

# GREECO

## Territorial Potentials for a Greener Economy

Applied Research 2013/1/20

(Draft) Final Report | Version 22/11/2013

Case Study

Vol. 4.2. Burgenland



This report presents the **draft final** results of an Applied Research Project conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

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This basic report exists only in an electronic version.

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## **0      Introduction**

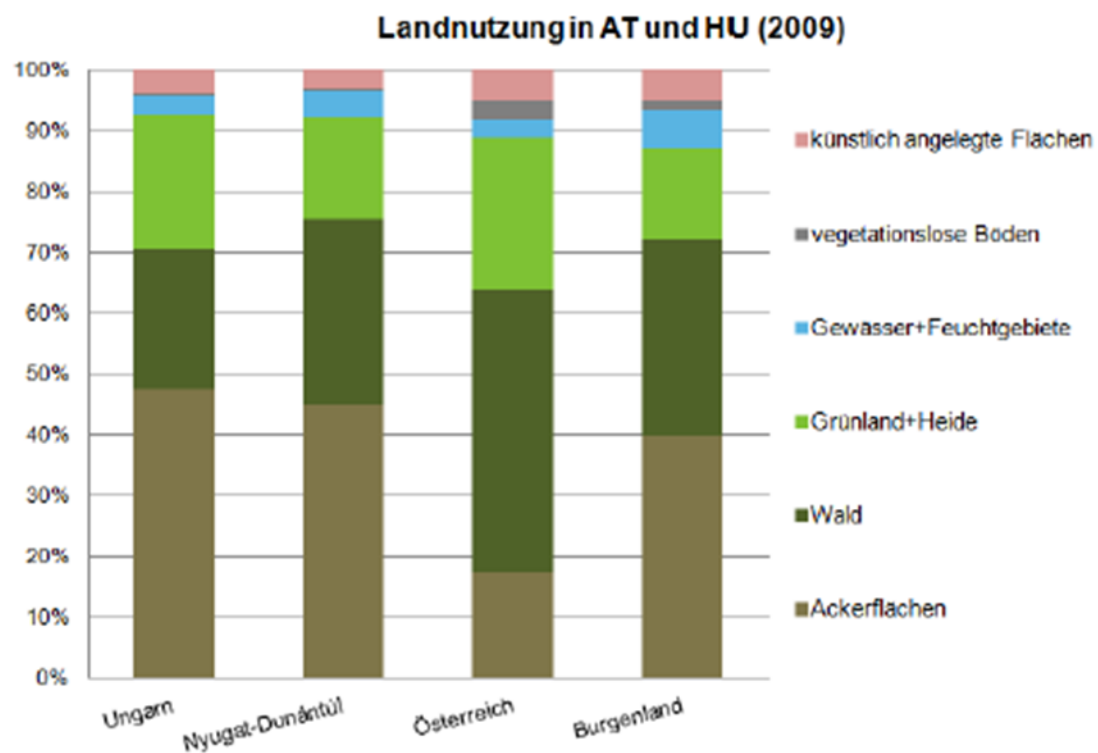
## **Executive Summary**

Burgenland is a NUTS-2 region with its own regional government (Landesregierung). According to the Environmental Goods and Service Statistics (EGSS) available for Austria at NUTS-2 level, there are 4,753 green jobs generating a turnover of 645 Million Euro in 2010. This is about four percent of all jobs, the green turnover corresponds to ten percent of total GDP in the region, which is about Austrian average. There was a growth between 2008 and 2010 of 131 green jobs and about 57 million Euro green turnover.

Burgenland is interesting from a green economic perspective because of its path towards energy autarky based on renewable energy production. For electricity, self-sufficiency based on renewable energy will be reached by the end of 2013. For total energy consumption, the share of renewable energy will be increased to 55 percent by 2020, the goal of a complete energy autarky through renewable energy shall be reached by 2050. The territorial capital is huge: over 40 % of the area is occupied by agricultural land with potential for high wind energy and biomass production. There is a strong governmental support for development of renewable energies. Key elements in the regional strategy for renewable energies are the expansion of biomass for district heating, wind energy, photovoltaic and fostering of applied research and development. Burgenland has a research and development infrastructure with six technology centres, one of them leading in renewable energy issues, and a university of applied science, forming together with policy and administration an eco-innovation network fostering renewable energy production, energy savings and thus climate protection.

