

**CABERNET 2014: Tailored & Sustainable Redevelopment  
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# **Tradable planning permits for land use control – A Policy approach for less greenfield development and more brownfield regeneration?**

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# Structure

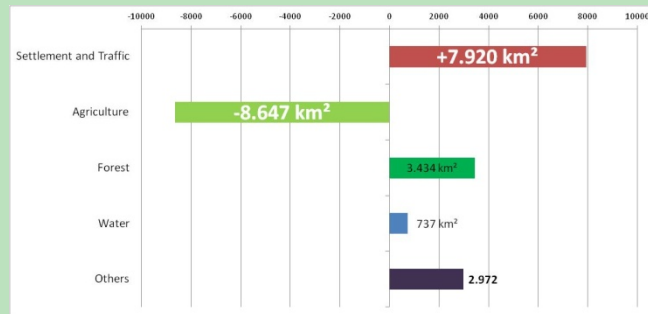
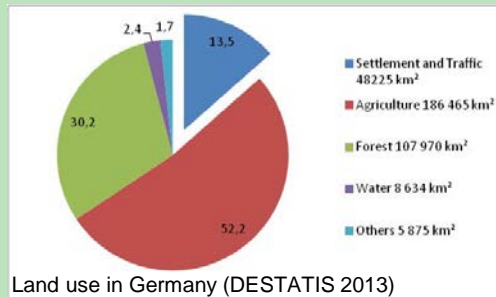
- Setting the context – land take (in Germany)
- Controlling land take and **improving** the market conditions for Brownfields
  - ☛ Tradable planning permits
  - ☛ **Model project** of the German government
- Final remarks

# Land Take / Land Consumption



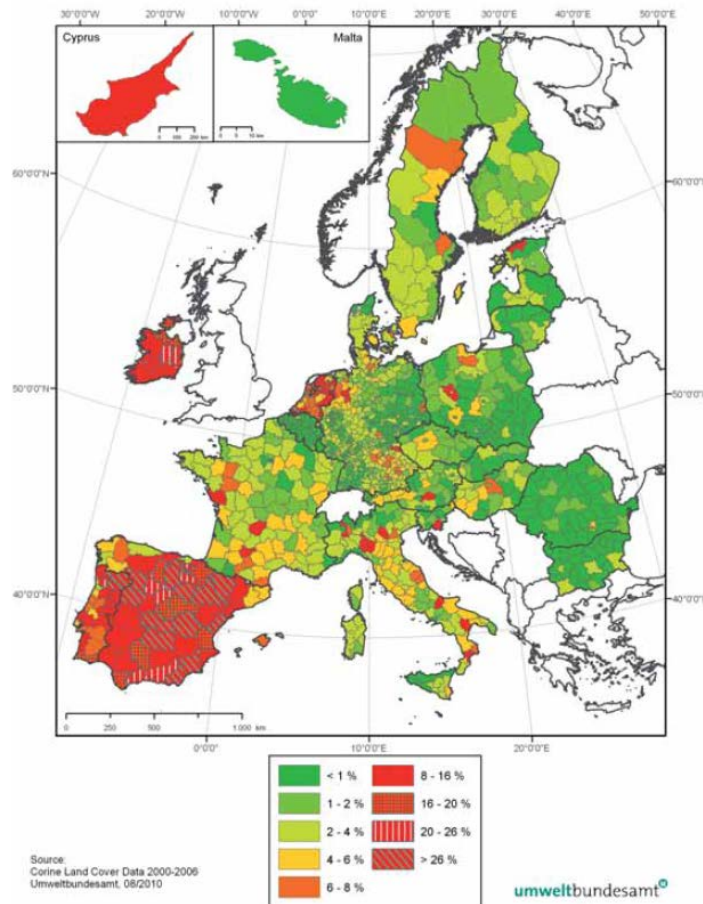
- Expansion of residential areas
- Soil sealing
- Loss of arable land

# Land Take in Germany



- Conversion of land (mainly agriculture and forest) into land for settlement and traffic
  - 74 ha per day (2009 – 2012)
- Loss of agricultural land in the past 20 years
  - 10 x Berlin
  - 35 x Frankfurt
- **Target: 30 ha / day until 2020**  
(National Strategy on Sustainability)

