



Outcome versus process-oriented scenario planning – a comparison of two scenario approaches for Europe and Austria

Marianne PENKER, Rachael Marie WILLIAMS, Helmut HIESS

University of Natural Resources and Applied Live Sciences, Vienna (BOKU)
Department of Economics and Social Sciences

Rosinak & Partner ZT GmbH, Vienna

Outline

1. Introduction
2. Two scenario projects on regional development in 2030
 - *European Spatial Planning Observation Network (ESPON)*
 - *Austrian National Spatial Planning Advisory Board (ÖROK)*
3. Comparison and evaluation (Hulme and Dessai, 2008)
4. Conclusions

Introduction on Scenarios

- Well-known and frequently used method for understanding changes in the future
- Pictures of possible and plausible futures
- Not to forecast or predict future
- Inform decision making under uncertainty
- To provoke the imagination and structure common thought

ESPON – Objectives, Timeframe, Process



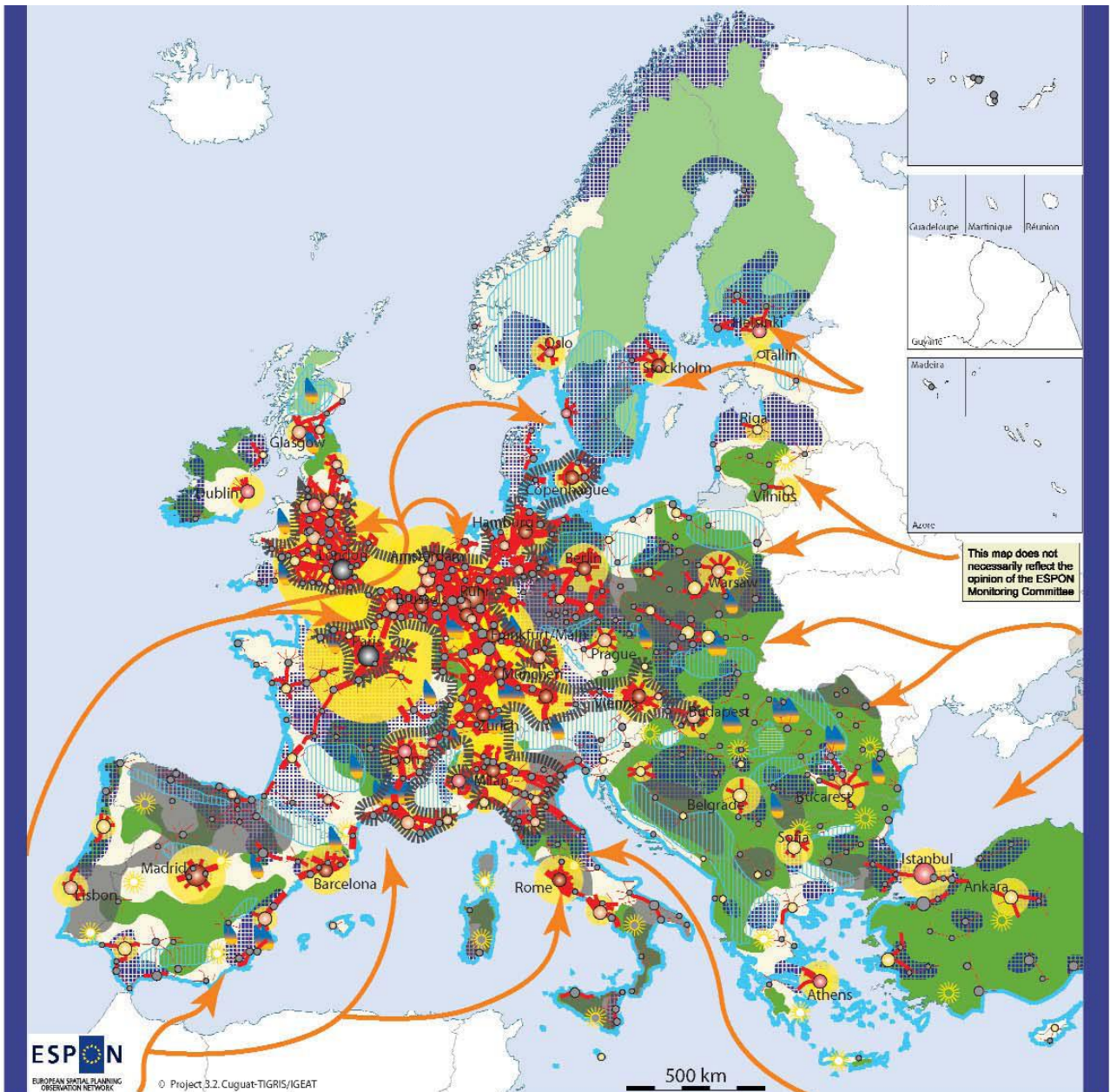
University of Natural
Resources and Applied
Life Sciences, Vienna



