



# The Volante Roadmap

Towards Sustainable Land Resource Management in Europe

*Bas Pedroli*



Food security Agriculture Sustainability Agro-environment Advanced methodologies Rural planning New challenges

# Measuring agriculture and rural planning with advanced methods



New challenges and cross-cutting issues in agricultural and rural planning  
August 31, 2015, Italian Pavilion (2.30 pm - 6.00 pm)



ALMA MATER STUDIORUM  
UNIVERSITA DI BOLOGNA



Associazione Italiana  
di Ingegneria Agraria



## A roadmap for future land use management in Europe – the appeal of the VOLANTE project

Bas Pedrolì – UNISCAPE / Land Use Planning Group, Wageningen University, NL



The Volante Roadmap Towards Sustainable Land Resource Management in Europe

Bas Pedrolì  WAGENINGEN UR  
*For quality of life*



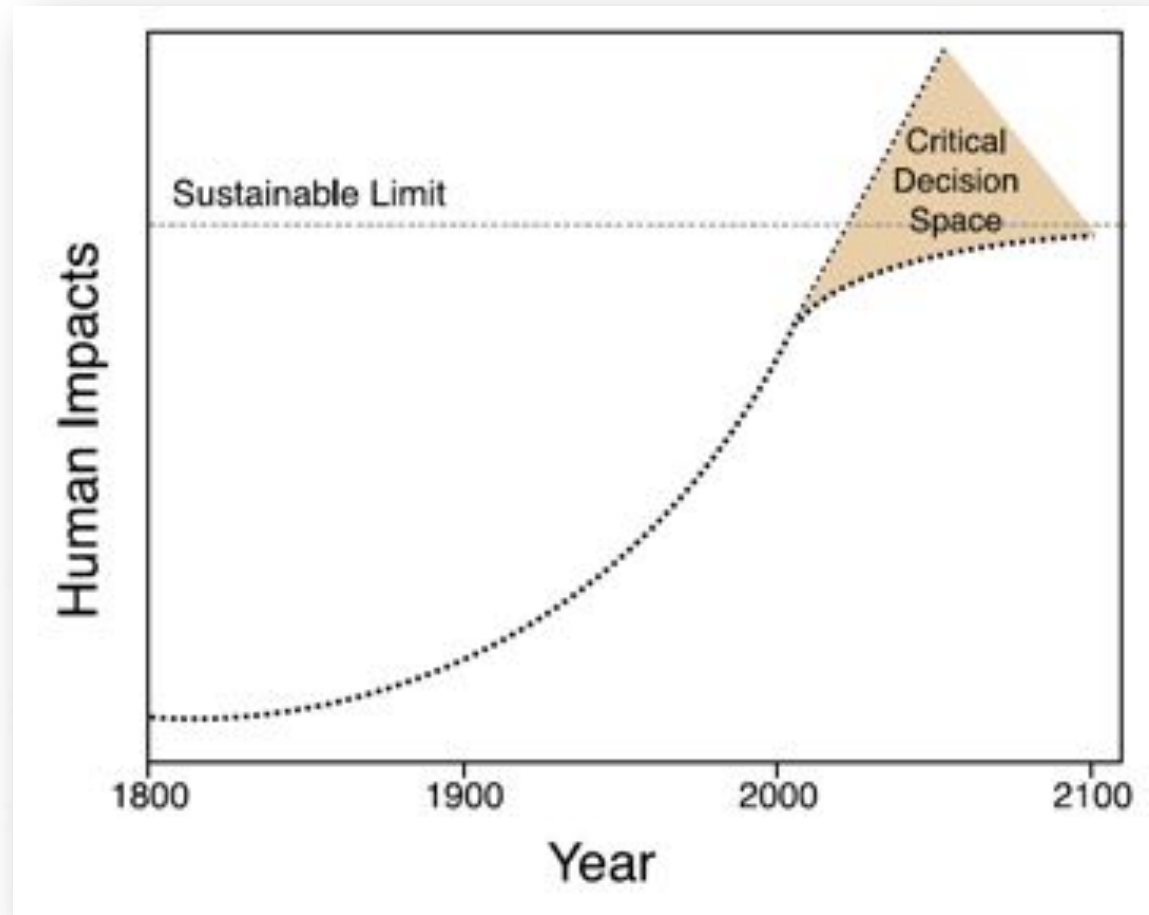
[www.volante-project.eu](http://www.volante-project.eu)