# EU – Picture on Land Take

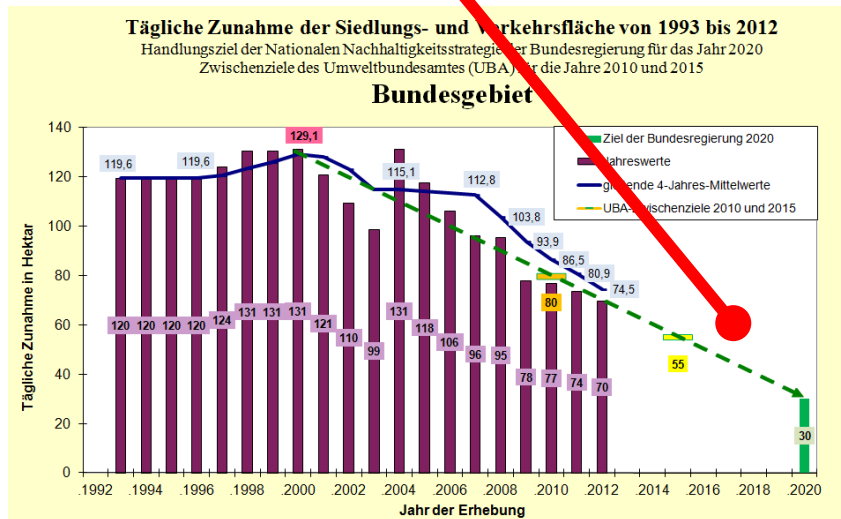
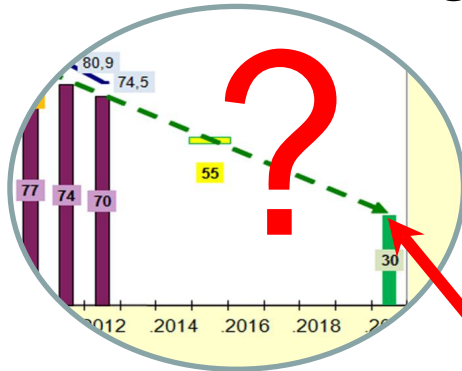


Source: Prokop et al., 2011

- Urban and infrastructure expansion
- Annual land-take between 1990 and 2000 in the EU of
  - around 1,000 km<sup>2</sup> per year  $\cong$  Size of Berlin
  - 270 ha/day
- **Target:** By 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve **no net land take by 2050** (EU 2020 Strategy / Road Map for resource-efficient Europe)



# Land take trends in Germany



- Increasing housing construction will increase the demand for land
- Ongoing greenfield development in rural areas to attract investors
- Land use trade offs (renewable energy)
- Projections indicate **failure** of the land take target (30 ha target)

# Reducing land take in Germany



- Stronger consideration of the 30 ha target within the legal framework
- Development of planning tools that better focus on inner urban development
- Fostering Brownfield redevelopment
  - Germany: some 120.000 to 165.000 ha estimated for inner urban development (brownfields and building gaps)

# German planning legislation – principle limitations to reduce land take

- Worldwide high reputation,  
however
  - ! German Planning system is primarily designed to achieve qualitative goals
  - ! Planning authorities in Germany cannot solve the problem alone (high competition)
  - ! Current planning tools are not effective enough to meet the 30 ha target by 2020



# Coalition agreement 2009



- „We intend to initiate a model project in which municipalities voluntarily test a trading system for land use.“

# Coalition agreement 2013



„We will further supervise the model project on tradable planning permits for land use and further develop planning tools... “

