



Federal Ministry
of Education
and Research

Funding Activity REFINA: Objectives, Fields of Action and Results

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Challenges in Europe I

Global change:
climate, structure,
demography,
migration, etc.

Europe 2020
Strategy: smart,
sustainable and
inclusive growth

Redesign of funds
for research,
innovation and
cohesion

European
Strategy for
Sustainable
Development



Challenges in Europe: Land management

Urban sprawl

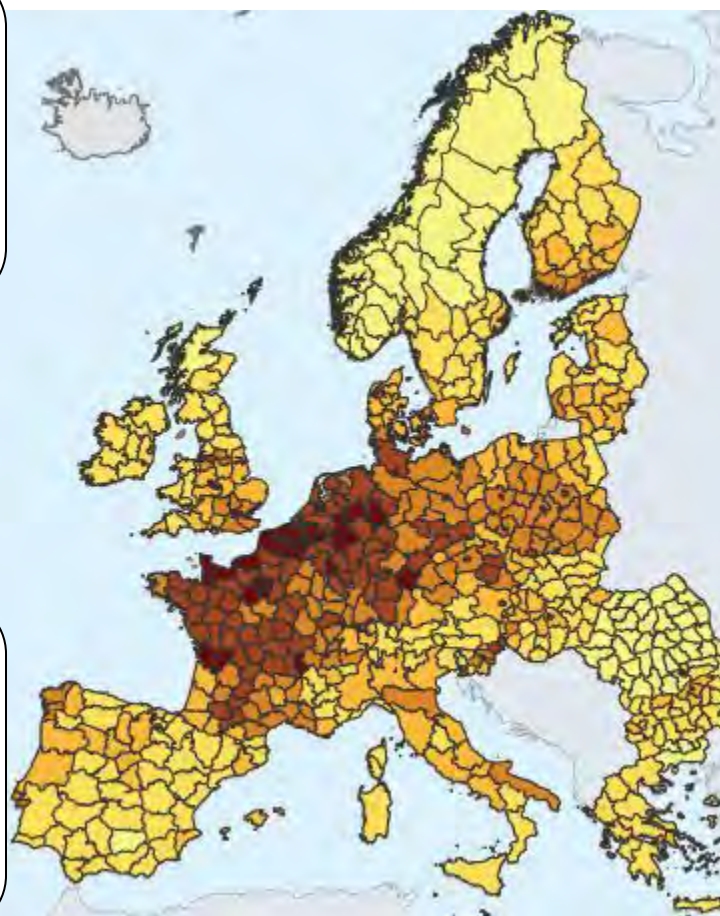
Adaptation and mitigation
of climate change

Protecting biodiversity

Competition for land
(Food-Feed- Fuel-
Fibre)

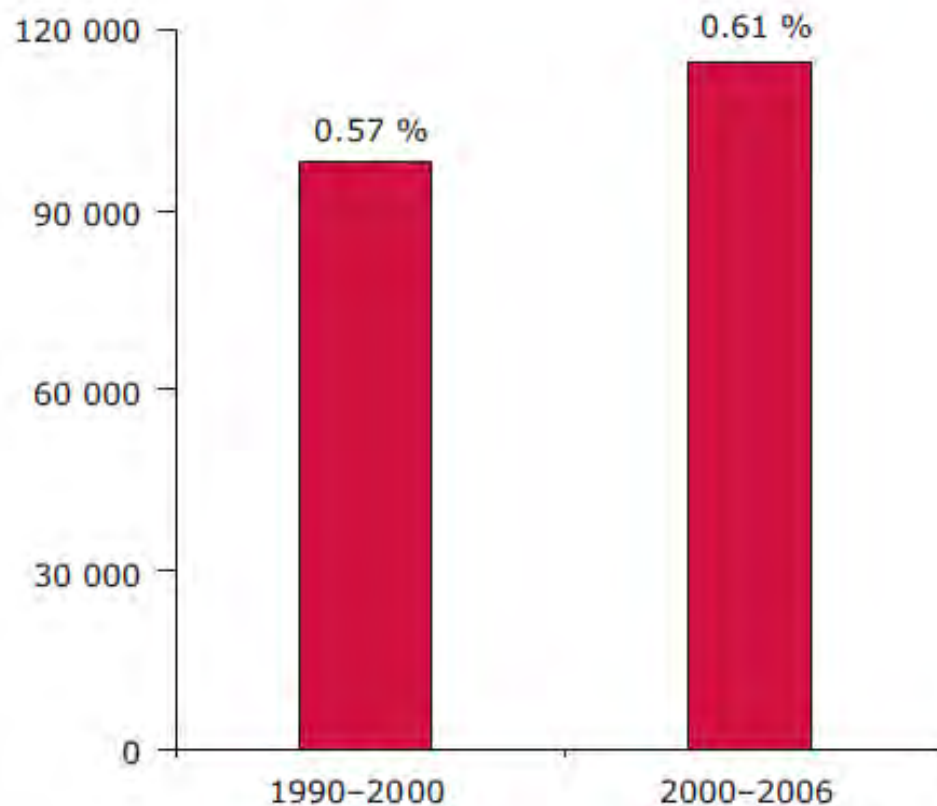
Effects of the CAP
and its reforms on
land use