New challenges in agricultural and rural land management and planning – EXPO Milano 31 August 2015

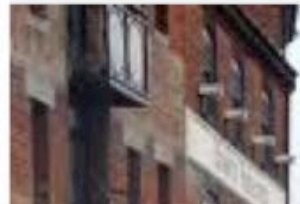
# The challenge: a rapidly changing world

Anthropocene,  
since 1784

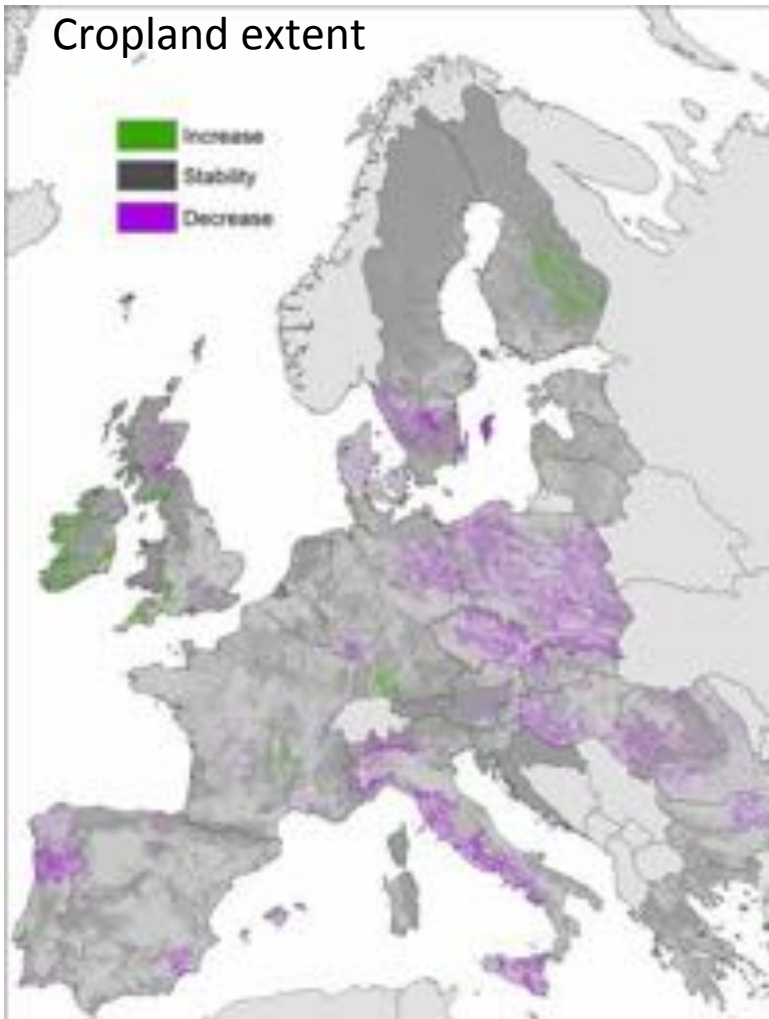
Great acceleration,  
from 1950



# Land use challenges for Europe



# Observed land use change in Europe 1996 - 2006



# Where are we trying to get to?

## Sustainable management of the land...

### Provides

Healthy food

Clean water

Renewable materials and energy

Climate regulation

Climate change adaptation

Biodiversity

Cultural heritage