# 1 General description of the Ruhr area

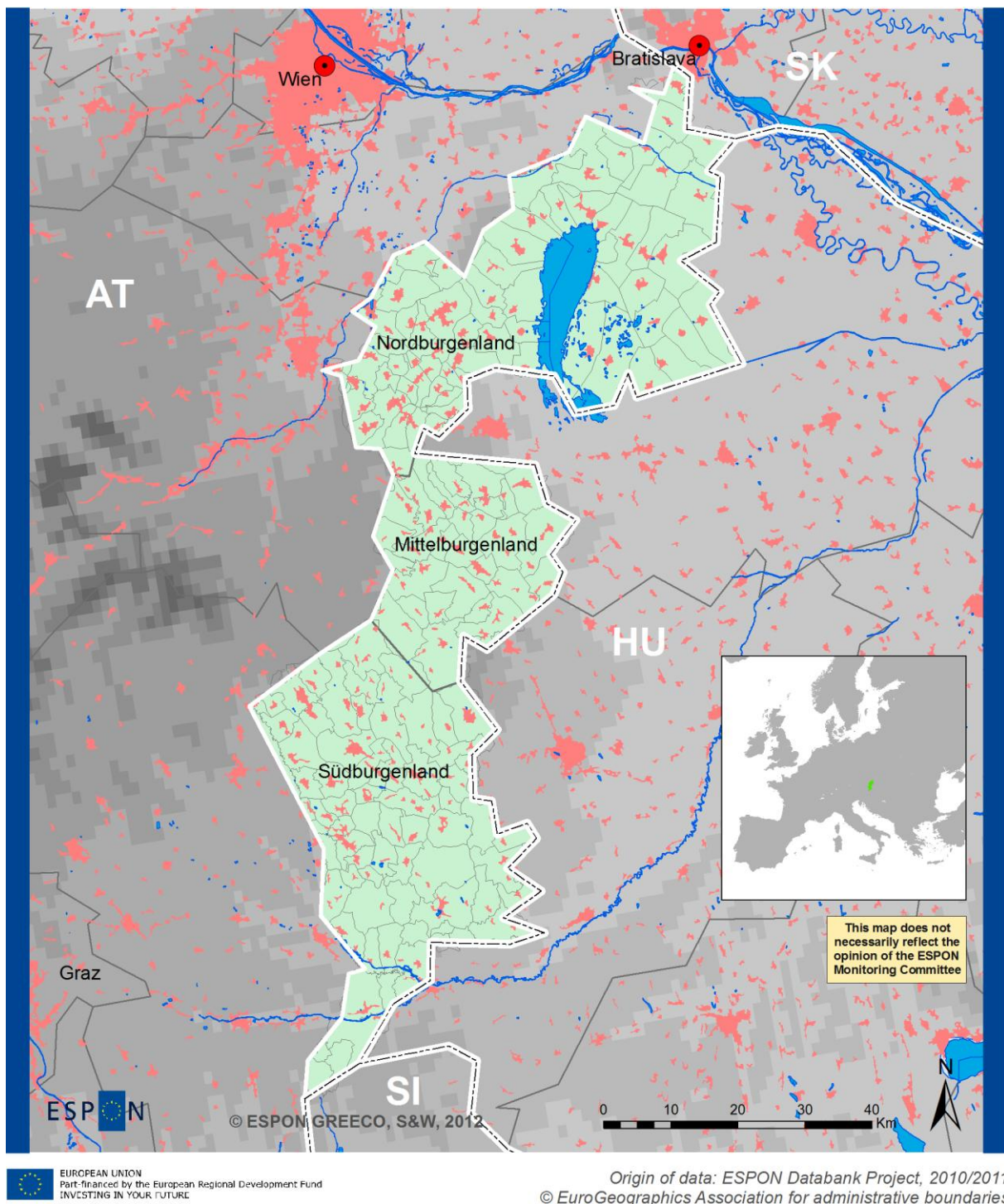
## 1.1 Geography



Source: MECCA, 2013

Figure 1.1. Land use in Austria and in Burgenland.





### Burgenland Case Study



Figure 1.2. Settlement structure of the Burgenland.