Local autonomy of
municipalities and
regions



Some Facts - Land management / land use changes

Artificial land take (ha/year, % of initial year)

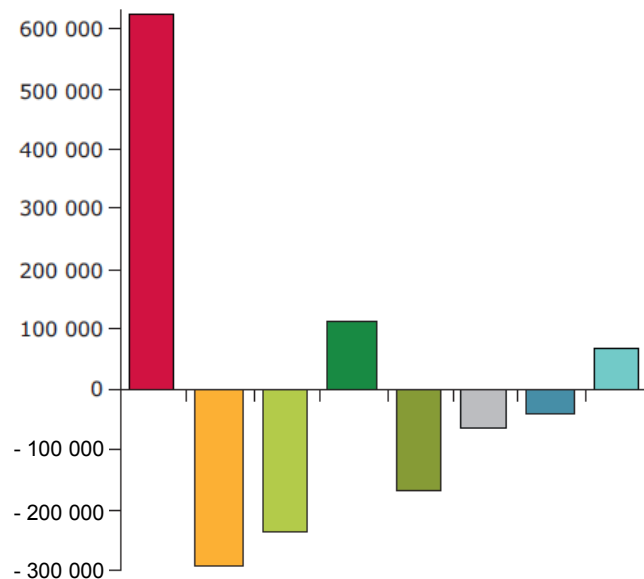


Annual land take by artificial surfaces in the 36 European countries in the Corine land cover 2006 data set

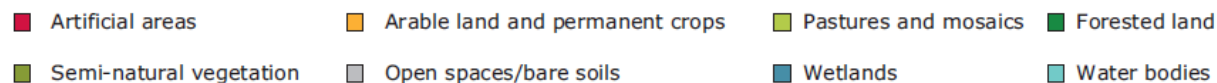
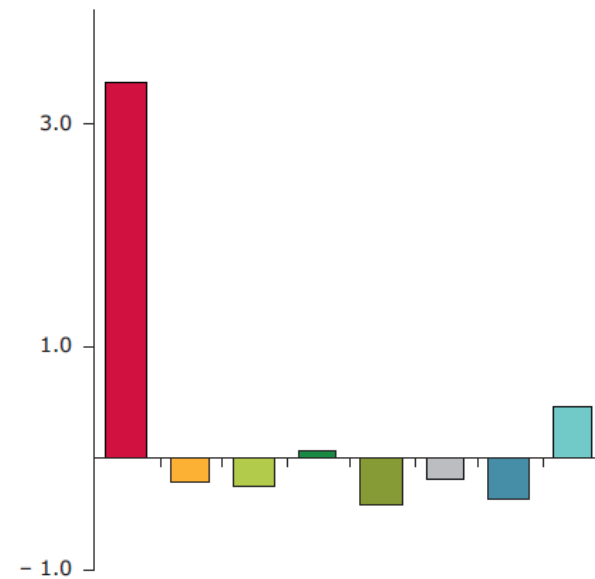
Source: EEA/ECT-LUSI 2010

Some Facts - Land management / land use changes

Net change in land cover 2000–2006 (ha)



Net change in land cover (% of initial year 2000)

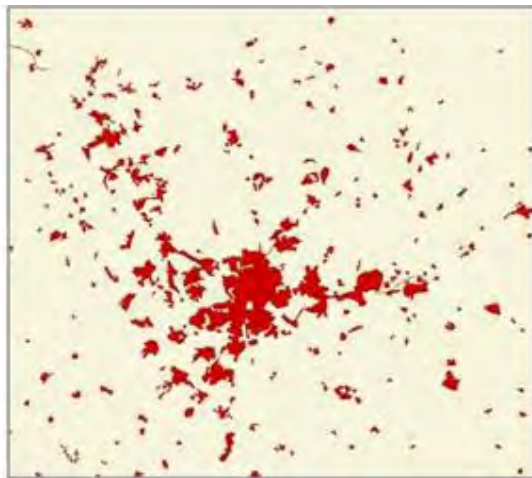


Note: Results for the 36 European countries in the Corine land cover 2006 data set.

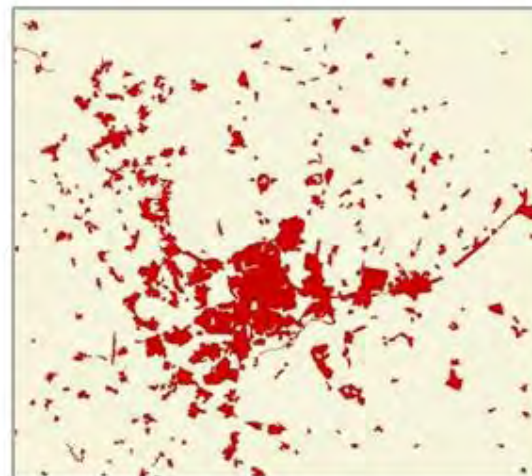
Net land-cover changes 2000–2006 in Europe: total area in hectares (left) and percentage change from 2000 (right); Source: EEA/ECT-LUSI 2010, amended

Some Facts: Urban Sprawl

CORINE Land Cover 1990, 2000, 2006 - Madrid



1990 (CLC)



2000 (CLC)