Sense of place

### Avoids

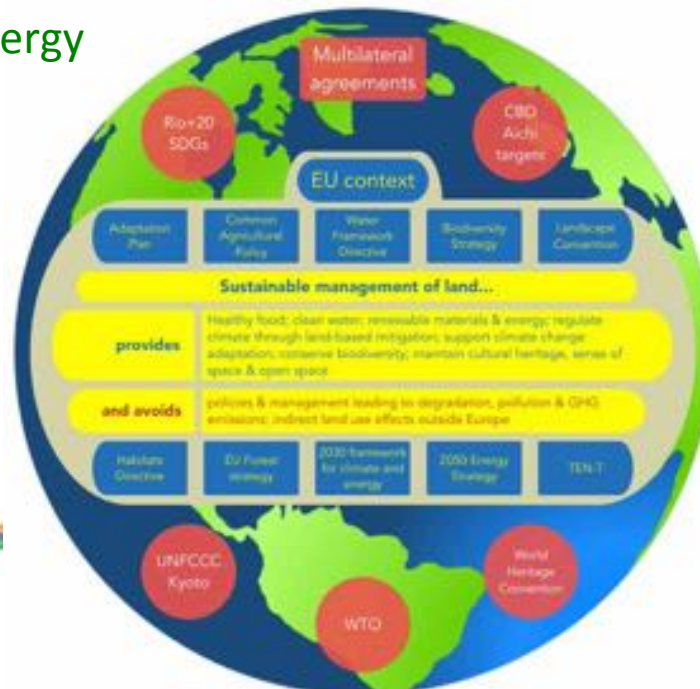
Degradation

Pollution

GHG emissions

Negative impacts

outside Europe



# Need for a vision: What could this Europe look like?

- 69 stakeholders
- 6 workshops
- 14 visions
- 3 consolidated visions

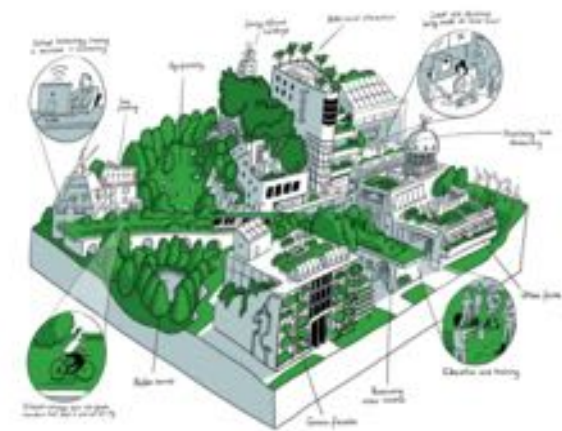
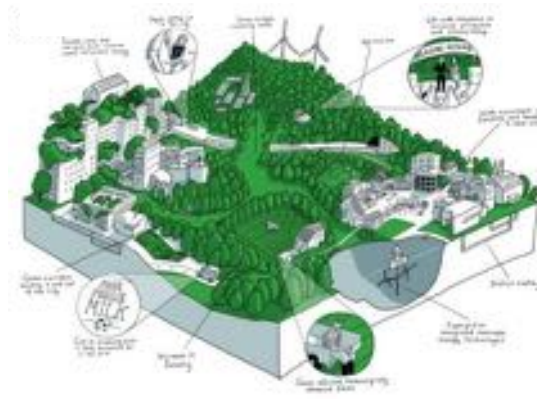
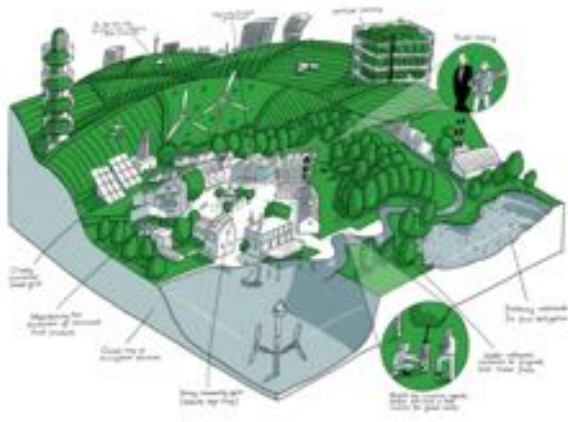


# Three consolidated visions

**Best Land in Europe**  
Optimal use of resources

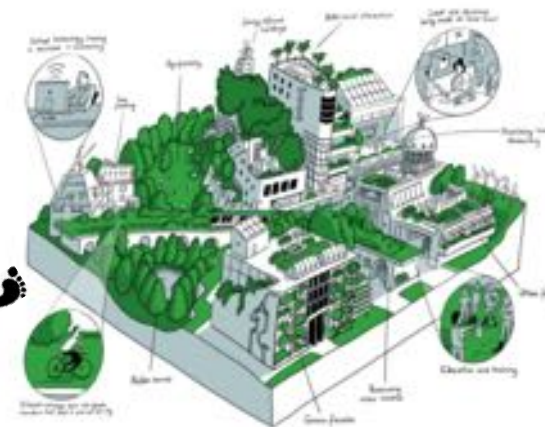
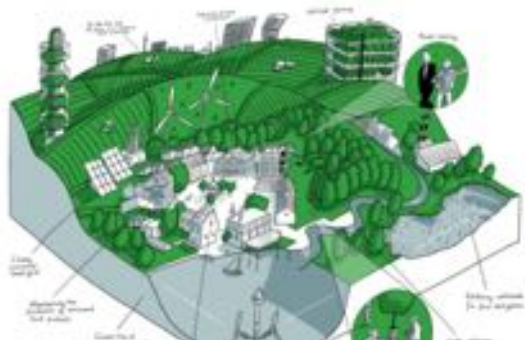
**Regional connected**  
Living closer to the  
environment