Department of Economics
and Social Sciences

- Objectives
 - scenarios for 2030
 - to explore the logical extremes of two policy goals: cohesion, competitiveness
- Timeframe: 2006 – 2007
- Scenario development process:
 - Two or more scenarios across nine themes: >30 scenarios
 - Combined into four integrated policy scenarios – by quantitative models (MASST, KTEN)

ESPON Competitiveness Scenario 2030



Attraction and polarisation potential of metropolitan areas



Level of polycentricity



Risk of rural marginalisation

- low
- medium
- high
- very high



Severely ageing areas



Risk of declining industrial activity

- medium
- high
- very high



Migration



High potential for tourism and retirement



Resulting impacts of natural hazards

Recurrent drought and fires Recurrent floods

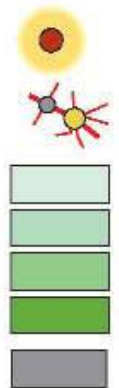
low high low high

Area of concentration of flows and activities

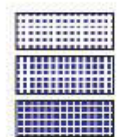


ESPON Cohesion Scenario 2030

Attraction and polarisation potential of metropolitan areas
 Level of polycentricity
 Risk of rural marginalisation
 low
 medium
 high
 very high
 Severely ageing areas



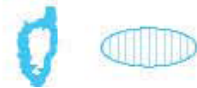
Risk of declining industrial activity
 medium
 high
 very high



Migration



High potential for tourism and retirement



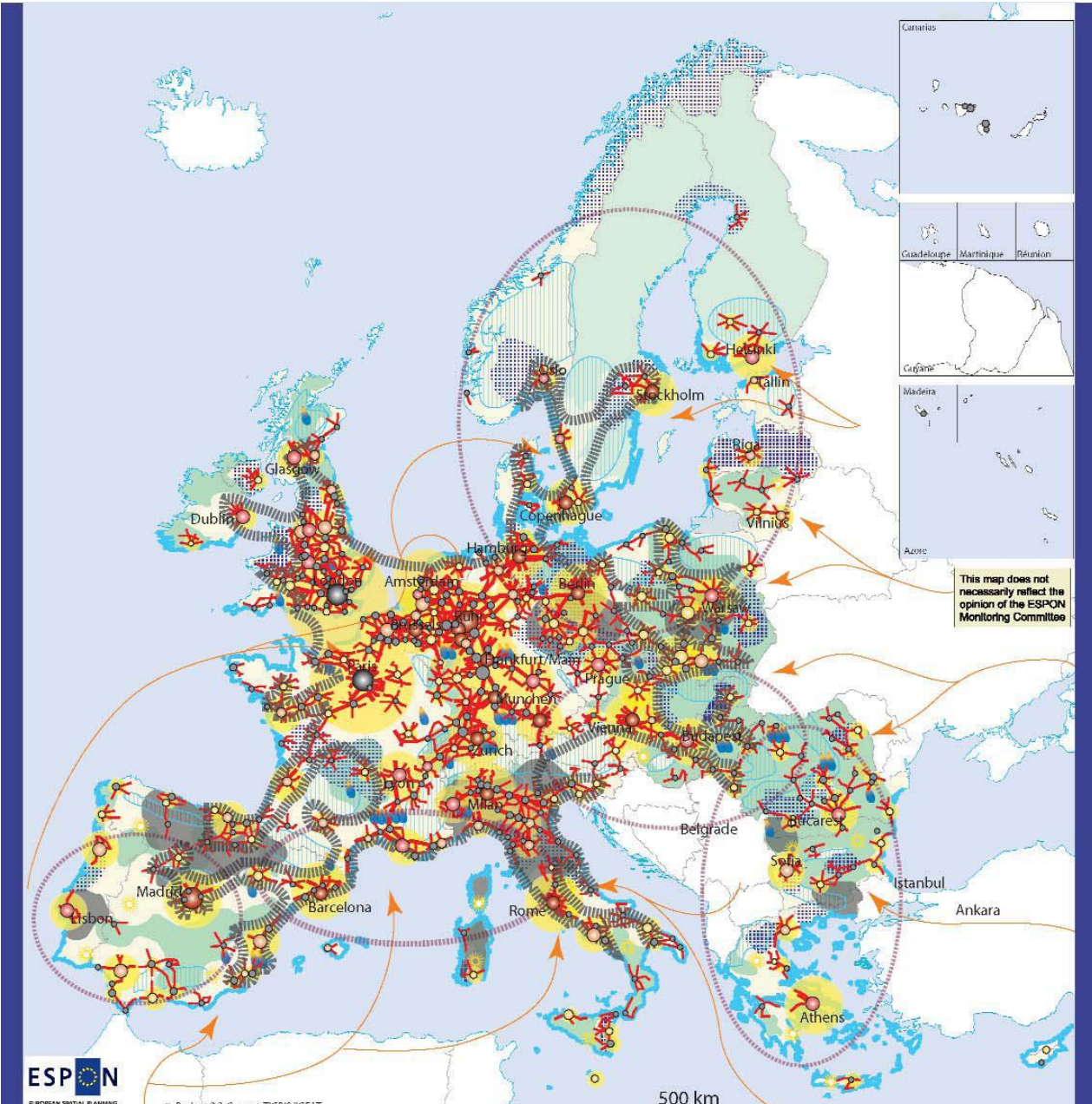
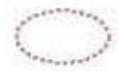
Recurrent drought and fires
 low high
 low high
 Recurrent floods