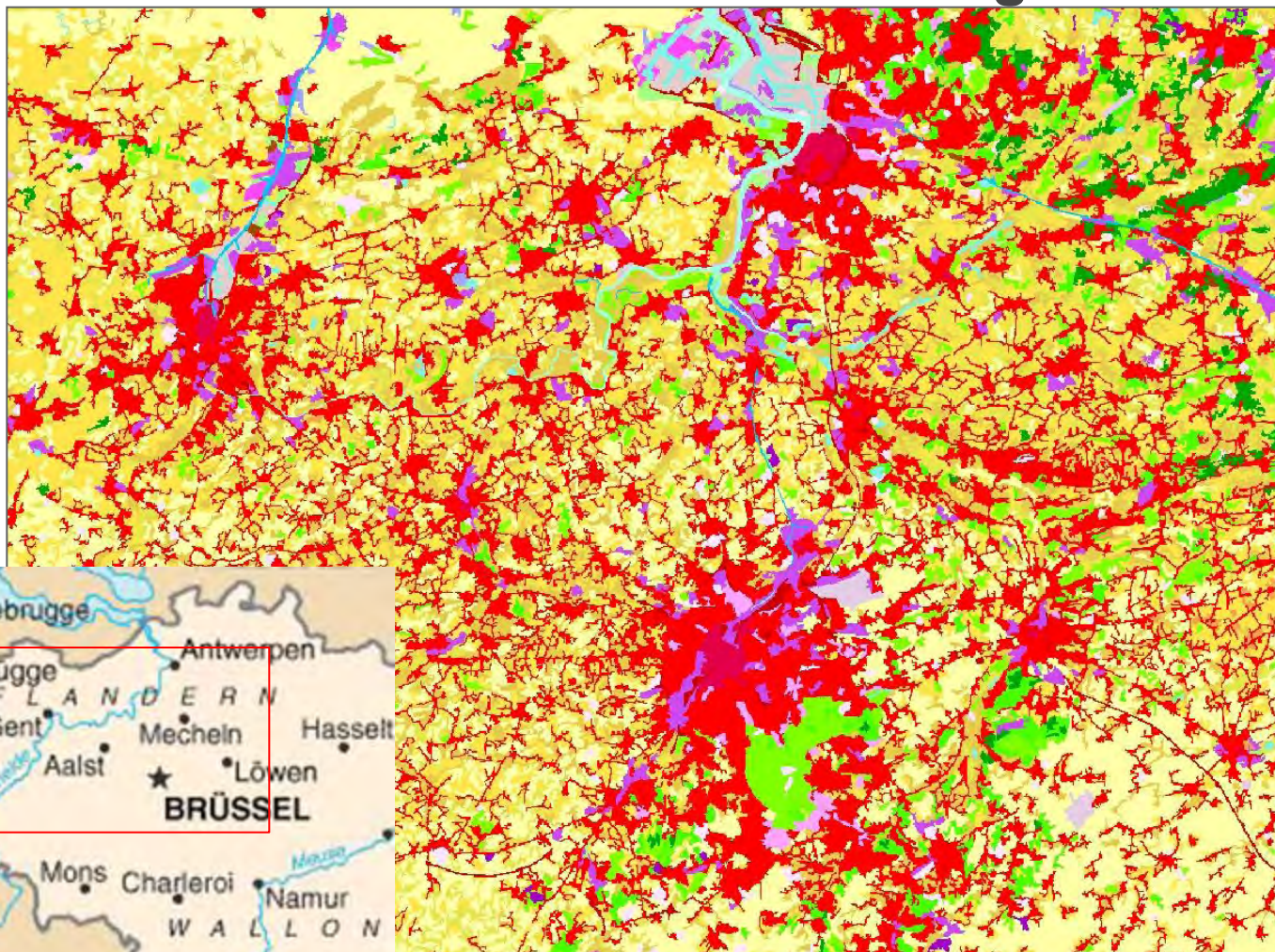


2006 (CLC)