## Coalition agreement 2009



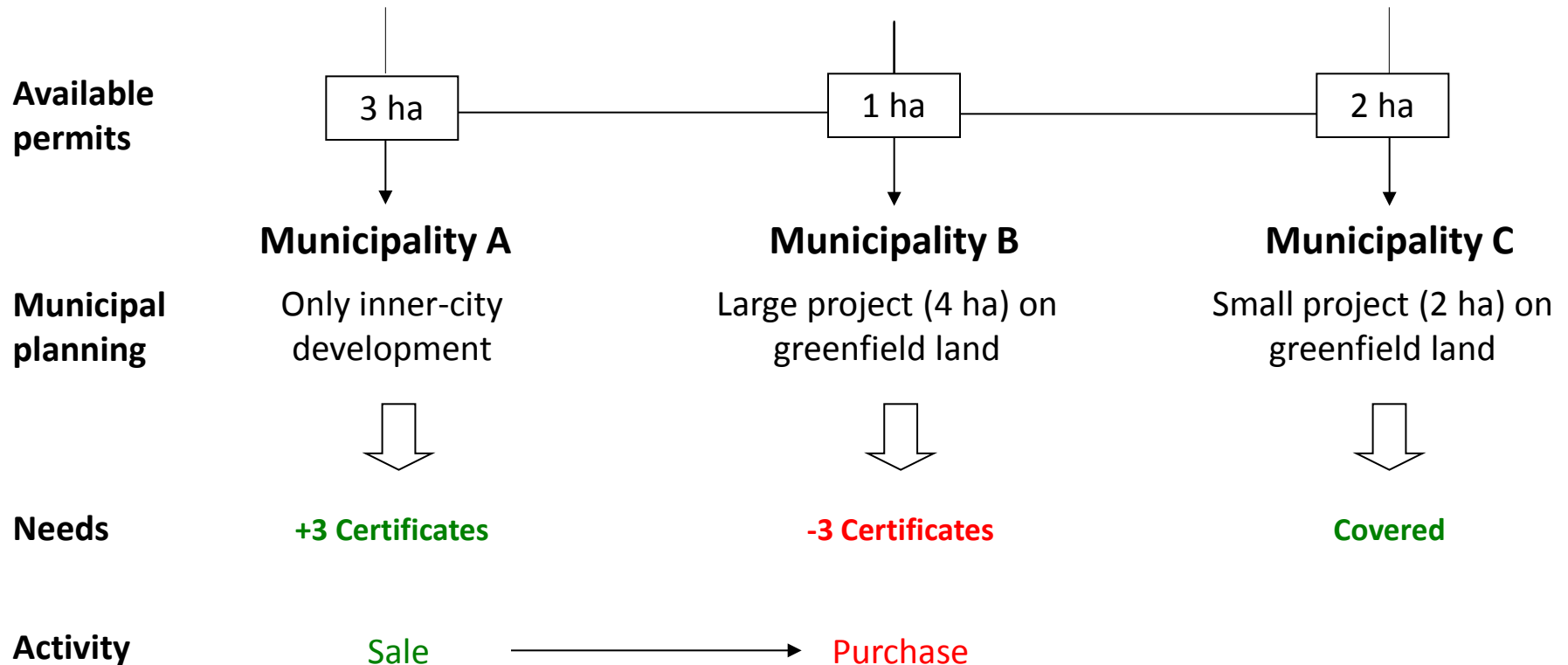
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## Coalition agreement 2013



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# Land trading permits - principle



(Source: Bovet 2011)

# Pro's and Con's

## Pro's

- Target for land consumption can be (theoretically) achieved
- Land consumption will take place at locations only that generate proved benefits
- Compatible with the planning sovereignty of the community
- Fair share of benefits and burden: all municipalities are involved in the country's efforts to reduce land consumption
- Sale of certificates provides money that can be used for inner city development and renewal, for renewable energies or for the redevelopment of brownfields
- **Better market conditions for brownfields**

## Con's

- High political costs for negotiations with the Federal States
  - a) The target for land consumption
  - b) The algorithm to allocate certificates to the municipalities
- Potential negative economic and social effects due to higher costs for construction and housing
- More and new autocracy
- Distortion of competition if only implemented regionally