## 1.2 State of infrastructure

## 1.3 Demography

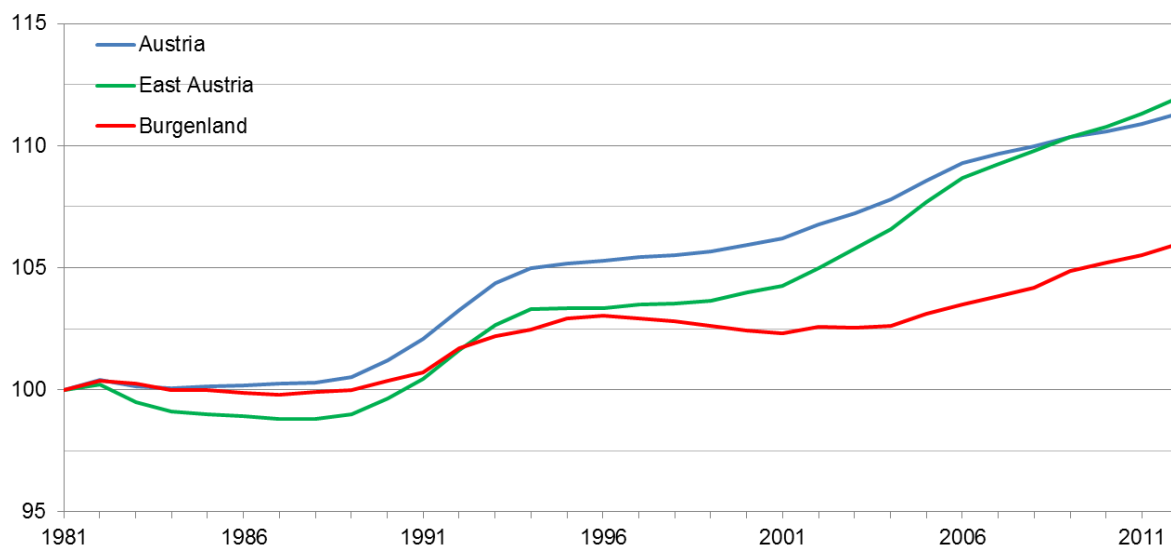


Figure 1.3. Population development in the Burgenland, 2001 – 2013