Source: Source: DLR-DFD
based on CORINE Land Cover



Some Facts: Urban Sprawl in CORINE Land Cover 2006 – Region of Brussels

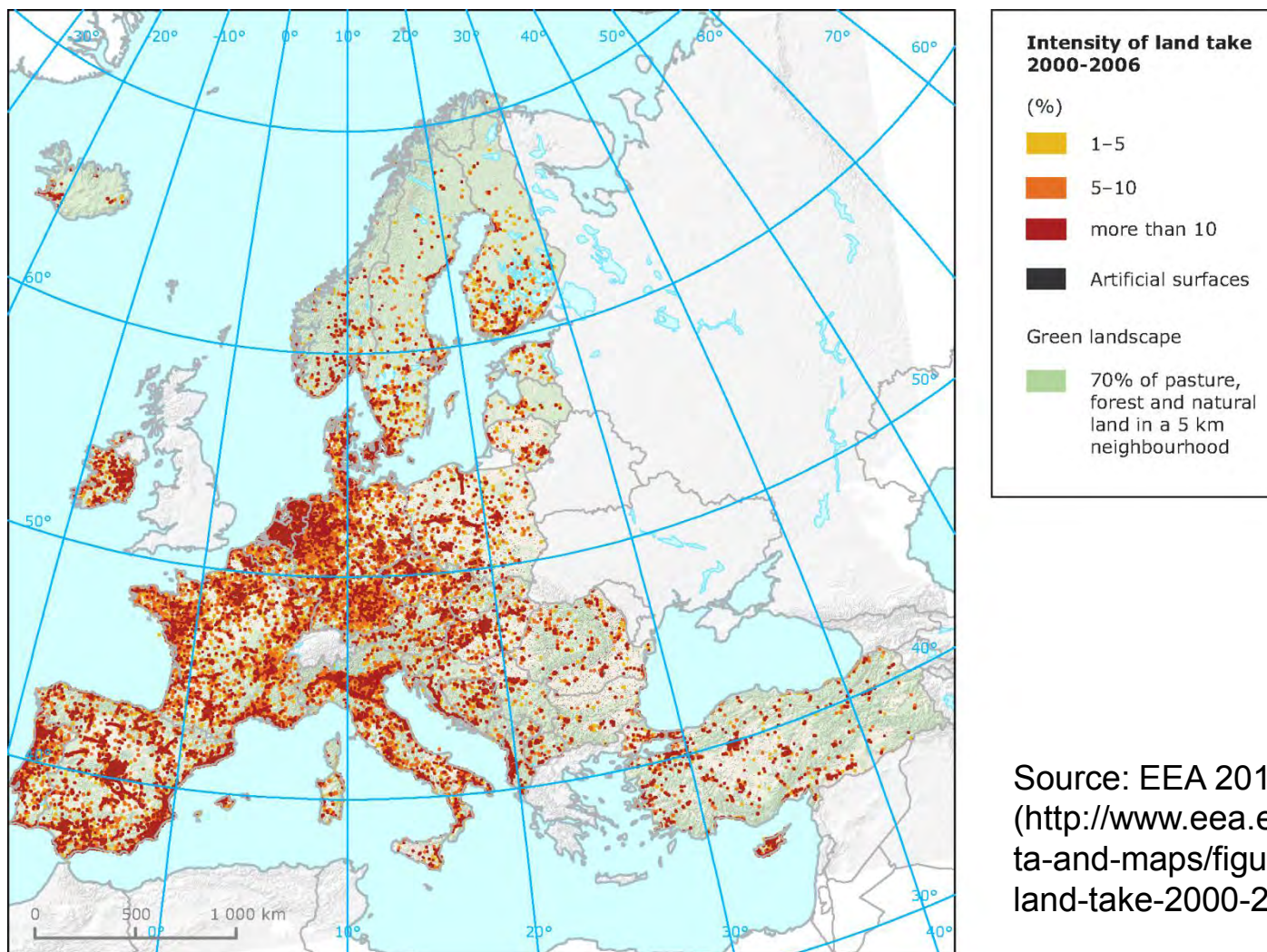


CLC2006
in the region of
Gent,
Antwerpen,
Brussels

Source:
DLR-DFD based
on CORINE
Land Cover



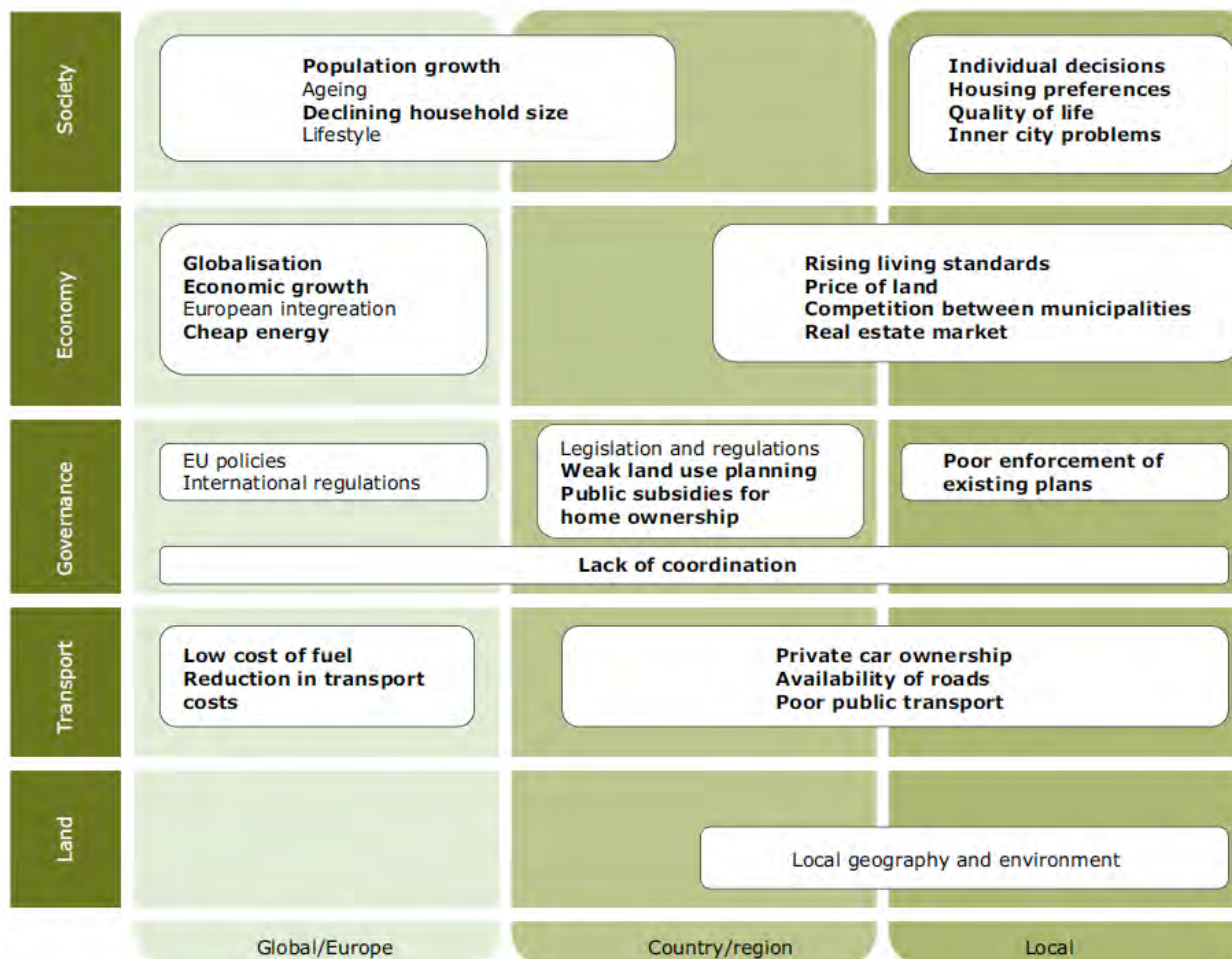
Some Facts - Artificial landtake in Europe 2000–2006



