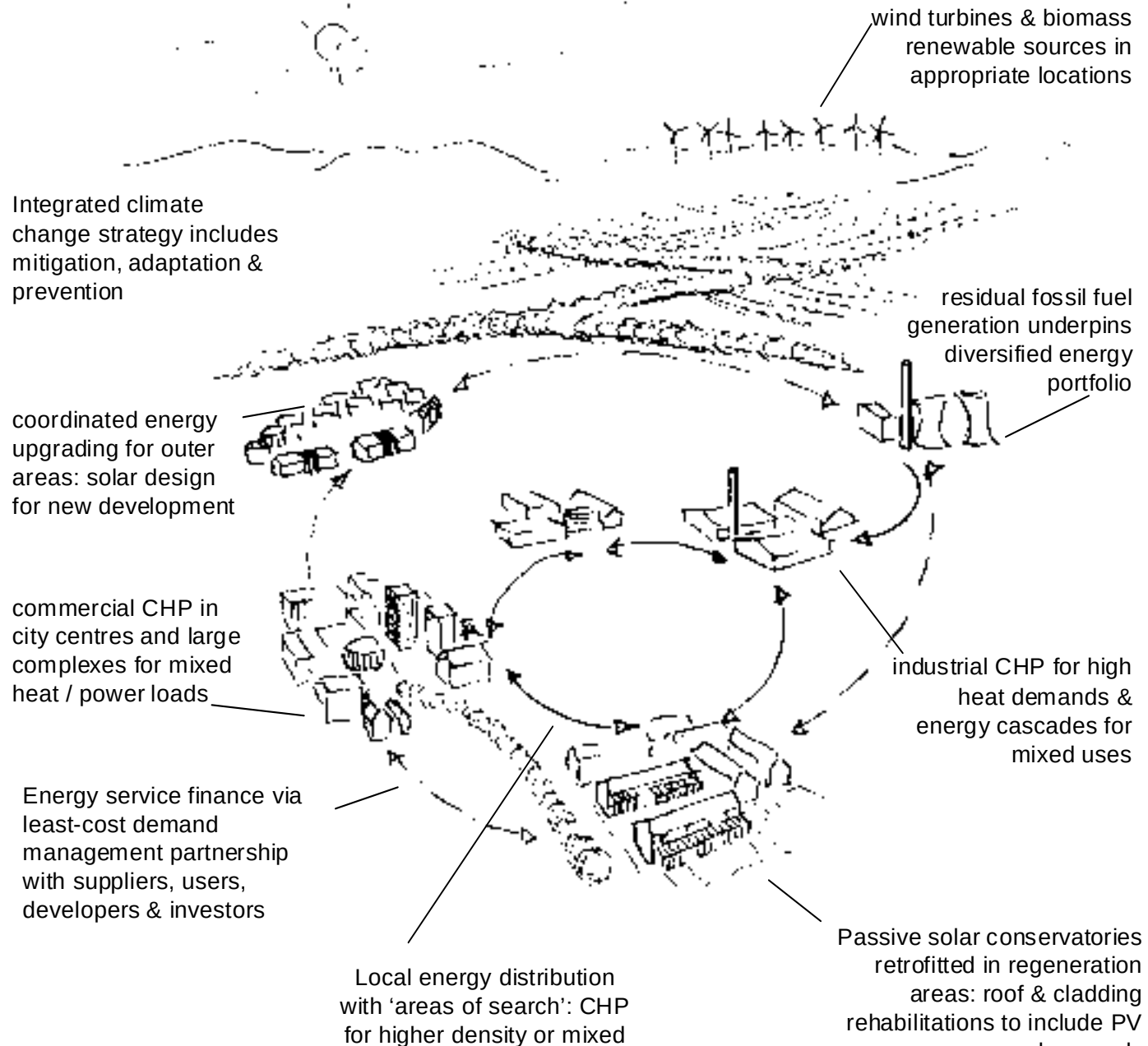
# Food & farming agenda



# Social enterprise agenda

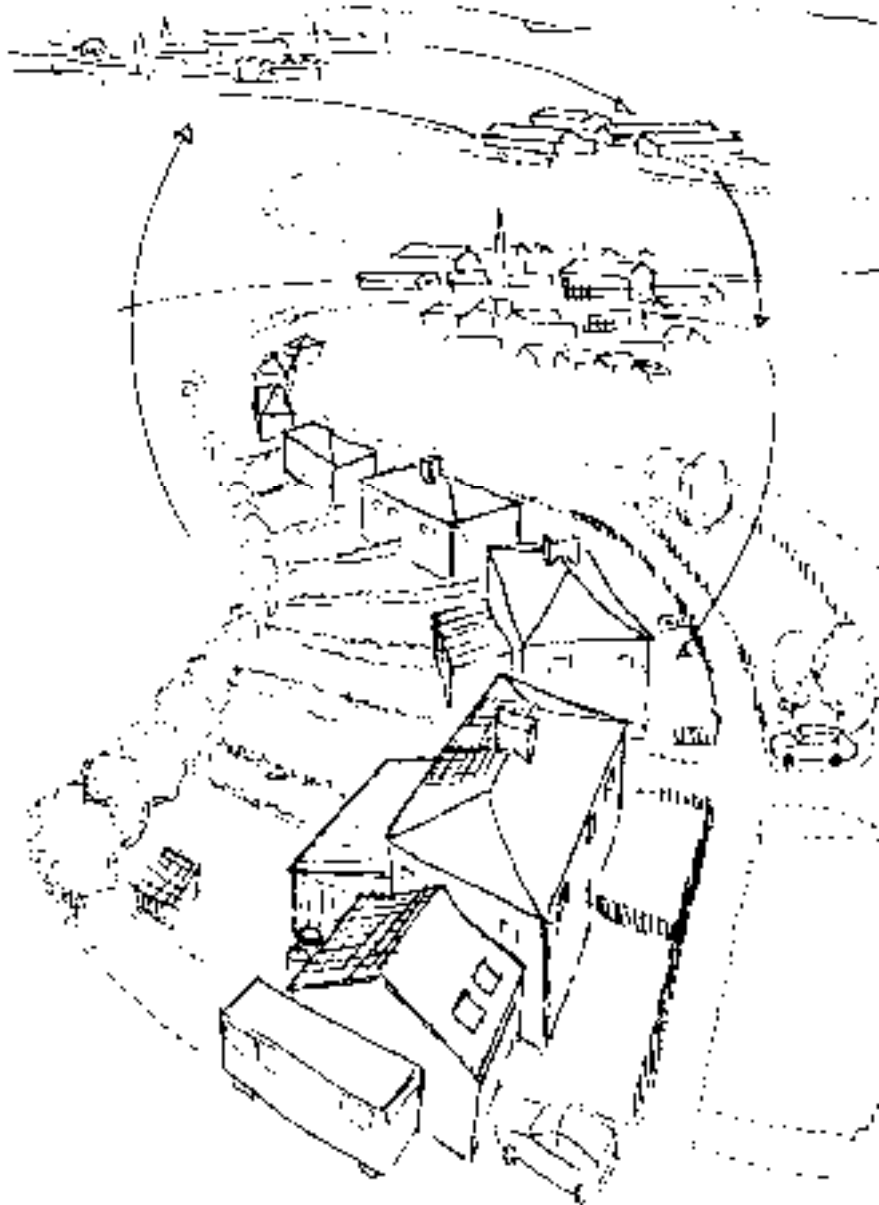
- What is the role of local authorities in relation to social enterprise –
- will land and buildings be made available?
- Can the energy of the community be mobilized in a long lasting way?