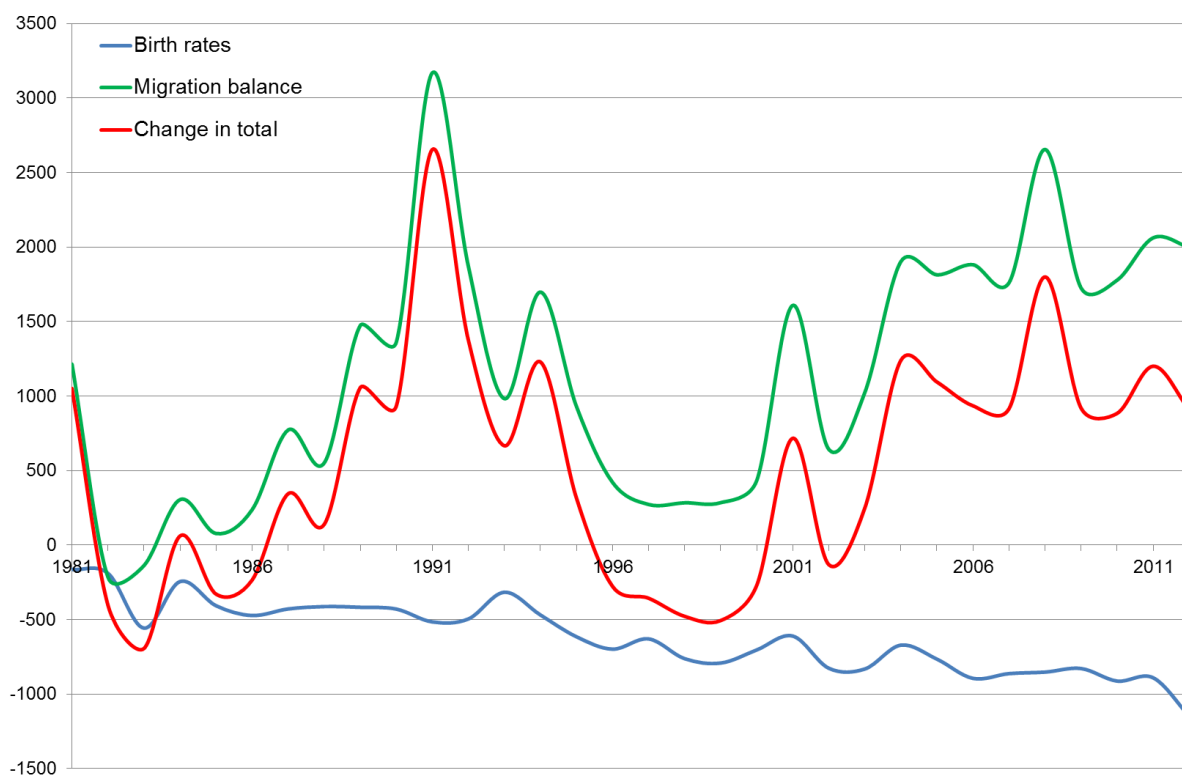


Figure 1.4. Migration balance in the Burgenland, 1981-2012

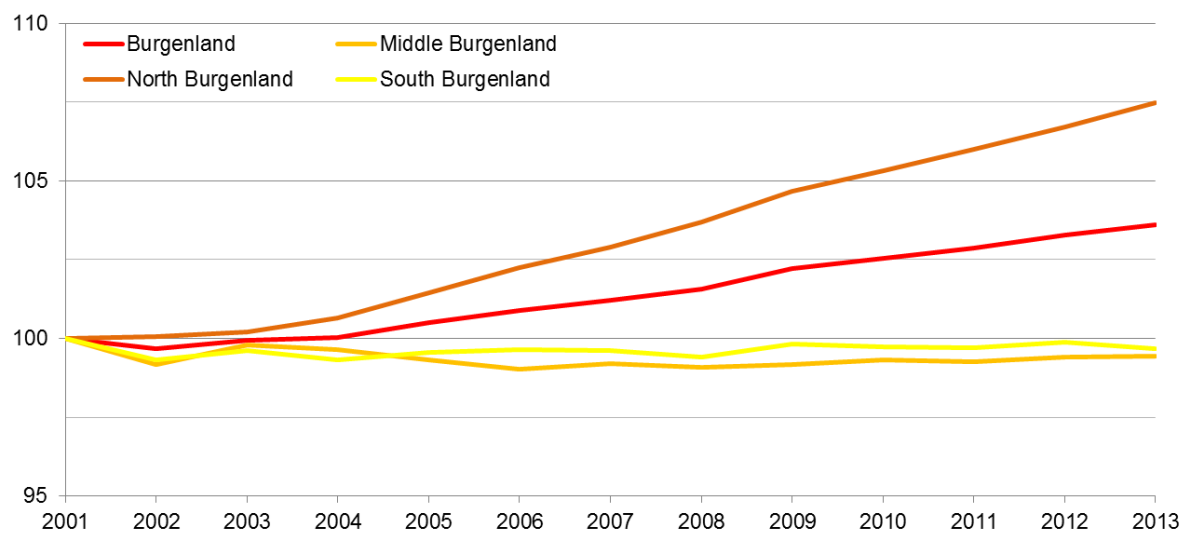
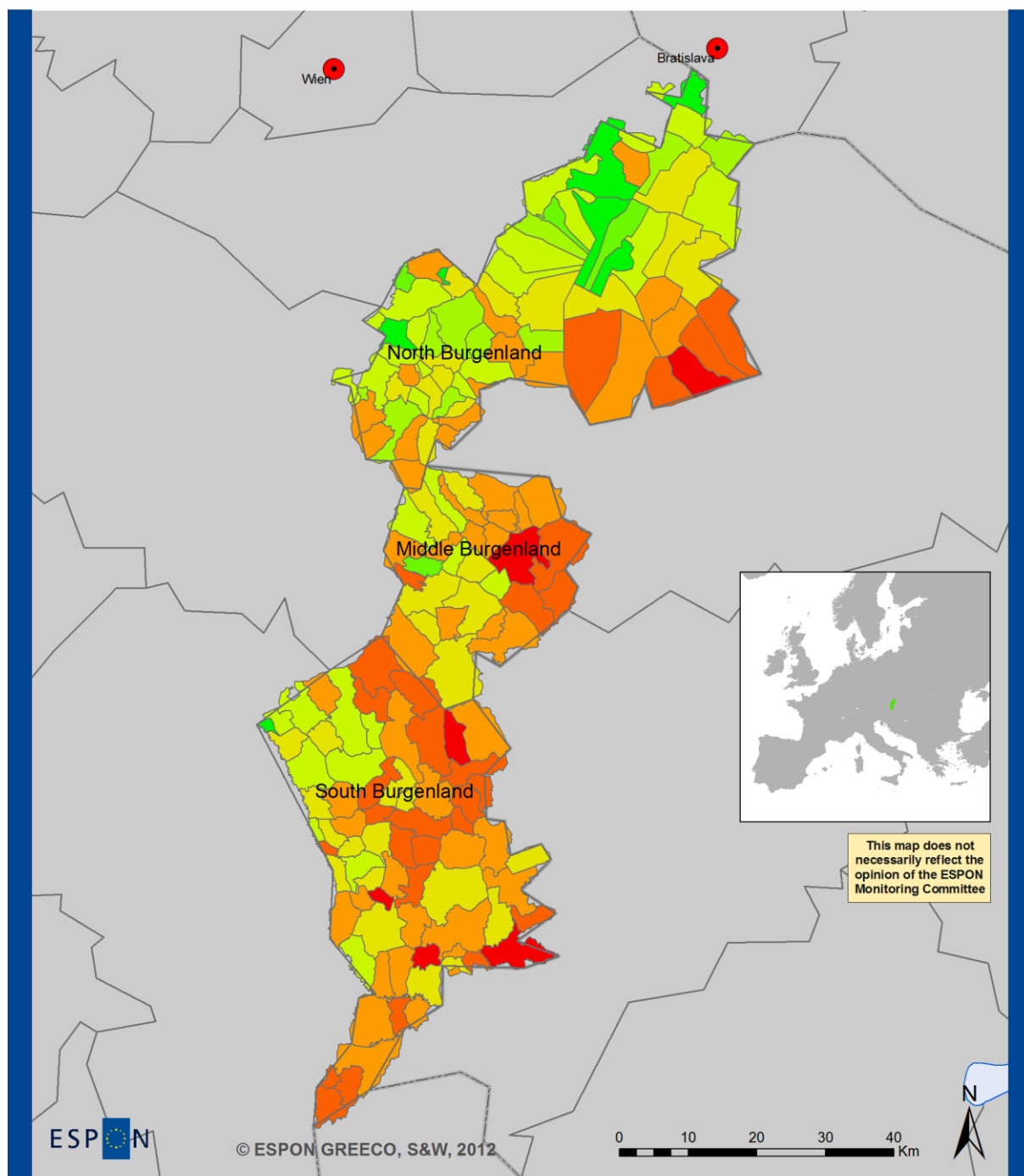