**Local multi-functional**  
Self-sufficiency of local  
communities



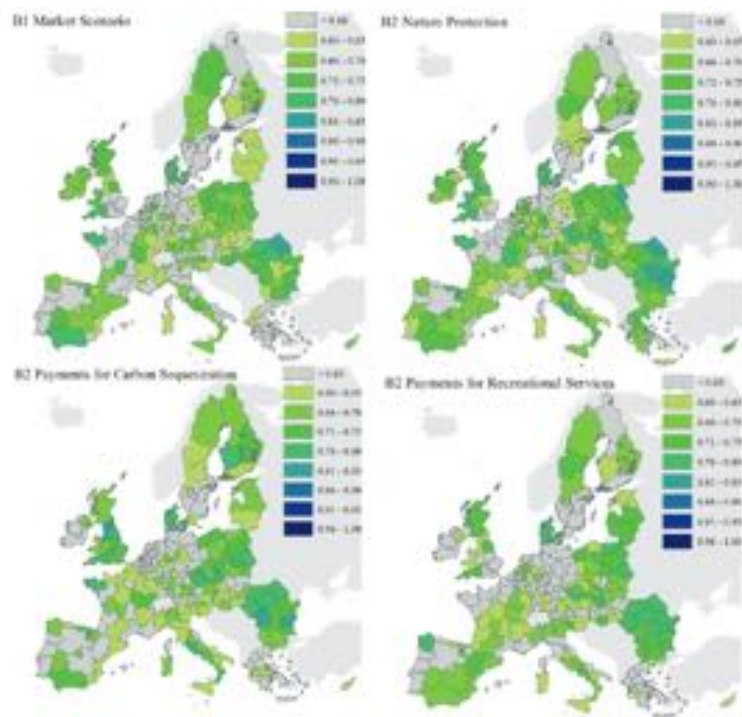


# How can we reach desired visions of land use?



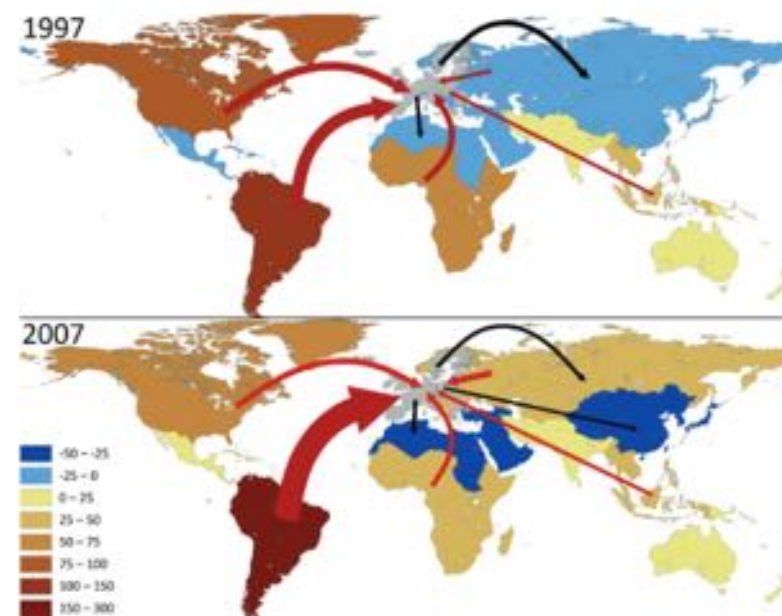
# Modelling and empirical science to explore pathways