# Conditions (Rules of the game)

- Land take certificates amounting to a land take target (Cap - Germany 30 ha /d) will be allocated to the communities
- New land use in outer space areas has to be capped by certificates. For inner urban areas no certificates are required
- Certificates can be traded among communities only
- Certificates will be yearly distributed to the communities at the beginning of the year – free of charge. They can be saved for later activities. (Later on auctioning is planned)
- Communities can transfer costs of certificates to beneficiaries (private developers, etc.)
- Planning and building legislation remains untouched
- Communities can generate additional certificates by withdrawing of building permits (so called „white certificates“)



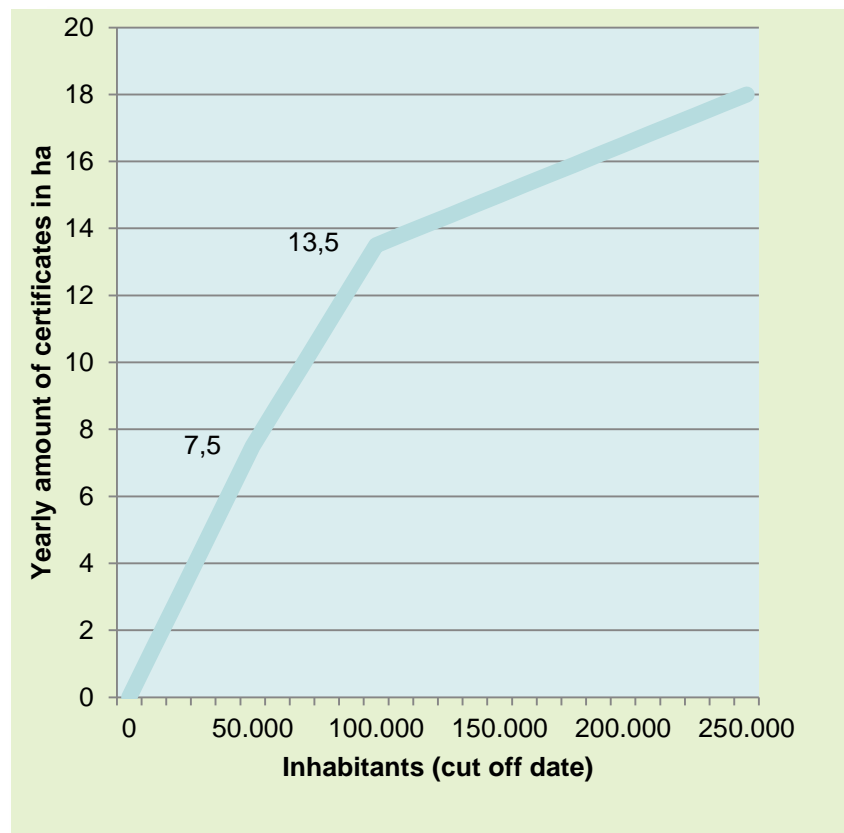
# How many certificates will I get?

## Allocation of certificates

### Algorithm

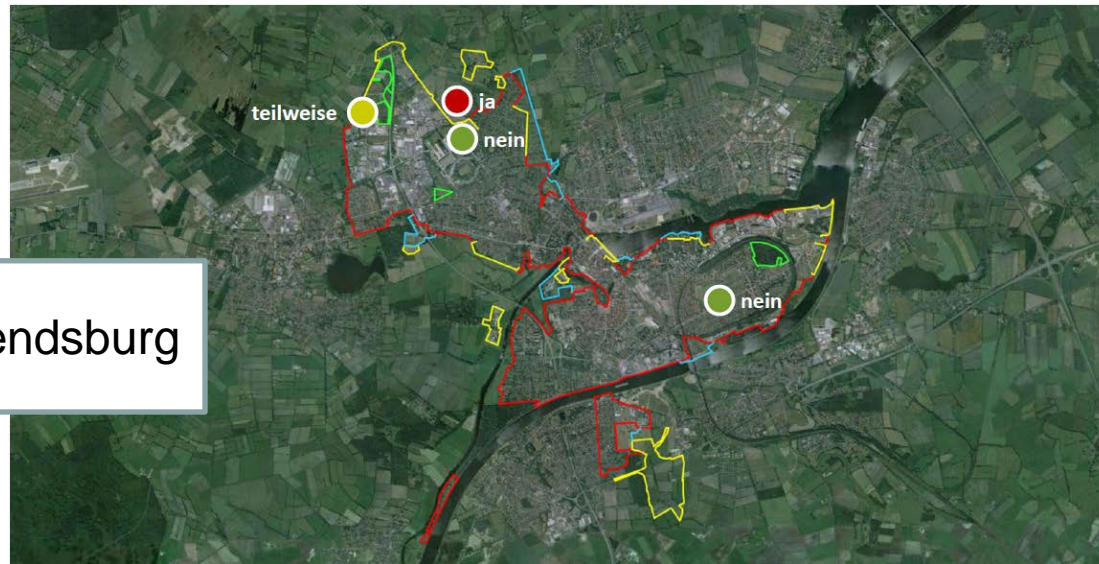
(für countrywide 30 ha/d)