Figure 1.5. Population development in the Burgenland, 2001 – 2013



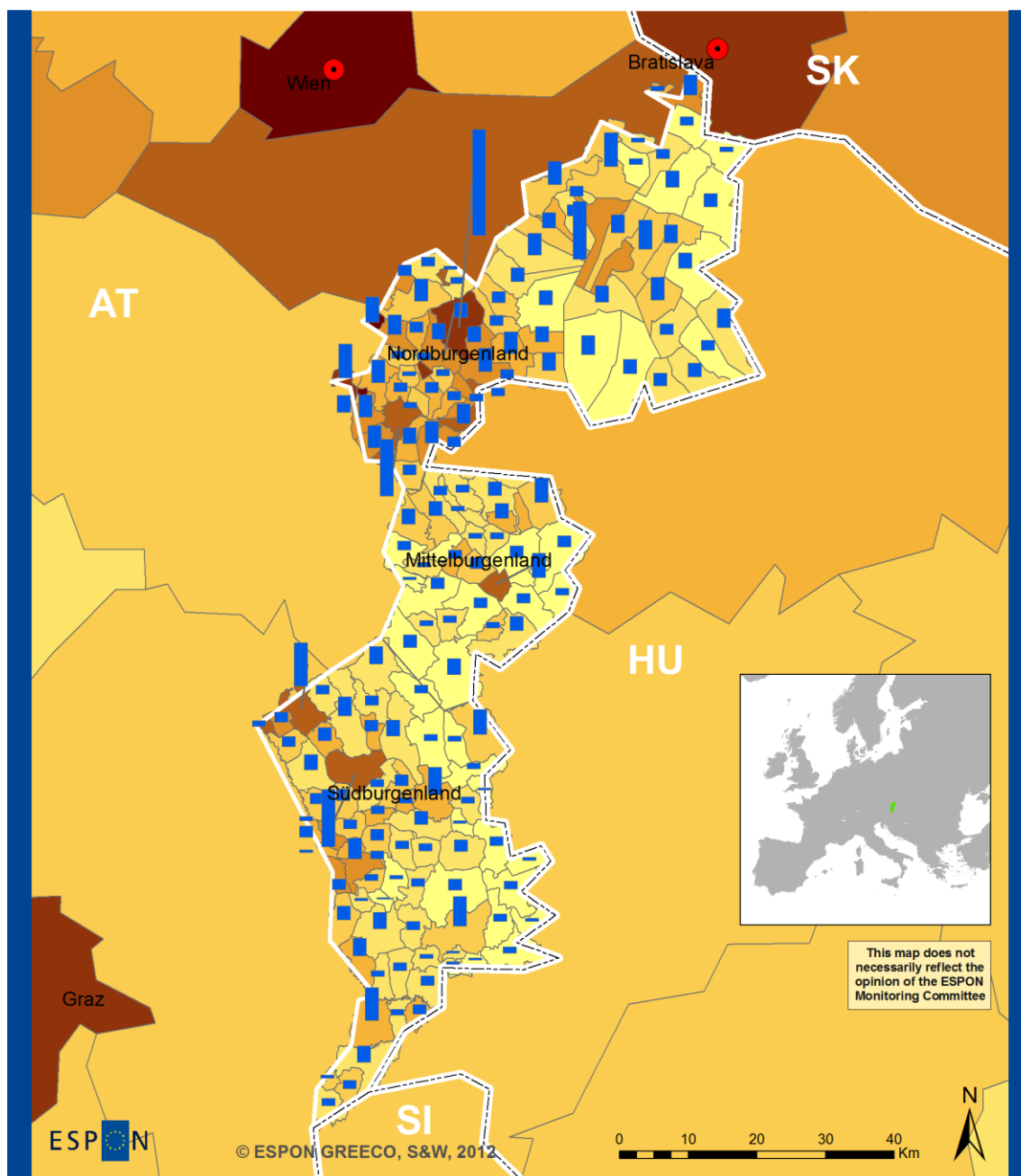
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Origin of data: ESPON Databank Project, 2010/2011  
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#### Population change in the Burgenland, 2002-2013 (%)

-16,5 - -10,0	5,1 - 10,0