- Are there more entrepreneurial forms of local governance which bridge the vital gaps in trust and knowledge between public, private and social sectors?

# Climate agenda

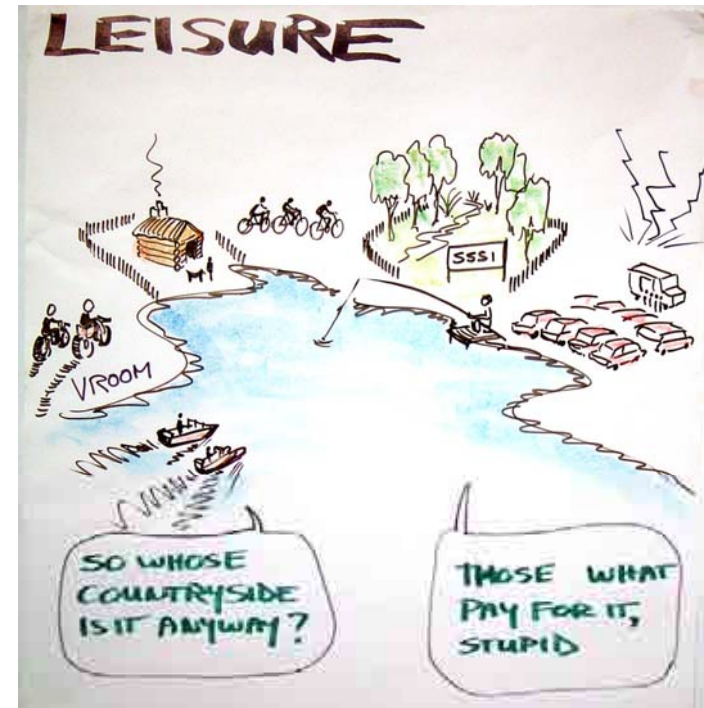
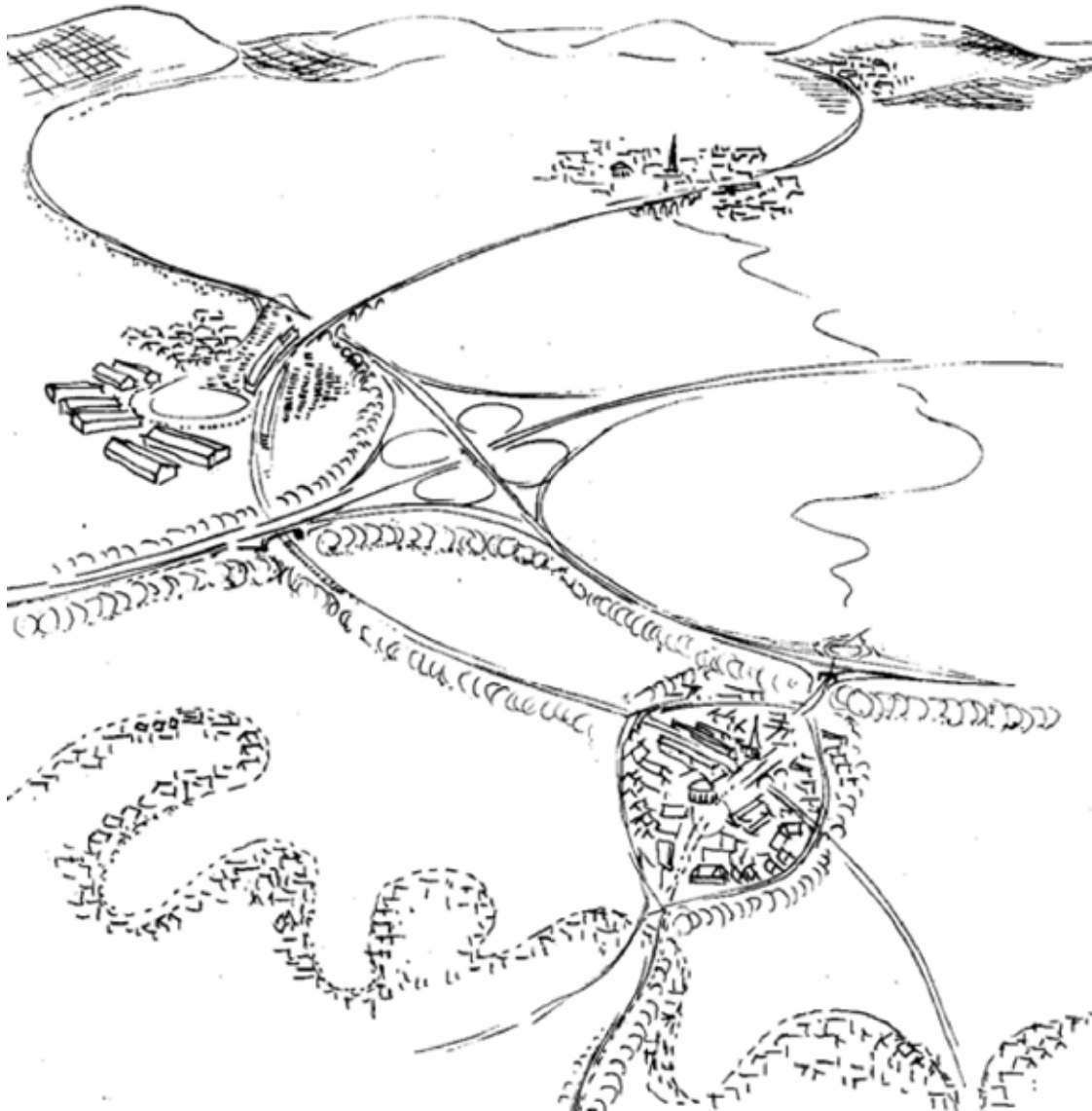