Area of concentration of flows and activities



Emerging peripheral integrated zone



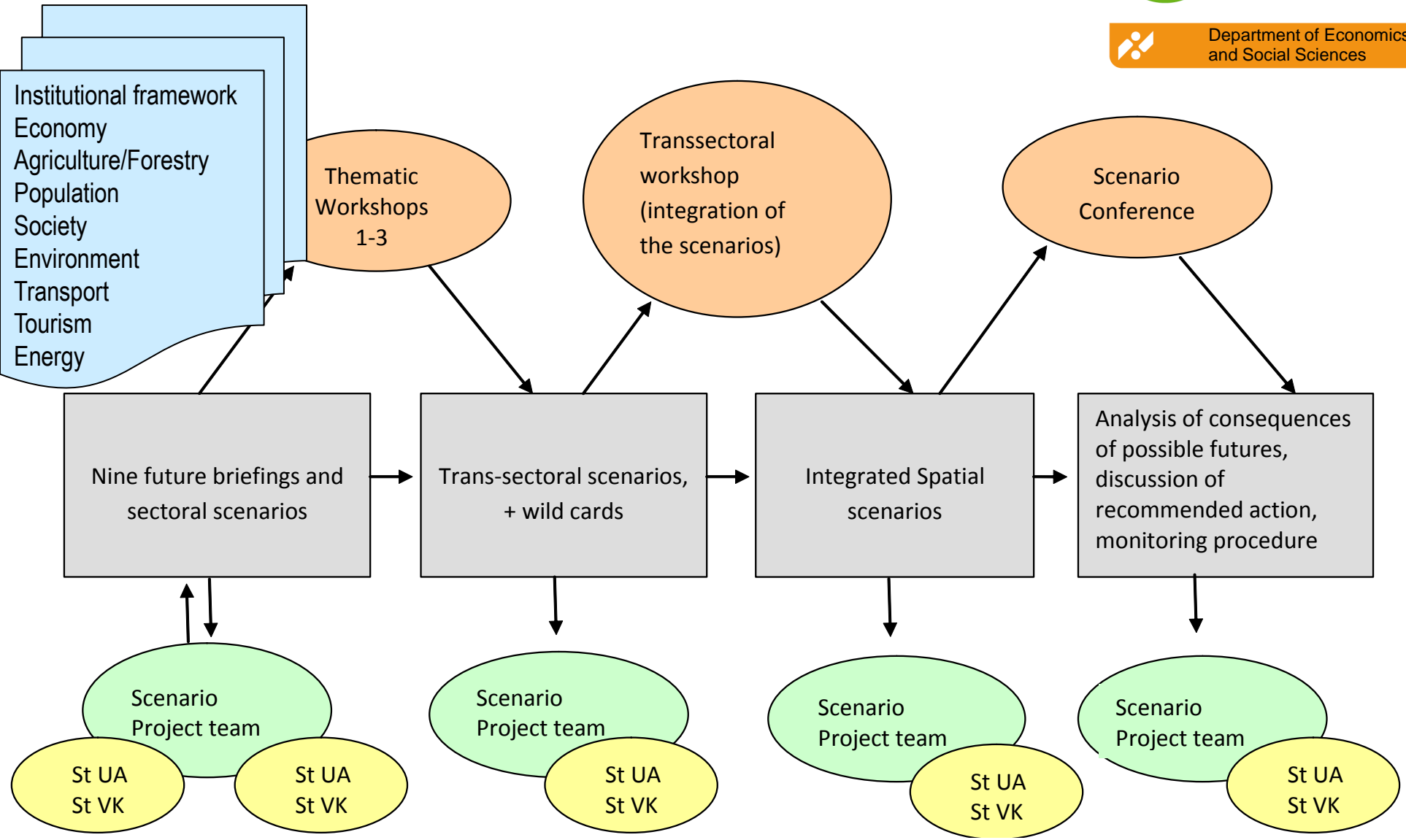
Lessons to be drawn from the ESPON scenarios