-9,9 - -5,0	10,1 - 15,0
-4,9 - 0,0	15,1 - 20,0
0,1 - 5,0	20,1 - 34,4

Figure 1.6. Population change in the municipalities of the Burgenland, 2002 – 2013 (%)



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#### Population density and total in the Burgenland 2013

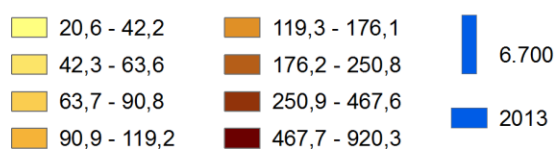
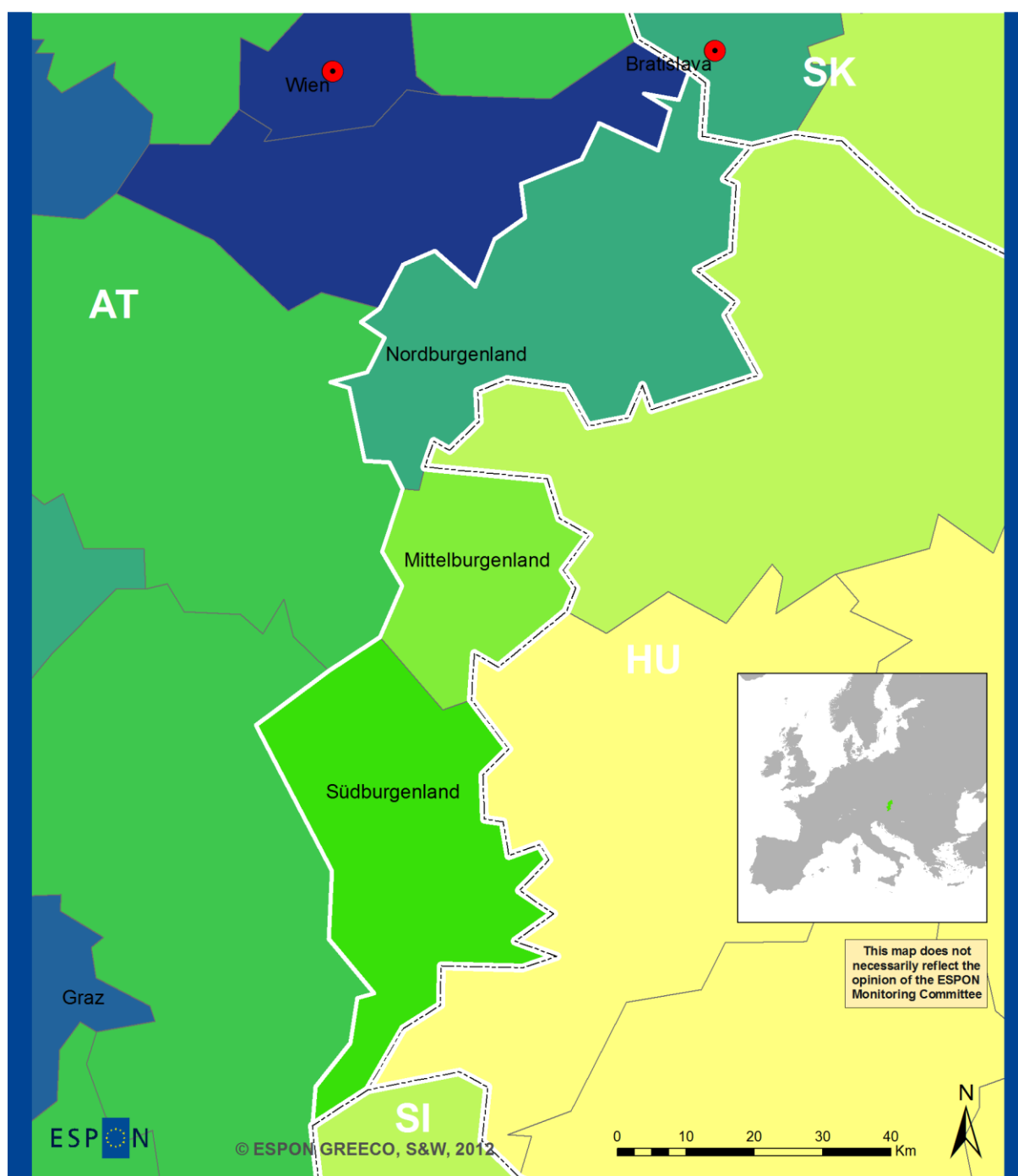