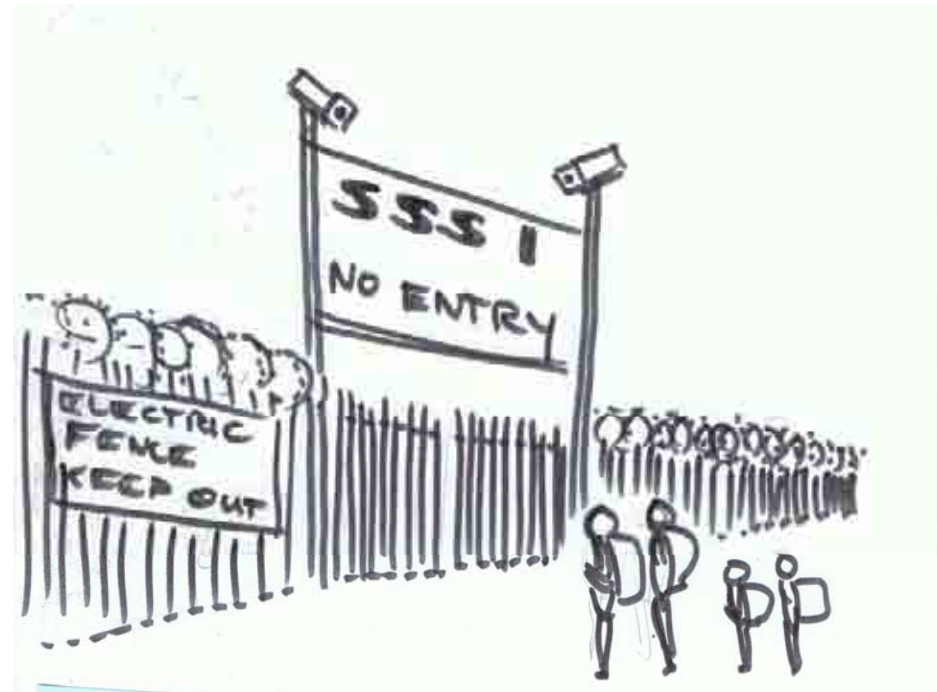
# Spatial development agendas



# Spatial development agendas



# Spatial development agendas





# Spatial development agendas



# Example: rural-urban links

## Montpellier Agglomération's strategy

### Overall goals

3. "saving land" *and* controlling property speculation
4. preserving the long term attractiveness of the city region
2. supporting economic growth (sustainable development)