- Potential of distinctly different directions of spatial development
- Challenges
 - increasing external competition from abroad
 - growth in mobility
 - urbanisation of rural areas in metropolitan regions
 - adaptation to climate change
 - land use planning to ensure quality of life and aesthetic landscapes
 - awareness of the territorial impacts of sectoral policies

ÖROK – Objectives, Timeframe, Process

- Objectives:
 - Spatial scenarios for Austria in the European context in 2030
 - Foundation for the Austrian Spatial Development Concept 2011
- Timeframe: 2007-2009, with periodic monitoring workshops in the future
- Four scenarios: competition, growth, risk, security

ÖROK process





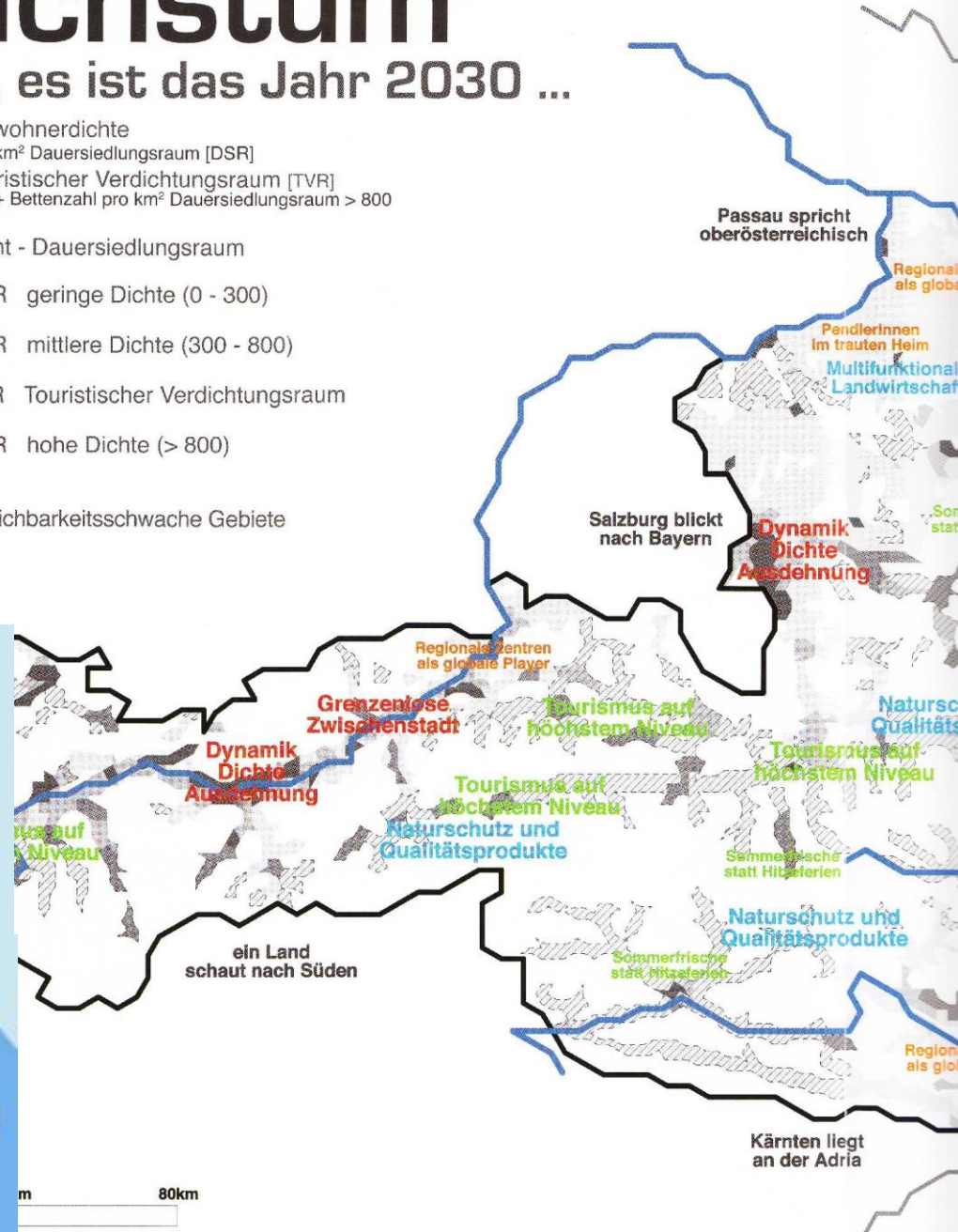
alles wachstum

tellen wir uns vor, es ist das Jahr 2030 ...

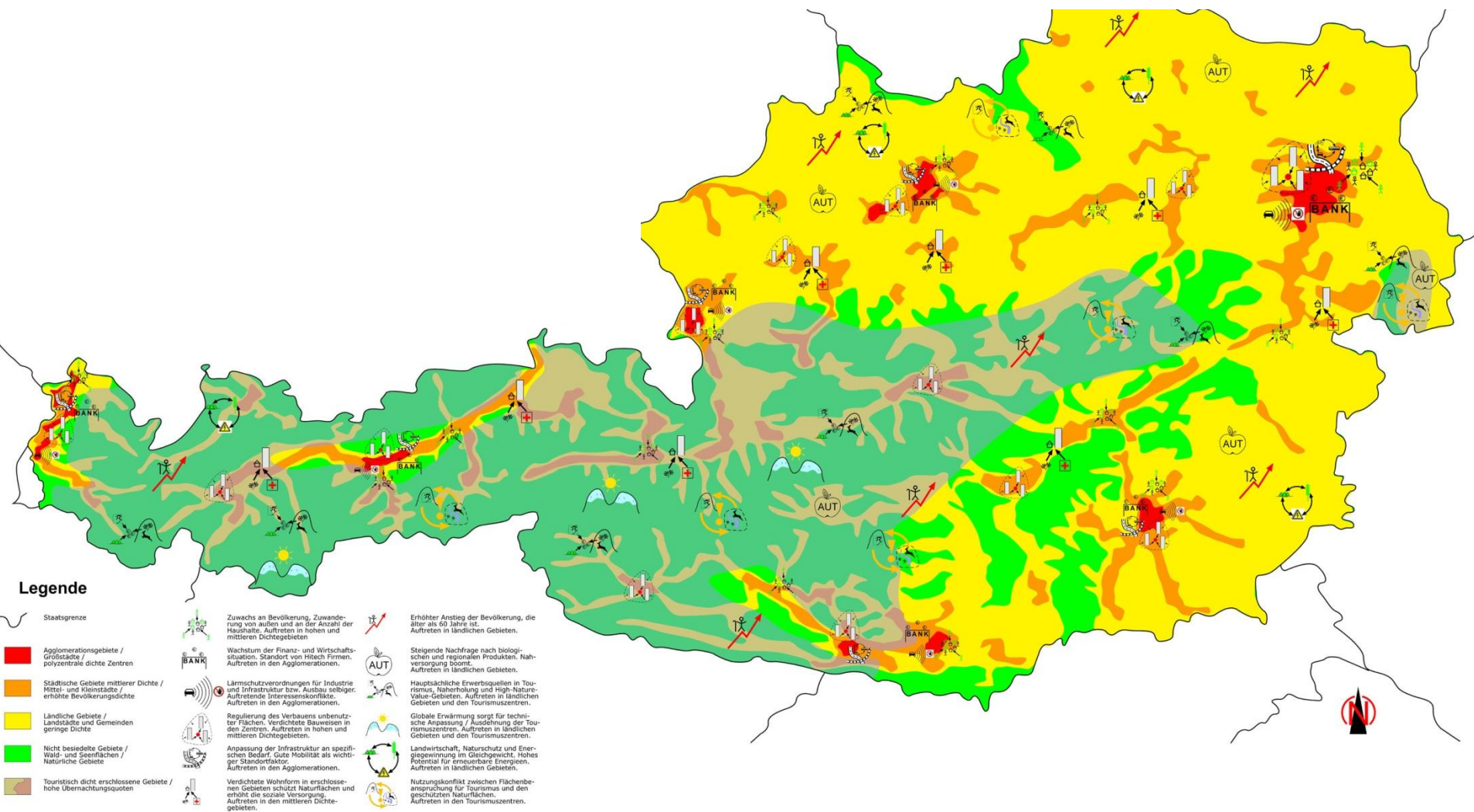
Einwohnerdichte
 EW/km² Dauersiedlungsraum [DSR]
 Touristischer Verdichtungsraum [TVR]
 EW + Bettenzahl pro km² Dauersiedlungsraum > 800