## Pathways for visions



Factsheet V3

## Displacement effects

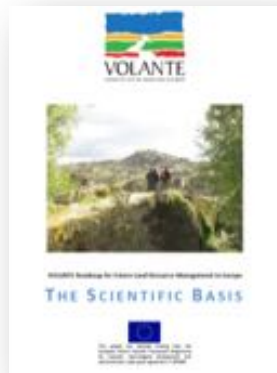


Factsheet P1

# Synthesis in the VOLANTE Roadmap



roadmap and visions  
16 page brochures



scientific basis  
34 page synthesis



factsheets  
32 x 2 pages



papers and reports  
approx. 150



# The aspirations of the VOLANTE consolidated stakeholder vision: *Best Land in Europe*



*Optimal use of land resources*

*Maximise the value of land use by matching land across the EU to the most appropriate use – because land is a scarce resource*



The Volante Roadmap Towards Sustainable Land Resource Management in Europe

Bas Pedroli



[www.volante-project.eu](http://www.volante-project.eu)

New challenges in agricultural and rural land management and planning – EXPO Milano 31 August 2015



# *Best Land in Europe in 2040*

## Opportunities

- The drive for efficiency and competitiveness is consistent with many current policies
- Closely aligned to intensification and regional specialization, which is already a trend in Europe
- Creative opportunities for marginal and remote rural regions, including rewilding



# *Best Land in Europe in 2040*

## How to get there?

- Highly regulated land use across the EU
- Optimal zonation of land use
- More specialisation – e.g. denser cities, highly productive agriculture on fertile lands
- High mobility of goods and people

# *Best Land in Europe in 2040*

## Main challenges

- Sustainable intensification
- Collaboration and EU-wide consensus about what optimal land use