### Objectives for the peri-urban

3. managing spatial limits
4. preserving agricultural land and natural areas
5. support to periurban agricultural activities
6. waste management (recycling, ultimate waste)
7. flood prevention

## Farmers individual strategies

### Overall goals

agricultural revenue

patrimonial capitalism  
& land rent

### Objectives for the peri-urban

agricultural activities

selling land  
for housing

### Policy-supporting stakeholders

state representants law enforcement  
environmental associations support  
rural local representatives SCOT

farmers associations

Developeppers pressure for building

Land owners pressure for building

### Policy-countering stakeholders

## Rural-urban outcomes resulting from these interactions

- > Local agreements between elected and young / dynamic farmers to protect farm land and support / develop agricultural projects (high value products).
- > Farm land shrinkage in other places (urban sprawl).
- > Weak involvement of farmers organisations to protect farm land.
- > Complex land market interactions : availability of building land / value of landscape and other environmental attributes (nature / infrastructures...)

# POLICY – SCENARIO TESTING



# POLICY – SCENARIO TESTING

**This interactive session is a pilot for a more extended process of stakeholder participation:**

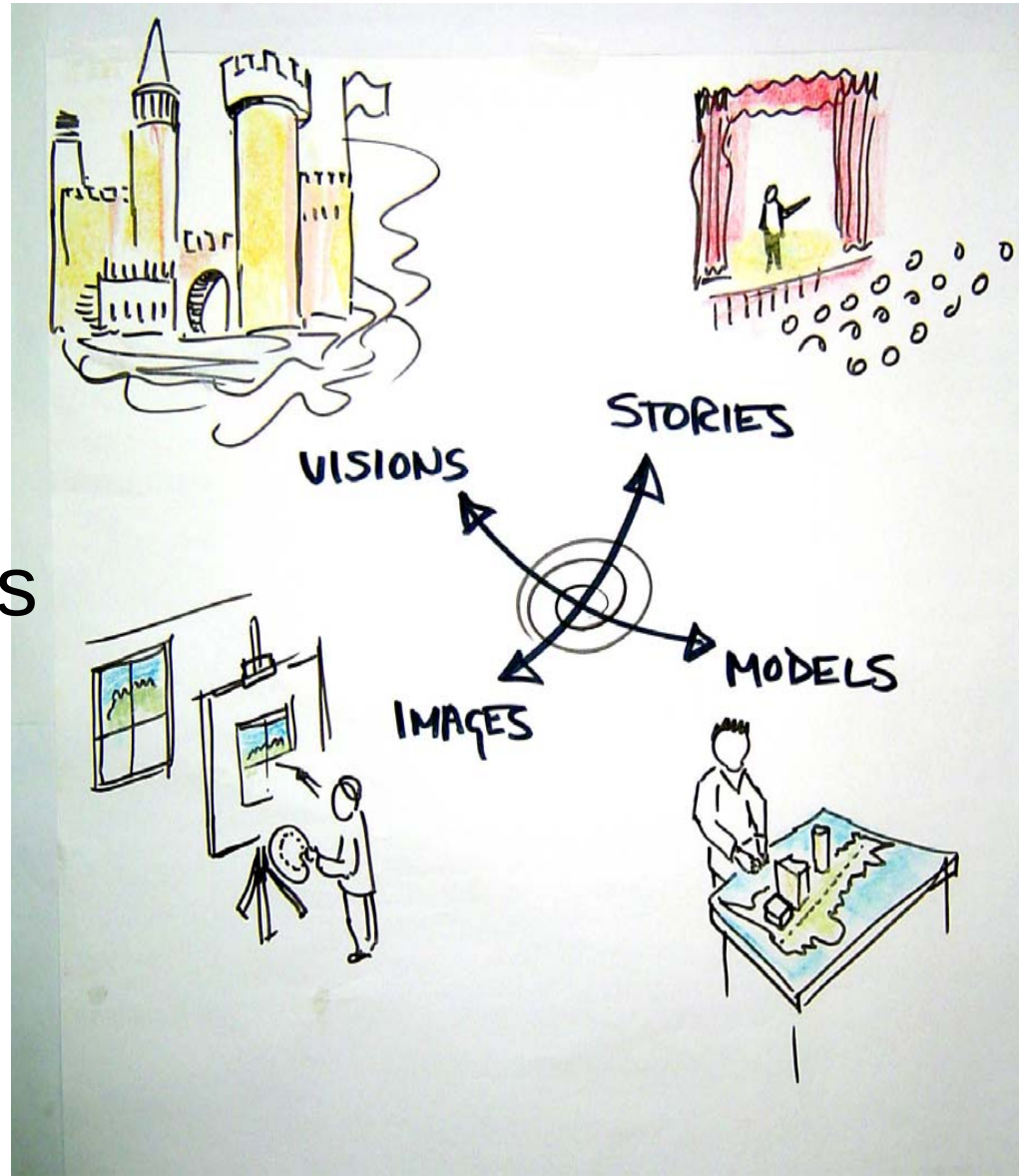
- explores 3 policy areas in terms of new challenges and opportunities**
- test & future-proof each against 2 alternative scenarios**
- identify win-win and ‘future-proof’ policies**

# 3 questions

- Q1 – how would **climate policies** in peri-urban areas, work under different scenarios? (i.e. both climate mitigation and adaptation)
- Q2 – how would **local food / farming** policies in peri-urban areas work under different scenarios?
- Q3 – how would **social enterprise policies** in peri-urban areas work under different scenarios?
- Q4 - what are other key issues for the future of the peri-urban city-region?