- Up to 50.000 people:  
0,15 ha per year & 1.000 inhabitants
- 50.000 to 100.000 inhabitants :  
7,5 ha +  
0,12 ha per year & 1.000 inhabitants
- More than 100.000 inhabitants :  
13,5 ha +  
0,03 ha per year & 1.000 inhabitants



# Where do I need certificates?

- Boundaries to be defined case by case according to German planning legislation
  - Inner urban
  - Outer space



Example Rendsburg

# German Model Project

## Tradable Planning Permits

### Municipal Case Studies

= experimental game to simulate trading in real time (**15 municipalities**)

- Monitoring and analysis of municipal decision making in land planning processes
- Discussing...
  - Assignment of inner area and undeveloped outskirt area
  - Present value of certificates
  - Land use/land development balance
  - Administrative processes

### Controlled field experiment

= experimental game to simulate trading in fast motion (up to **100 municipalities**)

- Simulation of trade - 15 years in fast motion
- Investigation of all planned developments in inner areas/outskirts
- Definition of inner area / outskirt
- Determination of cost benefit data for these developments, part. Inner area / outskirt

# Municipalities participating (Status October 2014)

**15 towns participating at the case studies**



**78 Towns participating at the controlled field experiment**



# Support for the participating communities

- a) Determining and gathering relevant data
  - How many brownfields and gaps between buildings do I have ?
  - For which of my projects do I need certificates?
  - How much should I pay for a certificate respectively how much can I get?
- b) Priority access to funding
  - Climate Initiative of the Environment Ministry  
(Direct personnel and other direct costs)



# Homepage of the model project



...certificate calculator

[www.flaechenhandel.de](http://www.flaechenhandel.de)

## Zertifikate-Rechner

### Allgemeine Informationen

Gemeindename Frankfurt am Main, Stadt  
PLZ 60311  
Einwohner 676.533

### Phasen I - V

Menge kostenlos zugewiesener Flächen-Zertifikate pro Jahr (ein Zertifikat entspricht 1.000 m<sup>2</sup>):

Phase I:	Phase II:	Phase III:	Phase IV:	Phase V:
2014-2016:	2017-2019:	2020-2022:	2023-2025:	2026-2028:
513 Zertifikat(e)	411 Zertifikat(e)	246 Zertifikat(e)	185 Zertifikat(e)	123 Zertifikat(e)

### Jährliche Zunahme der Siedlungs- und Verkehrsfläche laut amtlicher Statistik

zwischen 2004 und 2008	zwischen 2008 und 2010
71,25 ha/a	31,50 ha/a

## Final Remarks

- German experience after 12 years: Reduction of land take does not run by itself
- Demography and negative economic developments will not compensate future land demand
- Municipal activities will in competition to each other further be driven by their interest to attract new tax payers (investors and inhabitants)
- The planning system (in Germany) is sufficient to achieve qualitative goals, but supplementary regulations would be beneficial to comply also with quantitative targets
- Large areas of inner urban Brownfield land is available for redevelopment
- Theoretically, tradable planning permits could substantially contribute to achieve the German 30 ha target. Practical feasibility still has to be proved
- Let's wait for the first results of the German model project in 2015



Thank you very much  
for listening!

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