*might be in conflict with*

- Local needs and the principle of subsidiarity



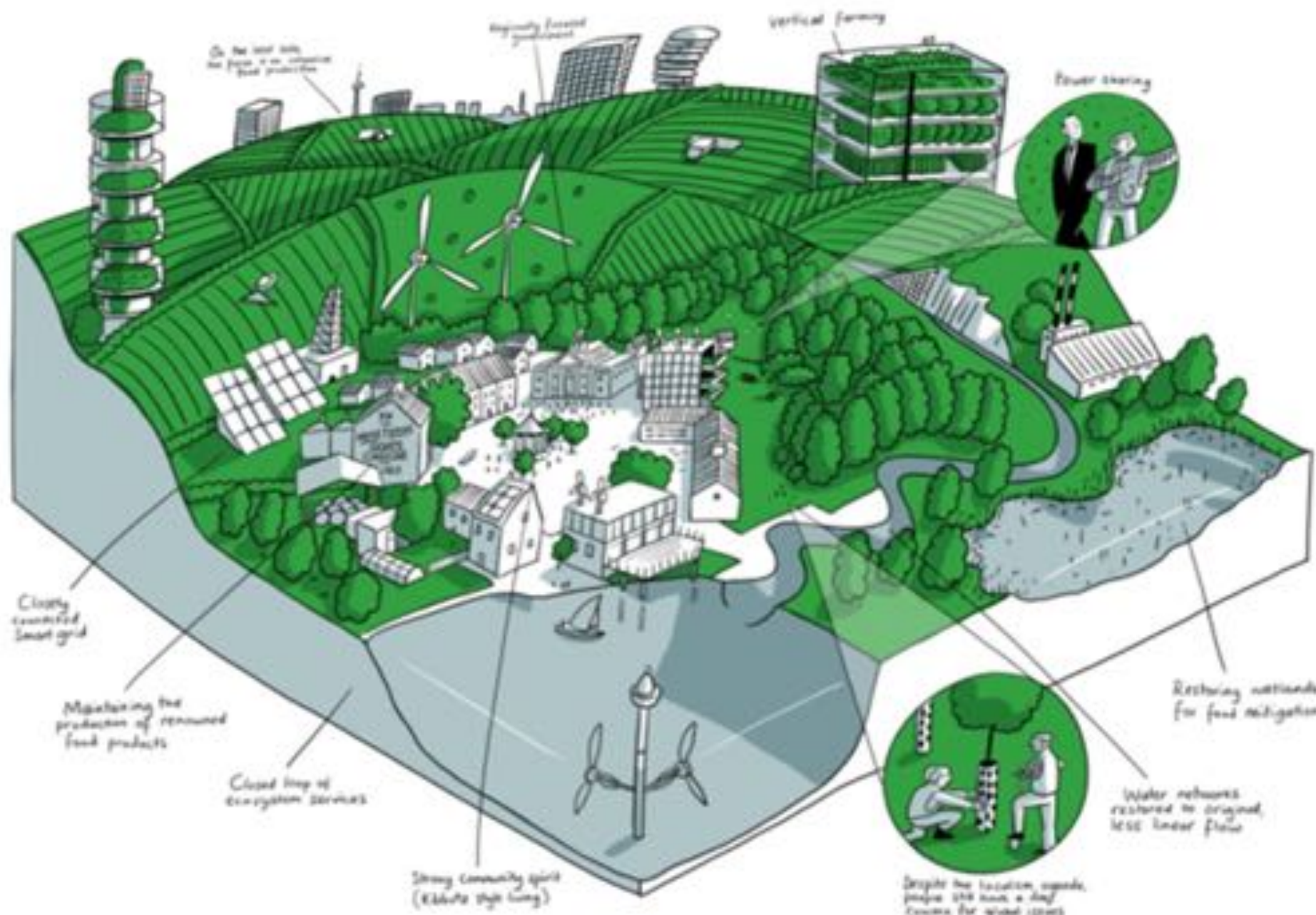
# *Best Land in Europe in 2040*

## Main challenges (2)

Societal acceptance of

- strongly centralised land use governance
- restructuring of land use
- alternative functions to marginal agricultural areas – e.g. rewilding, carbon sink
- nature protection reduced in some places but more focussed in other locations
- more compact urban areas





On the left side, the focus is on renewable energy production.

Regional forest management

Vertical farming

Flower sharing

Closely located smart grid

Maximizing the production of renowned food products

Closed loop of ecosystem services

Strong community spirit (Kibbutz style living)

Restoring wetlands for food mitigation

Water networks restored to original, less linear flow