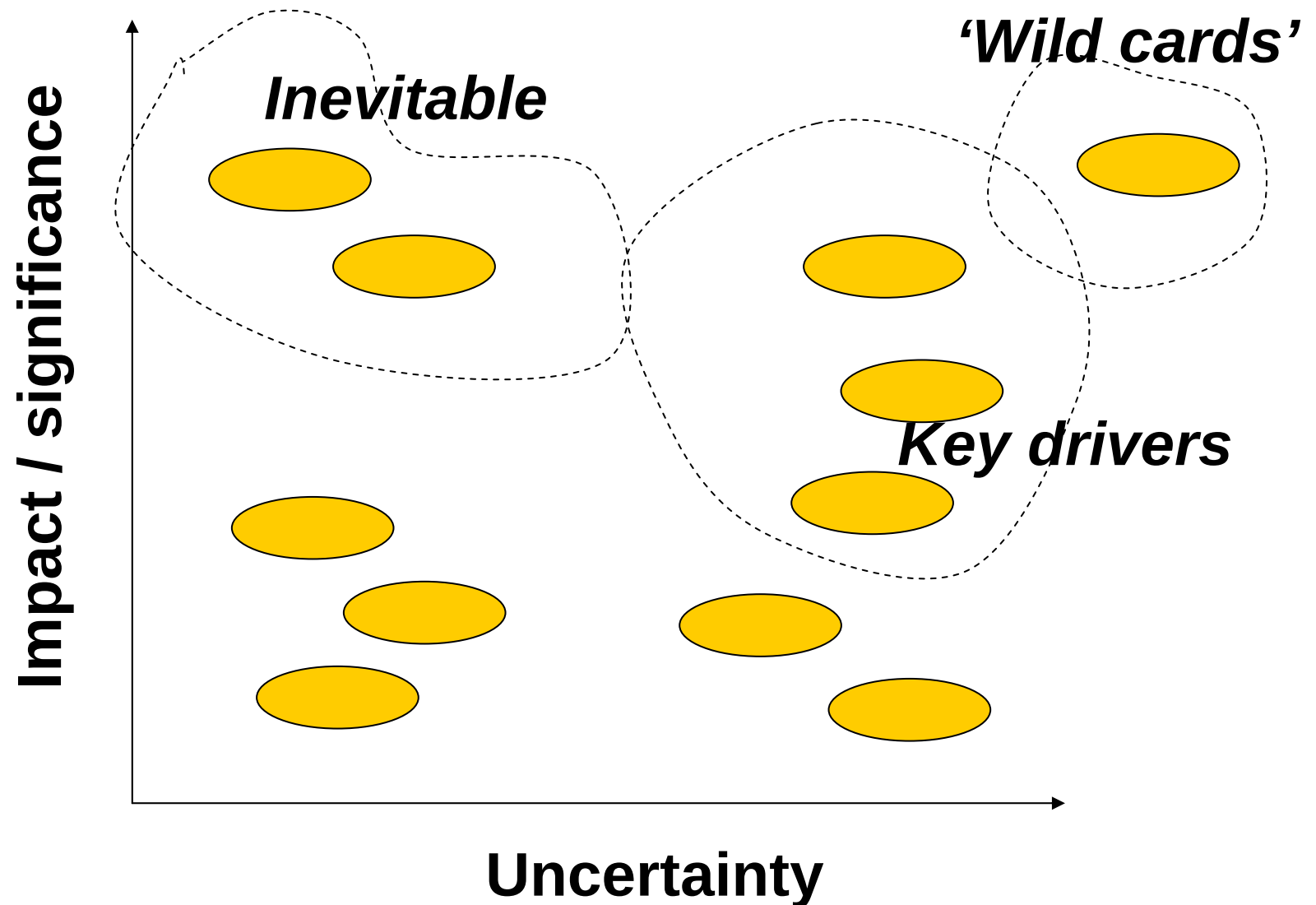
# Scenarios

- Social learning by doing
- Unlocking the imagination
- Building the results step by step
- Taking it back to the world