Source: EEA 2010
(<http://www.eea.europa.eu/data-and-maps/figures/artificial-land-take-2000-2006>)



Main drivers of current urban sprawl



Note: Drivers have been organised in two dimensions: type (vertical) and spatial scale (horizontal). Demand/supply has not been differentiated. In bold: factors that drive urban sprawl; the remaining factors may become drivers under certain conditions.

Source: Adapted from EEA, 2006a and PBL, 2008.

BMBF funding priority REFINA

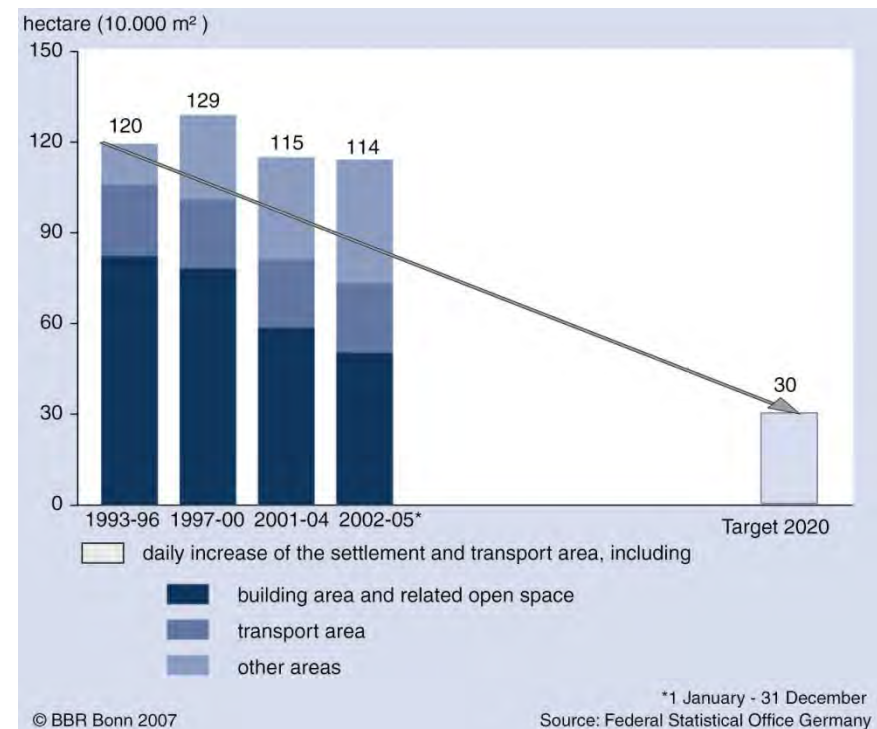
Research for the Reduction of Land Consumption and for Sustainable Land Management

*Forschung für die **RE**duzierung der **FlächenIn**anspruchnahme und ein **NA**chhaltiges Flächenmanagement (**REFINA**)*



Aim of National Sustainability Strategy:

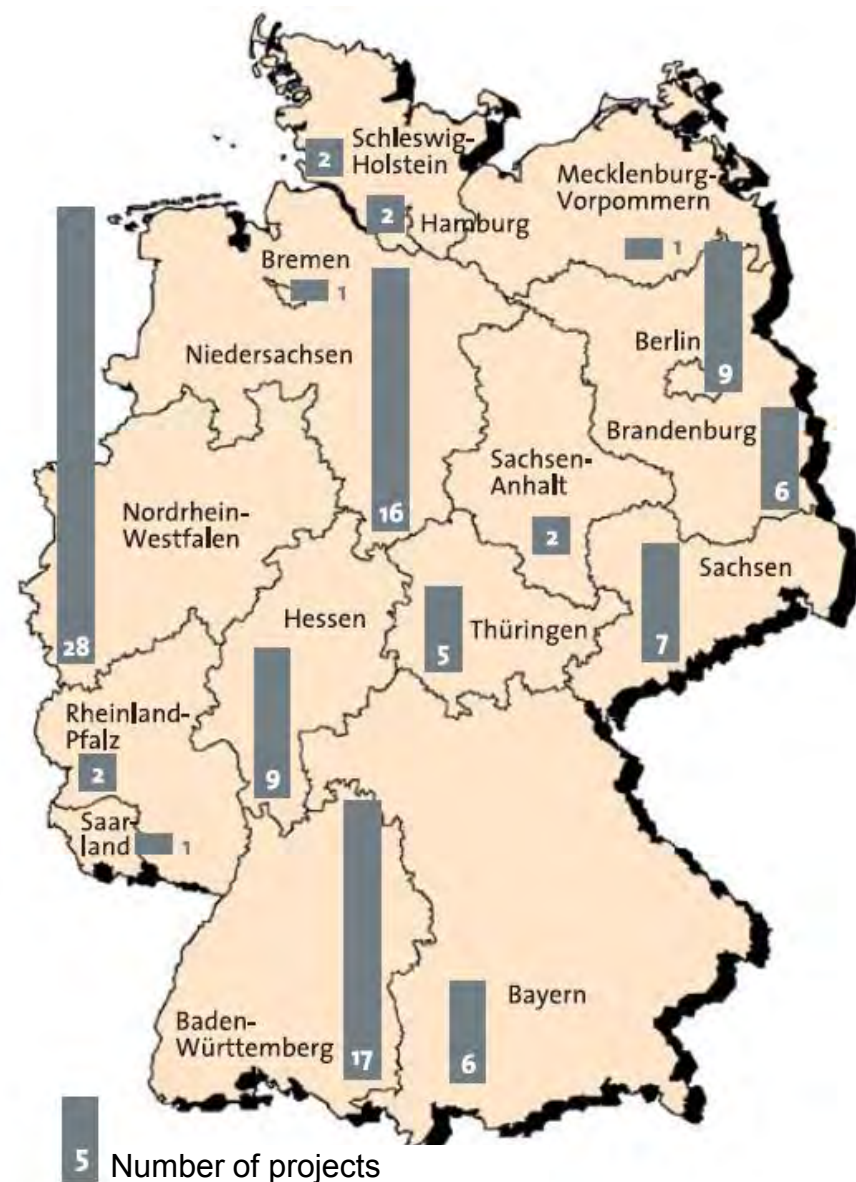
- Reduction of Land Consumption for new settlement and transport-related areas to **30 ha per day** in **2020**
- Qualitative aims for land use management





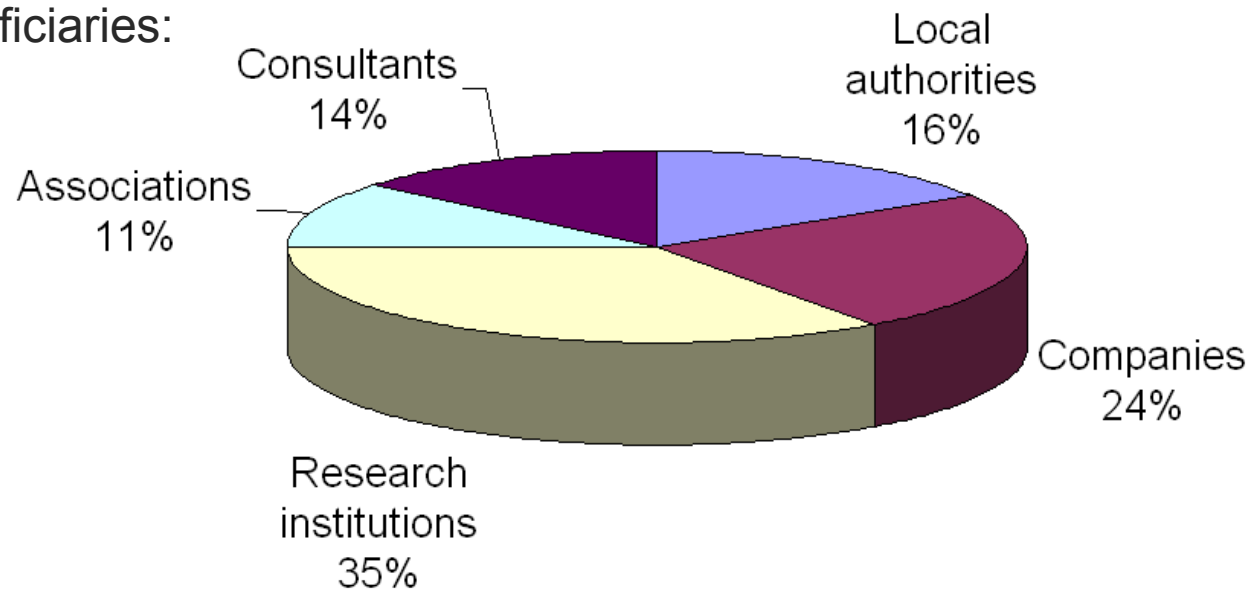
REFINA in numbers

- Funding: 22 Mio. €
- Duration: 2006 - 2011
- Projects: 45 (32 collaborative and 13 single projects)