Despite the location, upside, people still have a day to work for great ideas

# The aspirations of the VOLANTE consolidated stakeholder vision *Regional Connected*



Meet regionally society's needs through a more coherent relationship between the human capital and the resources in the region

Economies do not need to globalise to thrive

Move away from regional specialisation



# *Regional Connected in 2040*

## Opportunities

- Many existing policies and governance structures aimed at regional development, and connectivity generally seen as a good basis
- Regional focus will increase self-sufficiency and reduce reliance on other geopolitical regions
- Regional coherence will vitalise rural areas and reduce ecological footprints

# *Regional Connected in 2040*

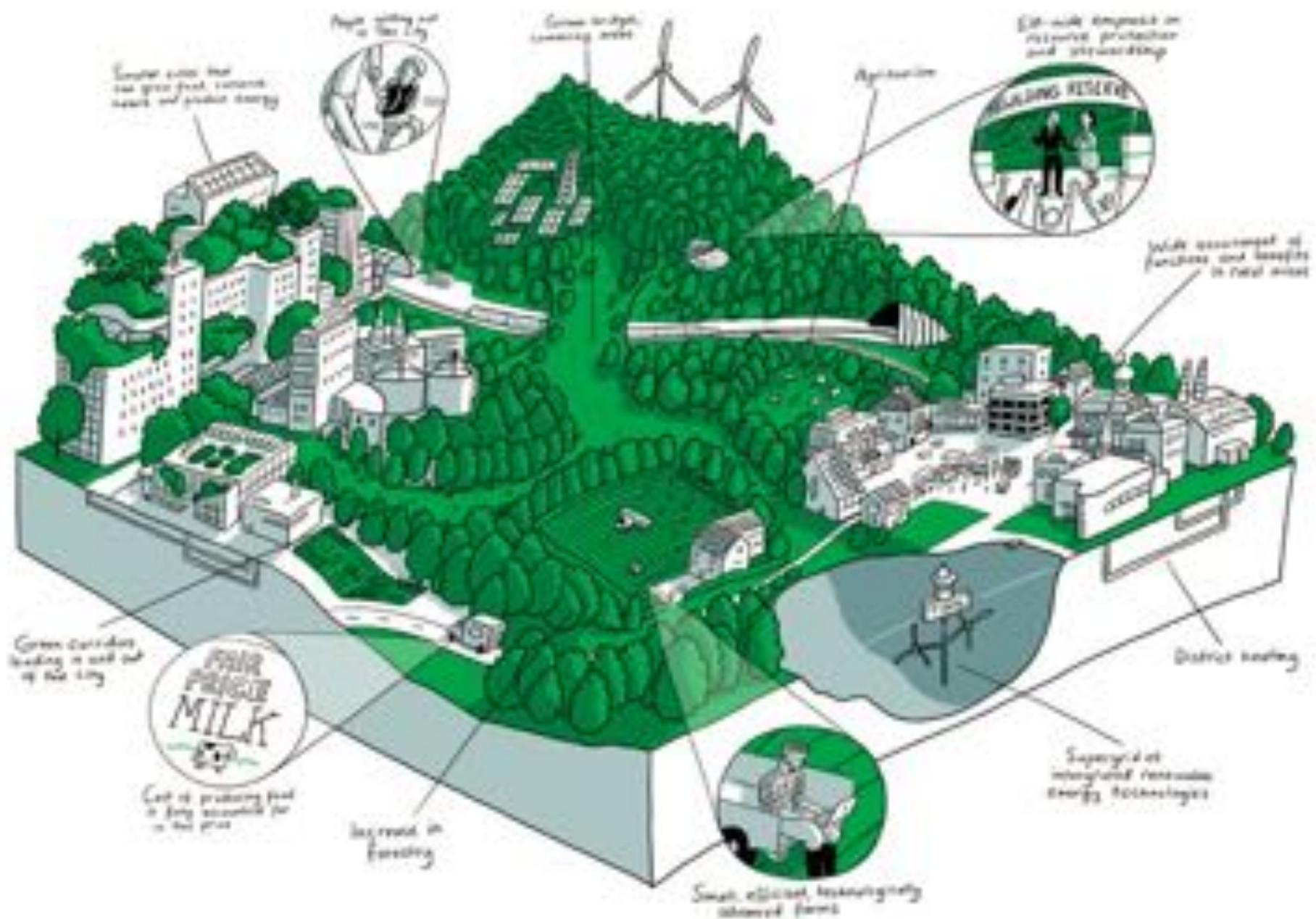
## How to get there?