- | | | | |
|--|--------------------------------|--|------------------------------------|
| | Peripherer Raum | | Nicht - Dauersiedlungsraum |
| | Tourismusgebiete | | DSR geringe Dichte (0 - 300) |
| | Mittel - und Kleinstädte | | DSR mittlere Dichte (300 - 800) |
| | Agglomerationen | | TVR Touristischer Verdichtungsraum |
| | Die Intensität wird qualitativ | | DSR hohe Dichte (> 800) |
| | | | erreichbarkeitschwache Gebiete |

Growth 2030



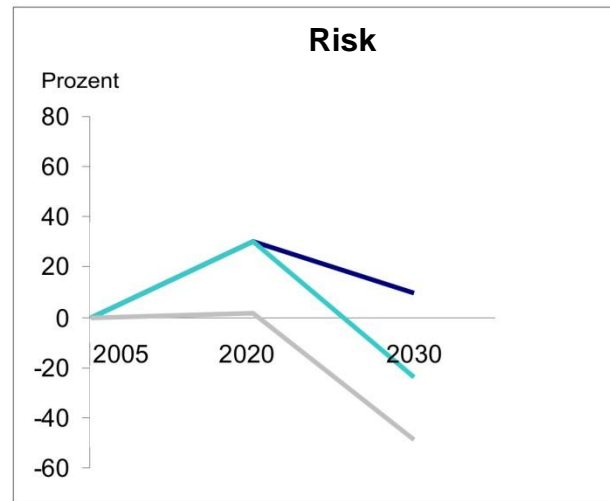
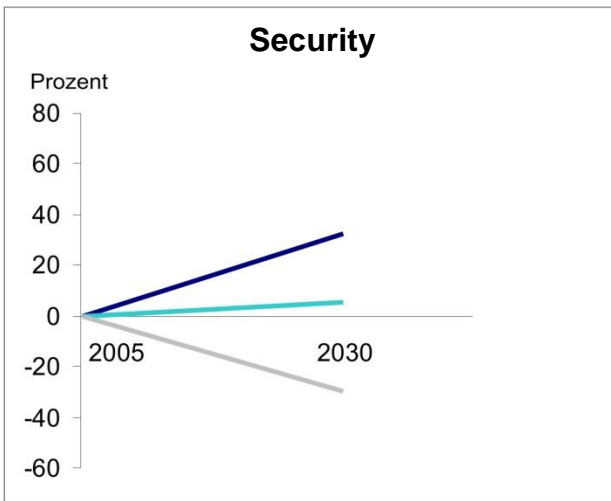
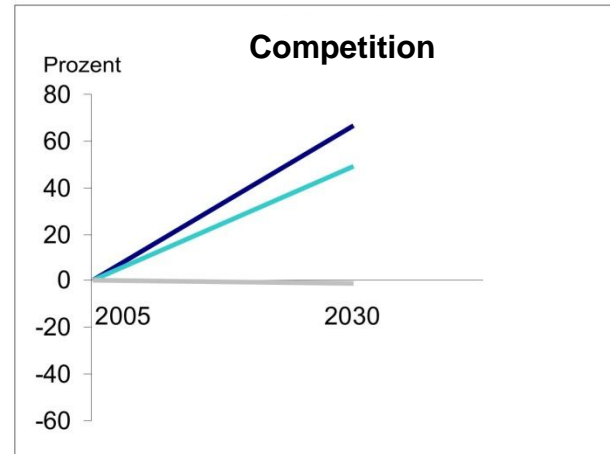
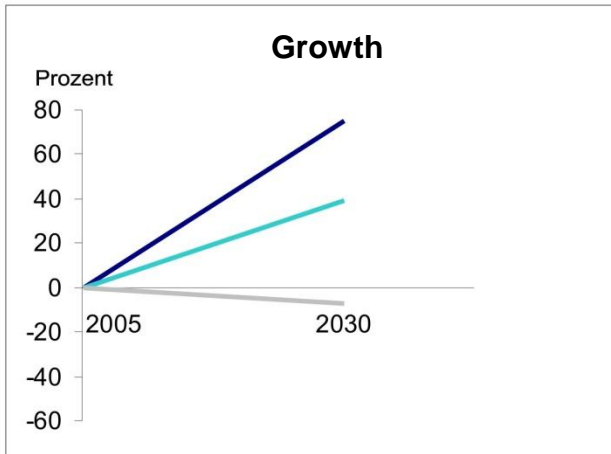
Growth 2030 - map