REFINA Stakeholders

- Integration of Federal Government, Länder, Local Authorities and public and private stakeholders
- A REFINA Steering Group acted as one interface between research, practice, politics and public authorities.
Inter alia, it secures the incorporation of important departmental research, especially from the BMVBS, BMU and of the *Länder*.
- Project beneficiaries:





REFINA Topics



Priority	Topics
New methods and instruments	Information on soil and land
	Cost of land consumption
New processes and constellations of actors	Communication and participation
	Revitalization of individual sites and conversion areas
Integrated model concepts	Model concepts for local authorities
	Regional model concepts



REFINA Topics: Cost of land consumption



Greenfield developments involve a wide range of follow-up costs



*A house in the country: property prices are often lower,
but mobility costs higher*

Focus on:

- Follow-up costs
- Planning and development costs
- Cost-transparency for local authorities
- Follow-up costs for private households



REFINA Topics: Information on soil and land

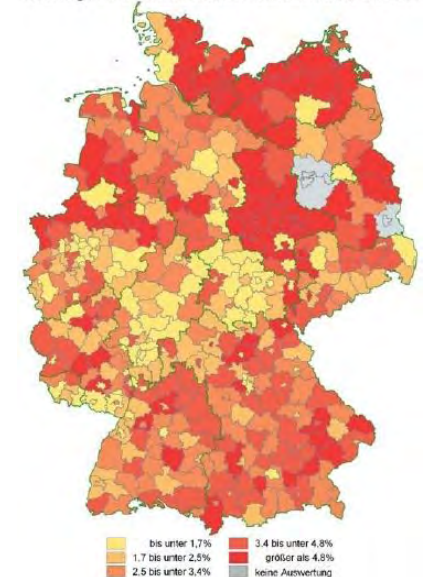


Focus on:

- Automated remote sensing methods, Land barometer
- Land information systems based on virtual 3D city models
- Urban soil evaluation for land use planning
- (Supra-)Regional analysis of settlement development base on a macroeconomic and multisectoral forecast model



Siedlungs- und Verkehrsfläche - Zunahme 2000 bis 2004



REFINA Topics: Revitalisation of individual sites and conversion areas

Focus on:

- New life at old sites
- Intelligent remediation methods
- Management of conversion projects



The greening of old industrial areas (Landschaftspark Nord, Duisburg)



Structural change makes room for residential and commercial buildings (HafenCity Hamburg)



Disused military site (Bad Kreuznach)



REFINA Topics: Communication and participation

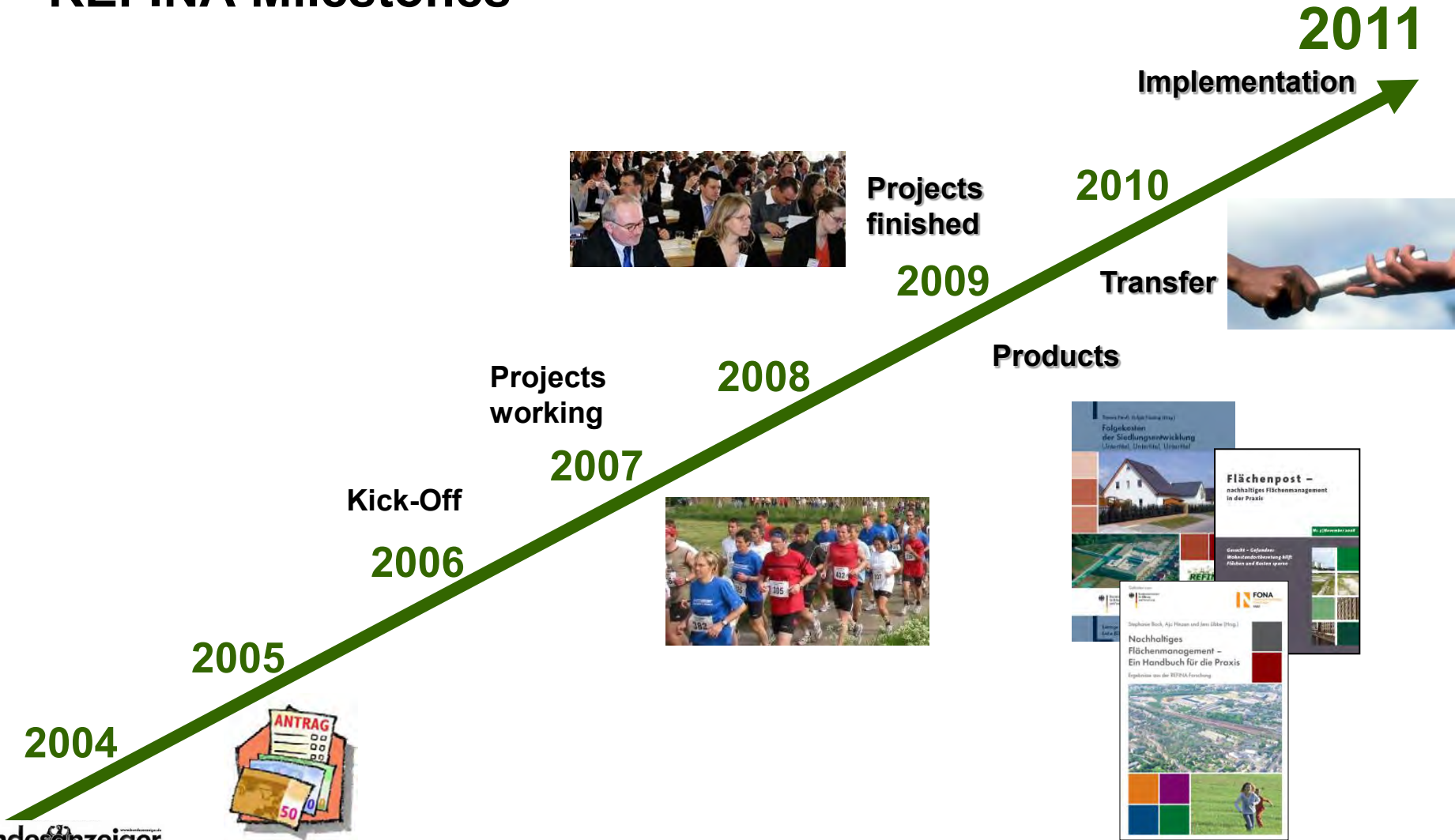
Focus on:

- Communication to general public
- On-the-spot dialogue creates room for political manoeuvre (transparent conversion)
- Specific offerings for local authorities (demand-driven life-cycle management, Information system on choosing a home, etc)
- Address new target groups with innovative offerings (young people, computer game, e-learning, films)





REFINA Milestones



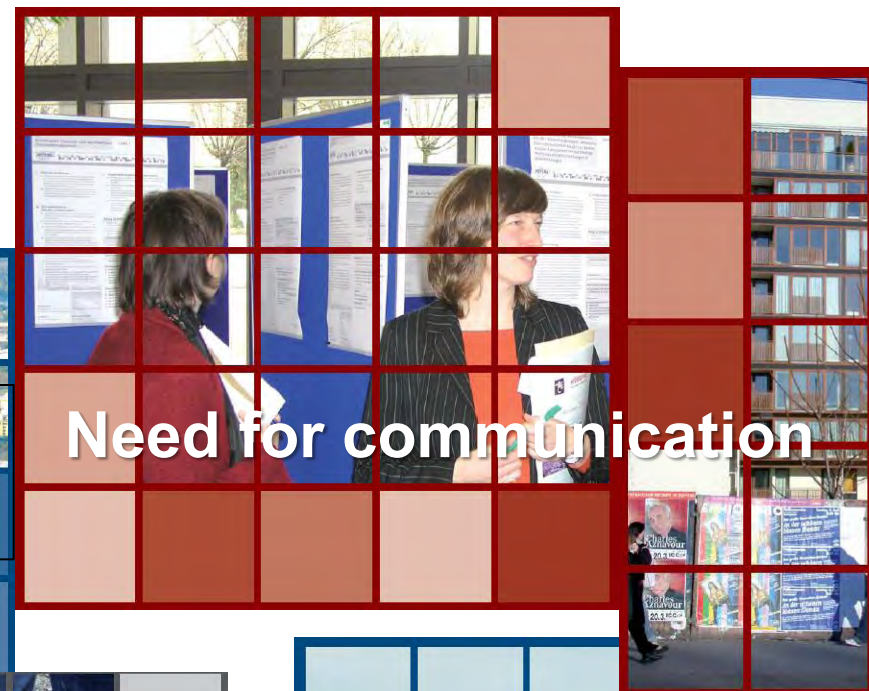
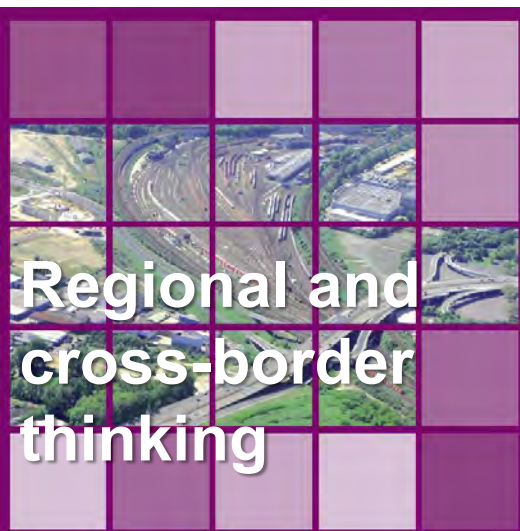
REFINA Products

- Product data base: www.refina-info.de
 - 60 products
 - Tools, Best practice, Concepts, Guidelines
- REFINA Compendium for practice
 - Tools, Best practice, Concepts, Guidelines
 - Contact data
 - Print und online version
- Flächenpost (24 Stories)
- REFINA Series
 - Folgekosten der Siedlungsentwicklung
 - Kommunikation im Flächenmanagement
 - Flächen- und Standortbewertung
- Project reports





REFINA Lessons Learnt





More Information:
www.refina-info.de