Figure 1.7. Population density and total in the Burgenland 2013

## 1.4 Administrative structure and governance

## 2 Regional economy



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### GDP per Capita 2010 (Austria average = 34100 EUR)

2300,0 - 10000,0	25000,1 - 30000,0
10000,1 - 15000,0	30000,1 - 35000,0
15000,1 - 20000,0	35000,1 - 40000,0
20000,1 - 22500,0	40000,1 - 70000,0
22500,1 - 25000,0	70000,1 - 145200,0

Figure 2.1 GDP per capita in the Burgenland, 2010



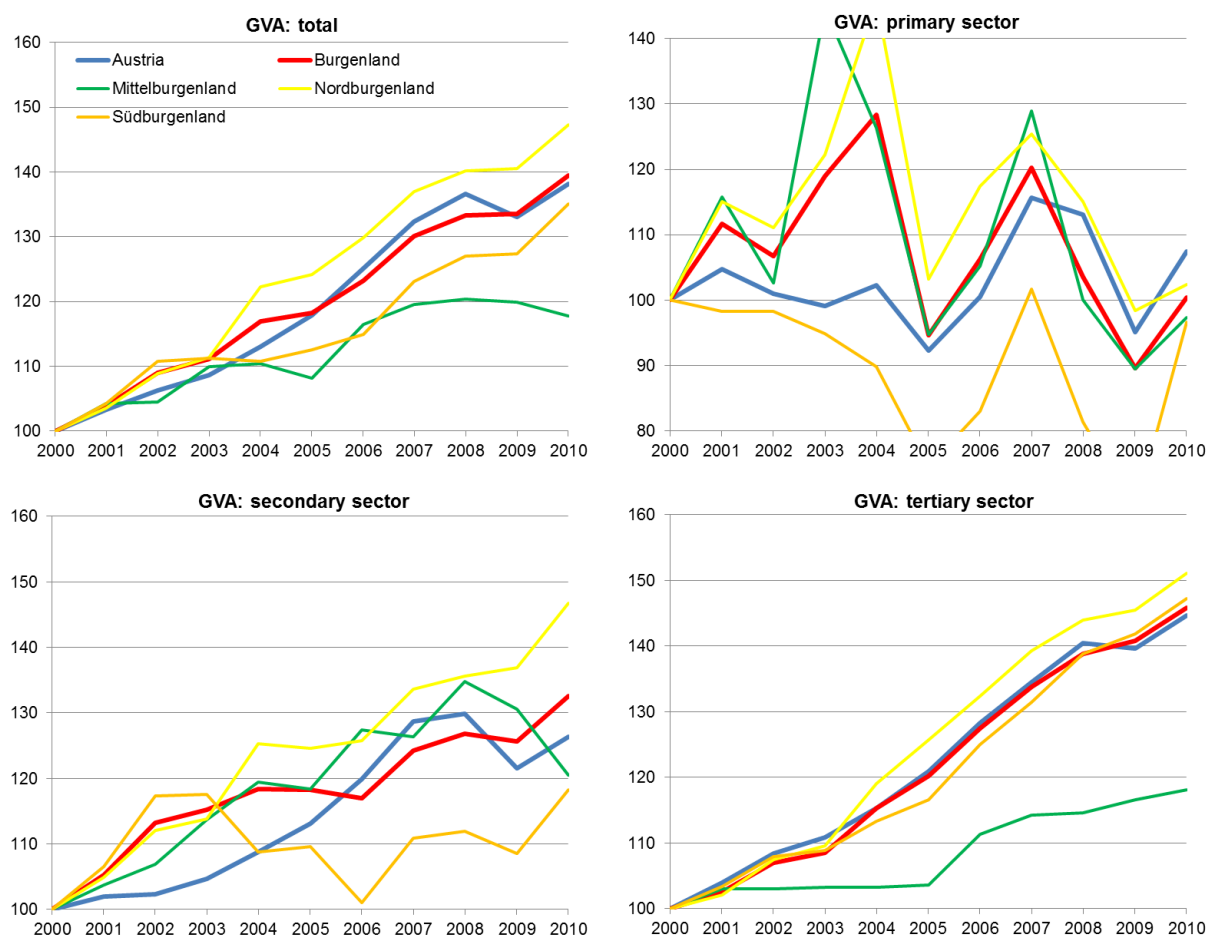


Figure 2.2 Gross value added in the Burgenland by main economic sector, 2000-2010

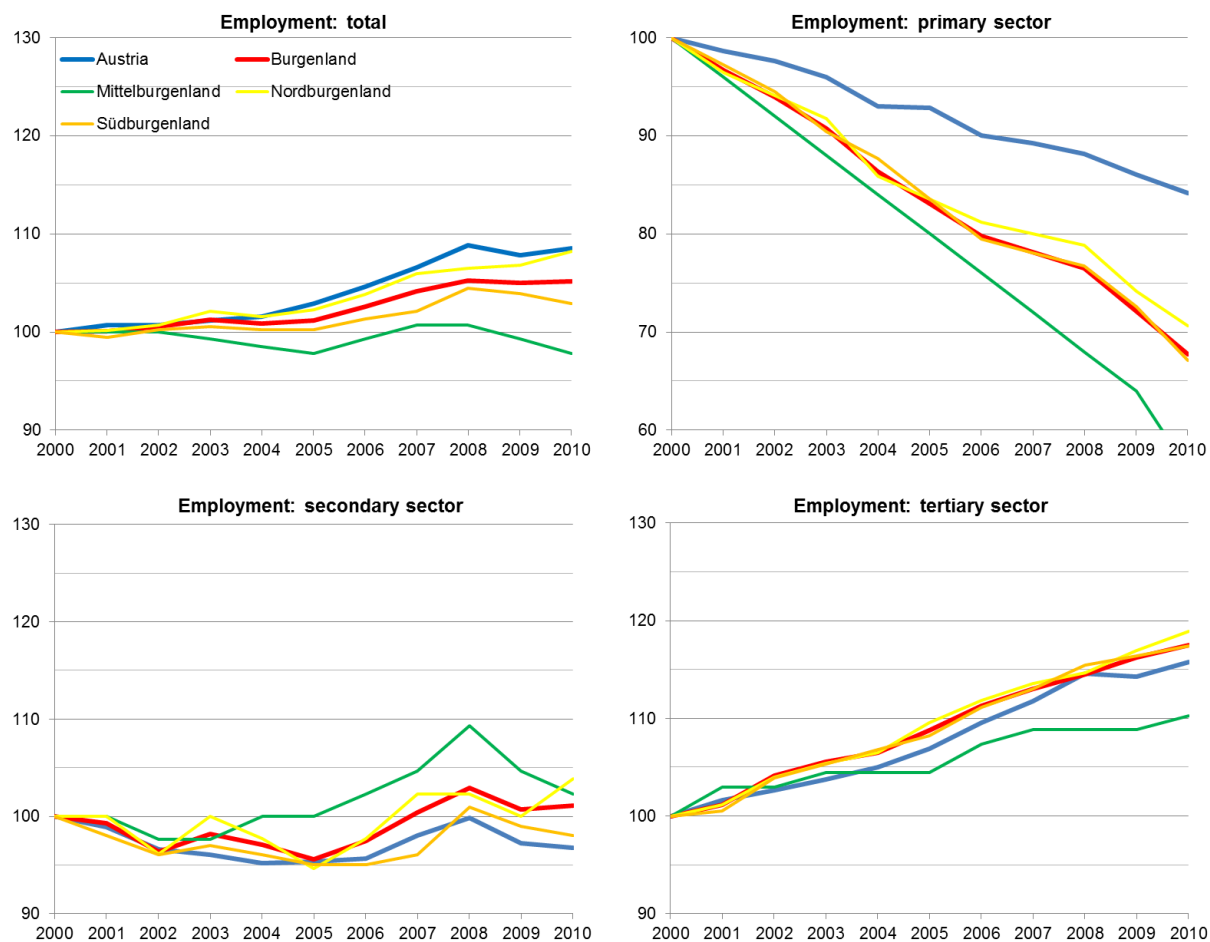


Figure 2.3 Development of employees in the Burgenland by main economic sector, 2000-2010.