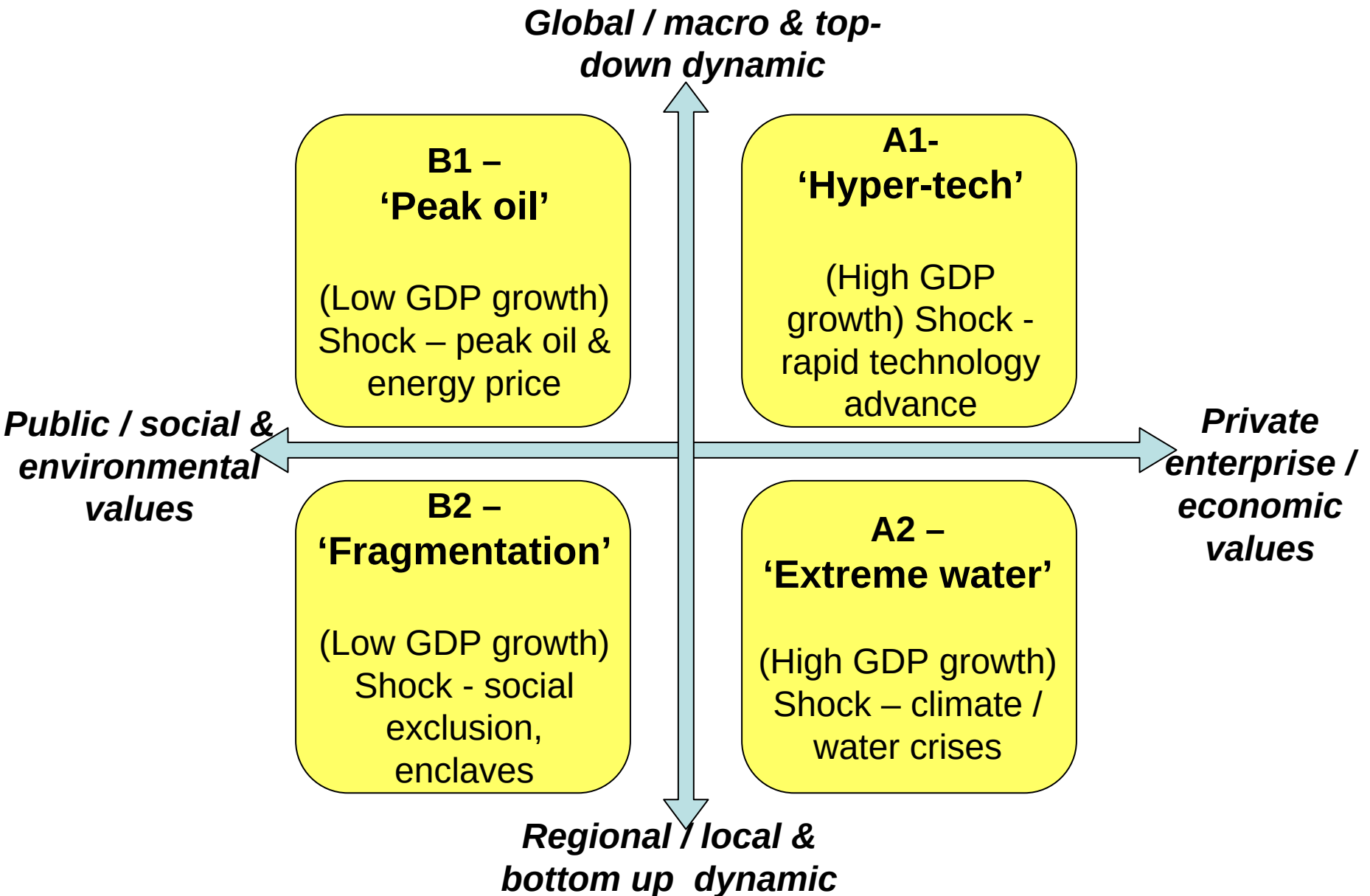




# Drivers & uncertainties

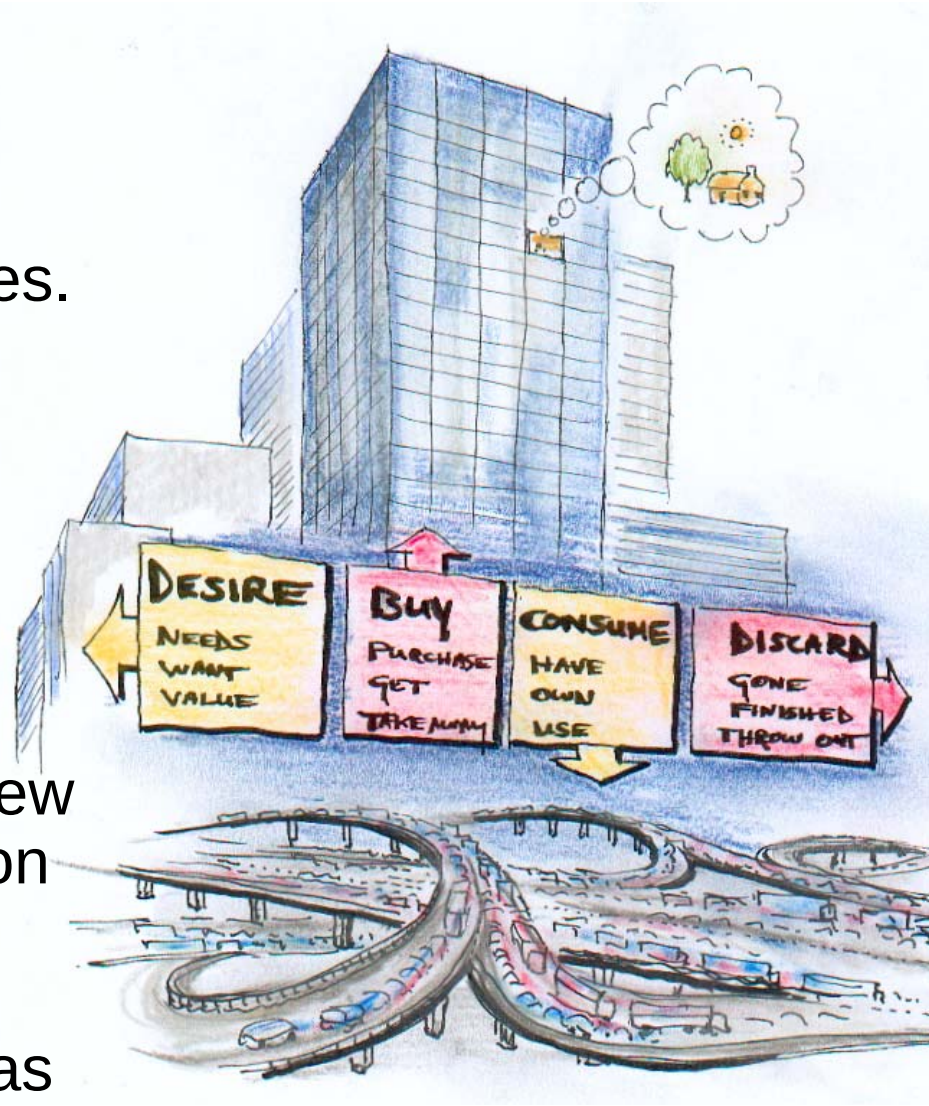


# Scenario framework - summary



# *A1 – high growth scenario ('hyper-tech')*

- rapid economic growth, global population peaks in mid-century, new efficient technologies. Energy prices decline, new renewable energy & nuclear.
- The shock concerns the rapid acceleration of ICT which transforms home and work.
- Peri-urban issues - small 'polycentric' towns and cities - new transport technologies, expansion of commuting distances, peri-urbanisation and 'metropolitanisation' of rural areas on a massive scale.