Legende

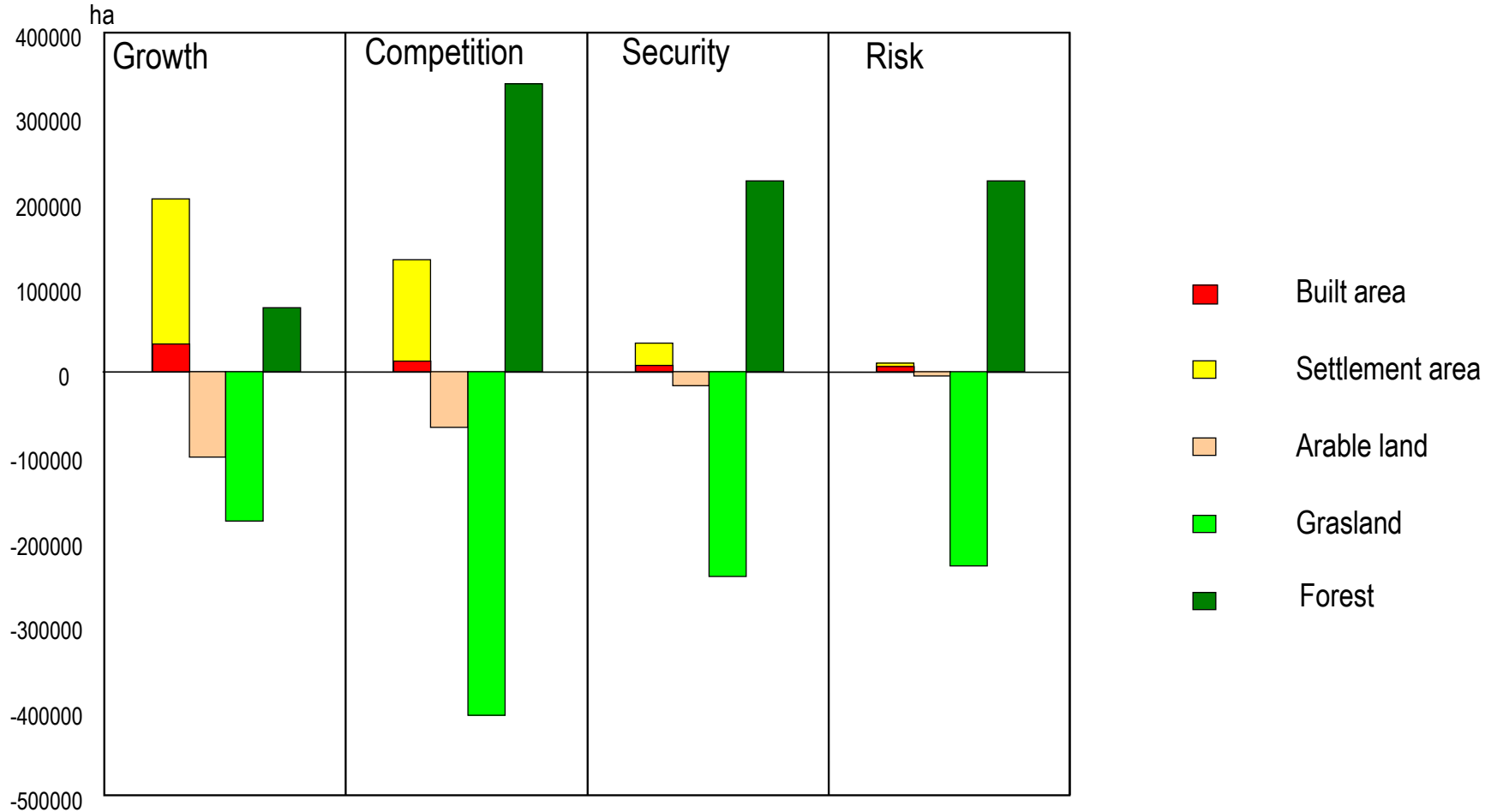
- Staatsgrenze
- Agglomerationsgebiete / Größtstädte / polyzentrale dichte Zentren
- Städtische Gebiete mittlerer Dichte / Mittel- und Kleinstädte / erhöhte Bevölkerungsdichte
- Ländliche Gebiete / Landstädte und Gemeinden / geringe Dichte
- Nicht besiedelte Gebiete / Wald- und Seeflächen / Natürliche Gebiete
- Touristisch dicht erschlossene Gebiete / hohe Übernachtungsquoten
- Zuwachs an Bevölkerung, Zuwanderung von außen und an der Anzahl der Haushalte. Auftreten in hohen und mittleren Dichtebereichen
- Wachstum der Finanz- und Wirtschaftssituation, Standort von Hitech Firmen. Auftreten in den Agglomerationen.
- Lärmschutzvorrichtungen für Industrie und Infrastruktur bzw. Ausbau solcher. Auftretende Interessenskonflikte. Auftreten in den Agglomerationen.
- Regulierung des Verbaus unbenutzter Flächen, Verdichtete Bauweisen in den Zentren, Auftreten in hohen und mittleren Dichtebereichen.
- Anpassung der Infrastruktur an spezifischen Bedarf, Gute Mobilität als wichtiger Standortfaktor. Auftreten in den Agglomerationen.
- Verdichtete Wohnform in erschlossenen Gebieten schützt Naturflächen und erhöht die soziale Versorgung. Auftreten in den mittleren Dichtebereichen.
- Erhöhter Anstieg der Bevölkerung, die älter als 60 Jahre ist. Auftreten in ländlichen Gebieten.
- Steigende Nachfrage nach biologischen und regionalen Produkten, Nahversorgung boomt. Auftreten in ländlichen Gebieten.
- Hauptsächliche Erwerbsquellen in Tourismus, Naherholung und High-Nature-Vakue-Gebieten. Auftreten in ländlichen Gebieten und den Tourismuszentren.
- Globale Erwärmung sorgt für technische Anpassung / Ausdehnung der Tourismuszentren. Auftreten in ländlichen Gebieten und den Tourismuszentren.
- Landwirtschaft, Naturschutz und Energiegewinnung im Gleichgewicht. Hohes Potential für erneuerbare Energien. Auftreten in ländlichen Gebieten.
- Nutzungskonflikt zwischen Flächenbeanspruchung für Tourismus und den geschützten Naturflächen. Auftreten in den Tourismuszentren.