- Strong regional spatial planning to ensure a good balance of functions
- Advanced governance between regional and European institutions
- Restrictions on European and global trade where regional alternatives are viable (food, timber, energy)

# *Regional Connected in 2040*

## Main challenges

- Society will need to embrace major life style changes towards less use of resources
- Achieve a stable and strong regional governance
- Need to accept the restructuring of regional landscapes to increase self-sufficiency



# *The aspirations of the VOLANTE consolidated stakeholder vision: **Local Multifunctional***



A vision that seeks to address many of today's pressures by 'localising' governance, food production and other ecosystem services.



# Local Multifunctional in 2040

## Opportunities

- Existing policies aimed at local conservation can be promoted
- Growth in local identity food production promoted further
- 'Bottom-up' politics at regional levels
- Rural renaissance policies including grassroots initiatives



# *Local Multifunctional* in 2040

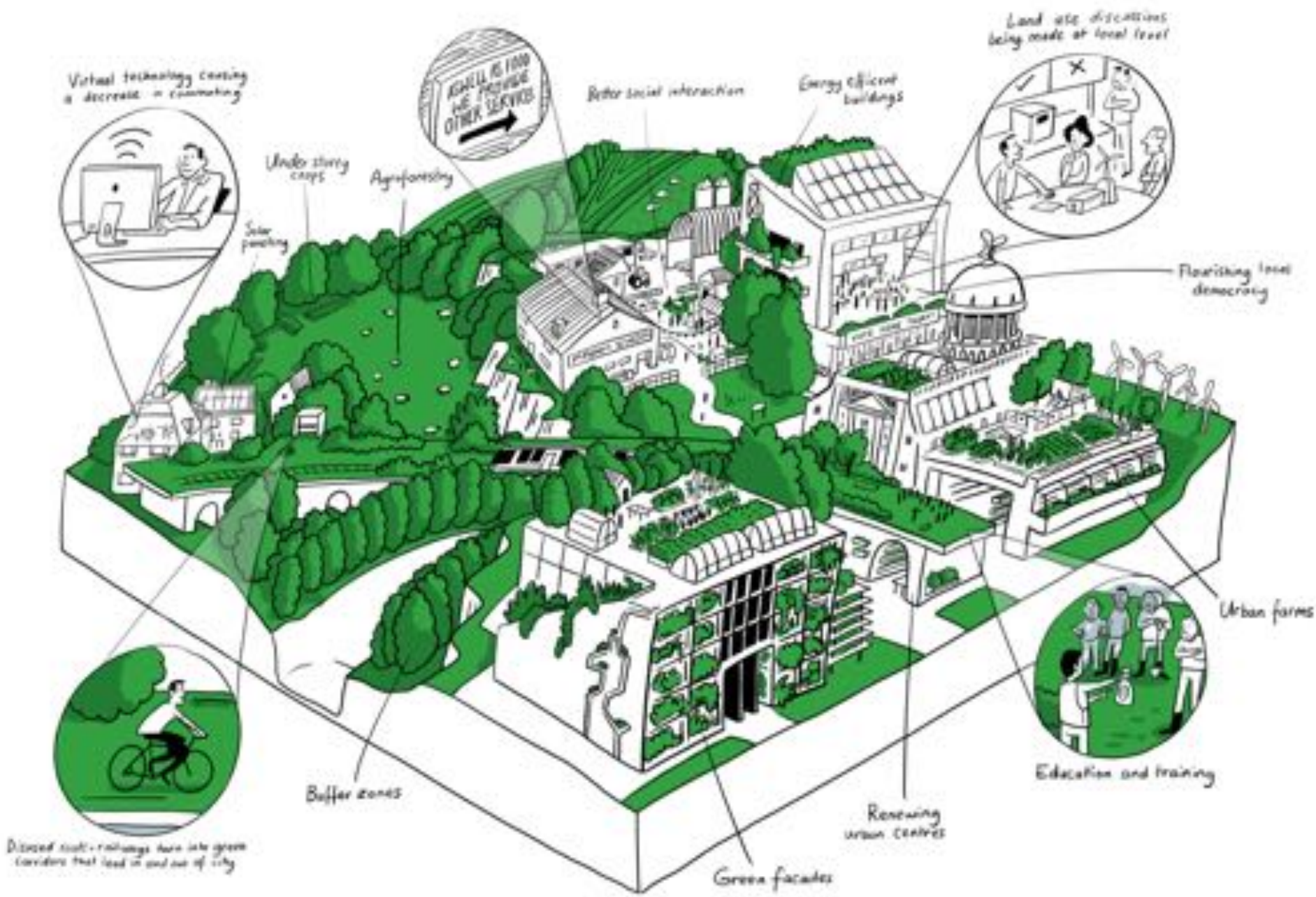
## How to get there

- Promotion of local democracy
- Education of society at a localised level
- Devolution of governance

# *Local Multifunctional* in 2040

## Main challenges

- Societal attitudes require huge change
- Reducing levels of governance to local scale
- Education essential





# Conclusions

## The Volante Roadmap

Towards Sustainable Land Resource Management in Europe



# *Major Conclusion A*

## General consensus is emerging

- multi-functionality – on different geographical scales – generally seen as a basic condition for a liveable Europe
- resource use efficiency to increase; ecological footprint to decrease
- displacement of food production to outside Europe to be prevented
- careful land use planning required
- the rural to support sustainable development in Europe
- provision of services in rural areas to be guaranteed

# *Major Conclusion B*

## **We don't get what we want**

- current trends lead to a polarised European land use characterised by land sparing :  
highly efficient production-oriented spaces ← →  
small scale peri-urban multifunctionality
- will the traditional family farm disappear ?
- threats in uncontrolled land abandonment, biodiversity decrease, loss of ecosystem and landscape services, decline of rural liveability
- However, stakeholders and civil society alike express the wish for a different future!

# *Major Conclusion C*

## Policy implications challenging

- broad range of land use policy options needed to select robust pathways
- traditional assessment methods not adequate to simulate visions that strongly depart from existing land use patterns
- land use governance not adapted to multifunctionality either
- regional differences need to be taken as opportunity
- hot spots of land transition to be identified in early stage, to prevent unintended irreversible change

## *Major Conclusion D*

# Creative visionary thinking needed

- cross-sectoral strategies to be accommodated
  - out-of-the-box thinking needed to provide for innovative combinations of sectoral policy targets
  - wide range of possible futures to be narrowed down rather than reacting *ad hoc* on external developments
  - long term consequences of more multifunctional land use to be explored and assessed in terms of ecosystem services
  - amenity values and cultural heritage to be included
  - investment costs and trade-offs to be seriously evaluated
- there is a niche for a visionary think-tank



# Towards a sustainable European land use management for the future !



## A Joint Challenge



[www.volante-project.eu](http://www.volante-project.eu)

The Volante Roadmap Towards Sustainable Land Resource Management in Europe  
Bas Pedroli



*New challenges in agricultural and rural land management and planning – EXPO Milano 31 August 2015*