## ***A2 – self-reliance scenario ('extreme water')***

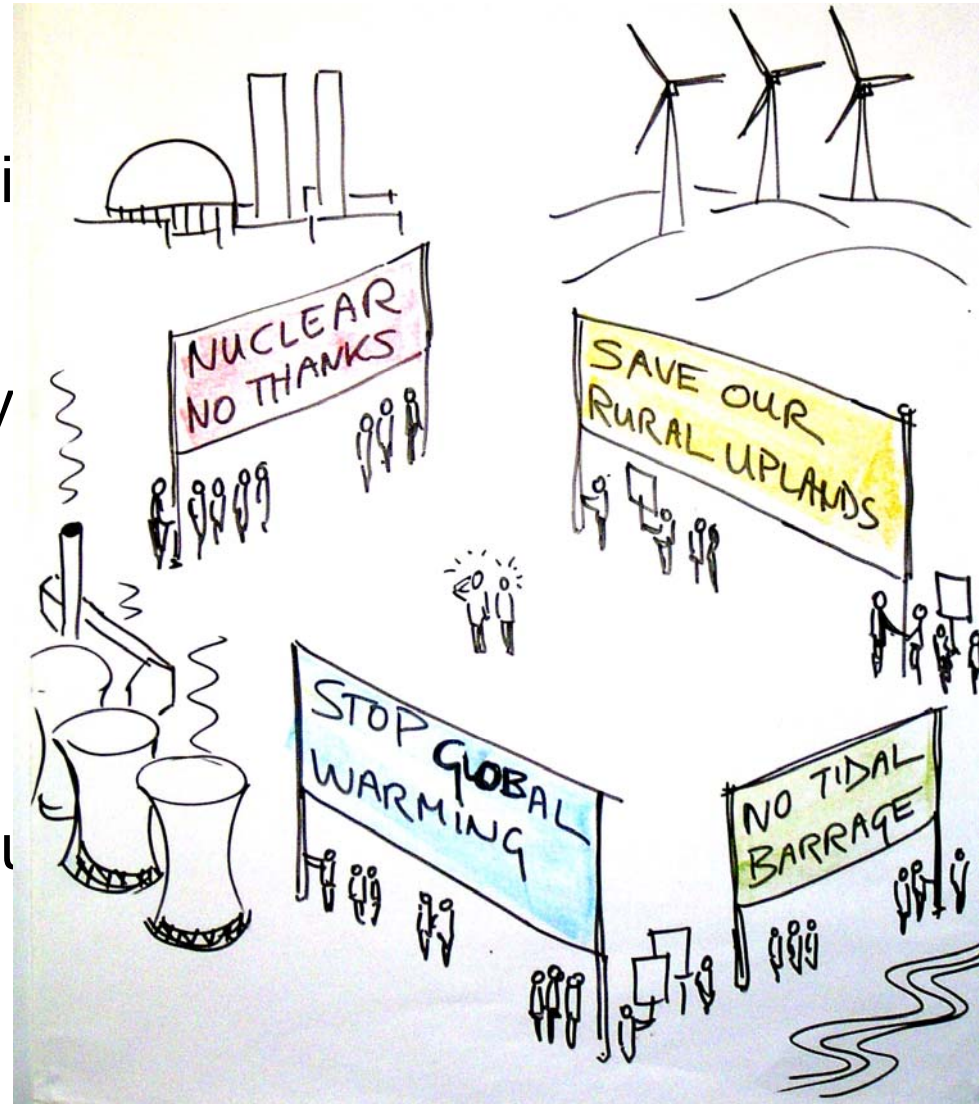
- heterogeneous world of self reliance and local identities.
- High population growth, but slower economic growth and technological change.
- Shock - 'extreme water' - rapid climate impacts, flooding, drought and sea level rise.
- Peri-urban areas are strongly affected; affluent yet vulnerable city-regions spend huge sums on defence and adaptation strategies.
- Population stress due to climate-induced migration.