Comparision - cars



— Cars (mill.) — Annual car km (bn km) — Fossil fuel consumption (bn litres)

Change in land use 2005 – 2030 (in %)



Lessons learned from the ÖROK scenarios

- Threats, such as
 - Increasing disparities between centres and peripheral rural areas
 - Sub-optimal location development with high external costs (transport, environment, landscape, ...)
 - Ethnic-religious and/or social segregation
 - Increasing instabilities of industrial regions



Opportunities

- Austria/Vienna region as a new European core area
- Vibrant polycentric regional centres with high environmental and security standards
- Energy-efficiency and “green” technologies
- High adaption capacities due to small-scale, multi-functional systems



ESPON: product oriented approach bounded by an outcome based on policies

- + mathematical modeling based on a large database
- + good for testing policy options
- Gap between scenario developers and users (Garb et al., 2008)
- Might underestimate other driving forces

ÖROK: process oriented approach not bounded by an outcome

- + Participation helps to address complexity and uncertainty and to foster social learning (Volkery et al, 2008, Madlener et al, 2007)
- + Higher credibility and acceptance of scenarios
- Little knowledge on participatory processes
- Scenarios are bounded by the individuals involved
- It is hard to involve a large group of heterogeneous actors

Evaluation

Evaluation criteria Hulme and Dessai (2008)	Product-focused scenario approach	Process-focused scenario approach
Predictive success	?	-?
Decision success	+	++
Learning success	+	++

Conclusion

- Both approaches have strengths and weaknesses
- Not mutually exclusive
- Appropriate blend of product and process-orientation
- Evaluation criteria highlight a perhaps undervalued aspect:
 - Can scenarios motivate decision makers to spend time and share thoughts that inevitably lead to the shaping of future developments?