# ***B1 – sustainability??? scenario ('peak oil')***

- global approach to sustainable development. Economic development balanced with resource efficiency, social equity and environmental protection.
- 'Shock' is driven by 'peak oil', leading to rapid rises in energy prices, with many social and economic effects.
- For peri-urban areas, high energy prices change spatial structures.
- Tele-working is encouraged, but most people return to larger cities, and more remote rural areas decline.



## ***B2 – fragmentation scenario ('walls & enclaves')***

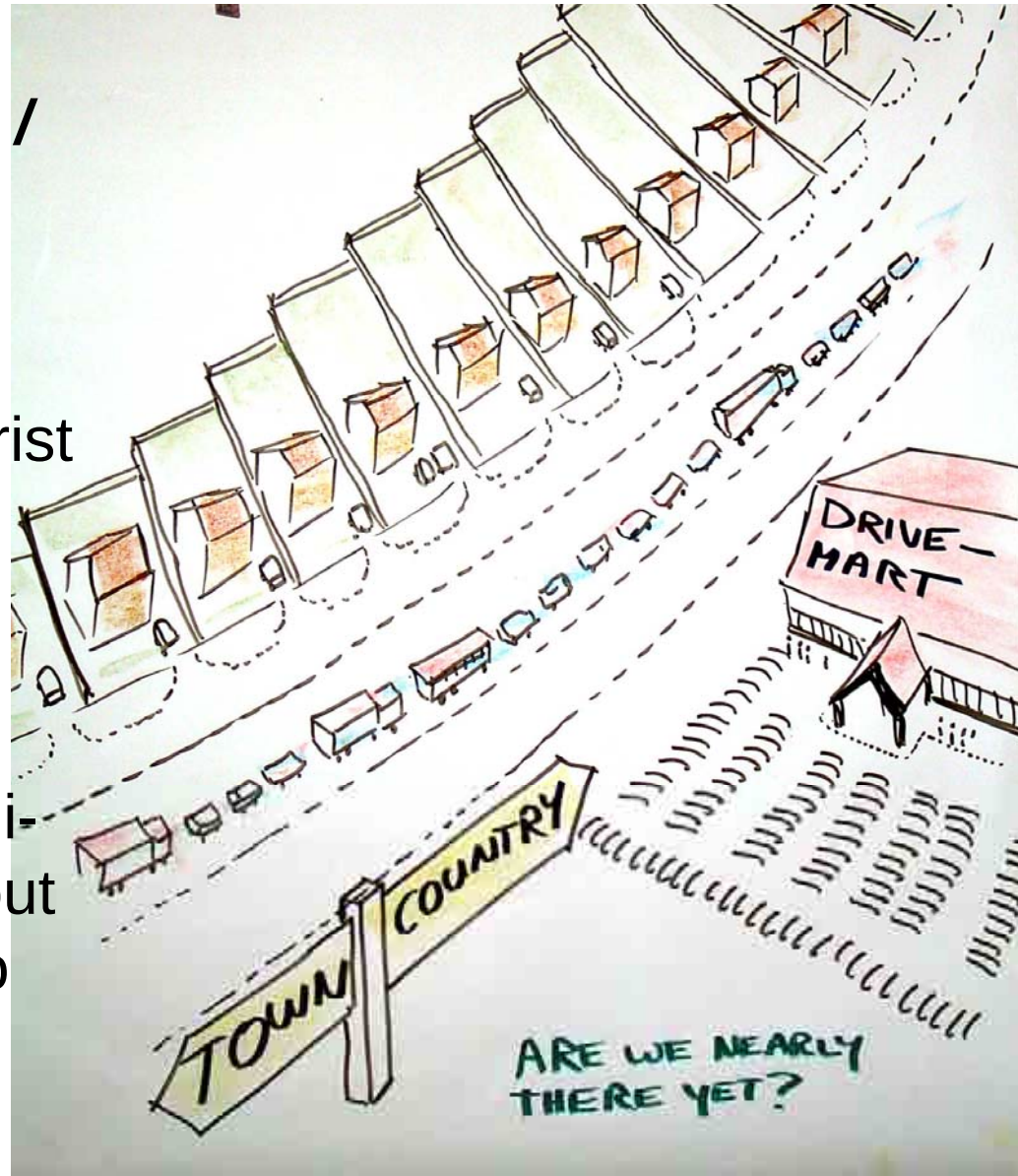
- Europe sees a fragmentation of society, in terms of age, ethnicity and international distrust..
- Shock from ethnic / cultural division of cities, driven by the increased in-migration of the working-age population.
- Cities become more dispersed as younger migrants dominate city centres, and the elderly populate the outskirts & enclaves outside the cities....
- peri-urban areas become 'peri-society' areas.



# South Pennine example

## ***“HYPER-TECH” - globalized / privatized world***

- Large parts of the Pennine hills are bought up by international property & tourist companies. Advanced IT enables new clusters of professionals to live/work in good upland locations. The land is well managed with hi-tech methods and values, but the profits are taken back to Shanghai....







# PLUREL programme

- Manchester city-region results – environmental, political, social themes - resources going online...
- User workshops- Jan 2009 & 2010
- Creative programme
- International conference & exhibition – July 2010
- [www.plurel.net](http://www.plurel.net)
- [www.manchester.ac.uk/cure](http://www.manchester.ac.uk/cure)