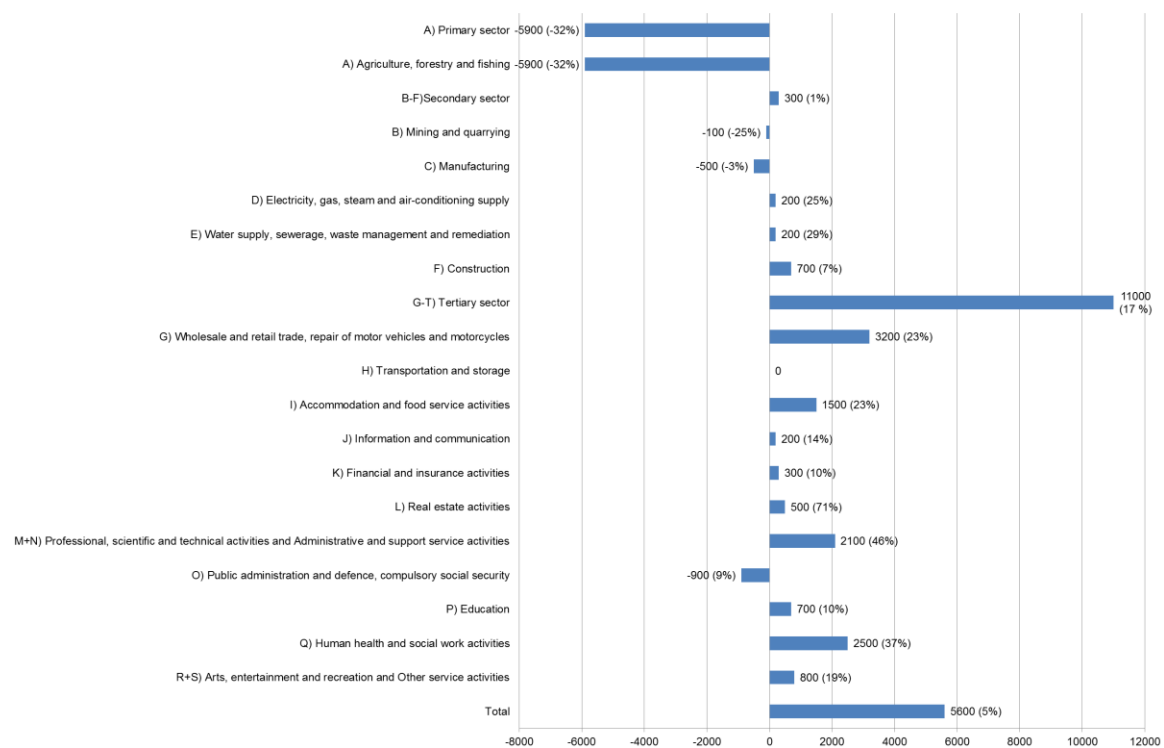
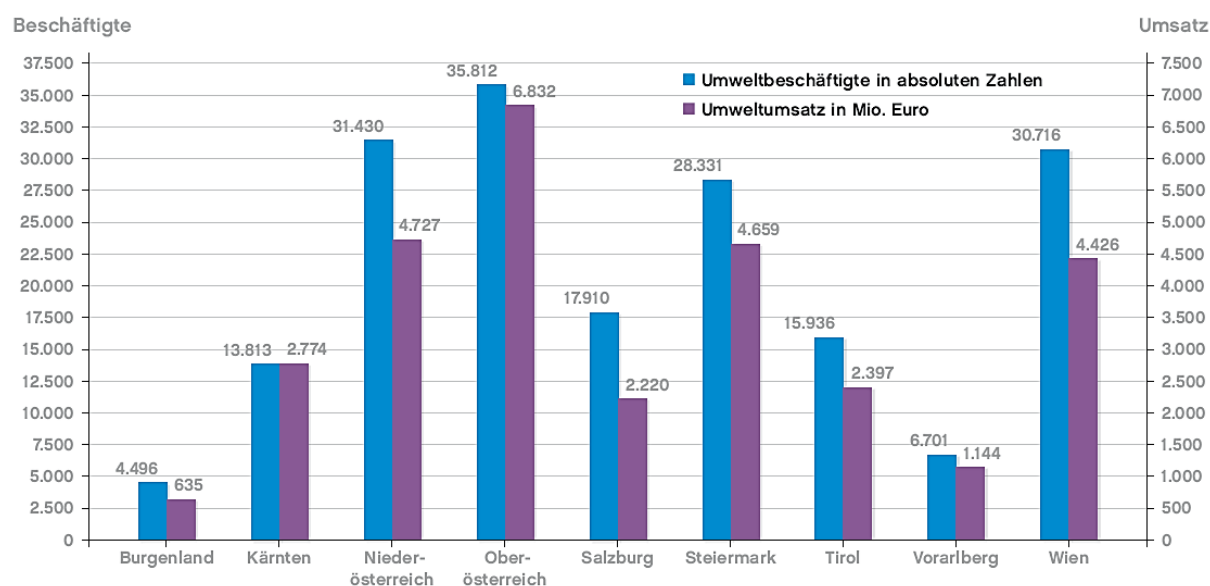


Figure 2.4 Employment change in the Burgenland by ÖNACE 2008 sectors, 2000-2010





<http://diz.lebensministerium.at/diz/diz/theme/view/1025294/1025292/450>

Figure 2.5 Green jobs and green turn over, 2010

**IV. Sectors of the green economy** – approaching the regional green economy by sectors will help create a more integrated narrative.

### Green performance in the Burgenland

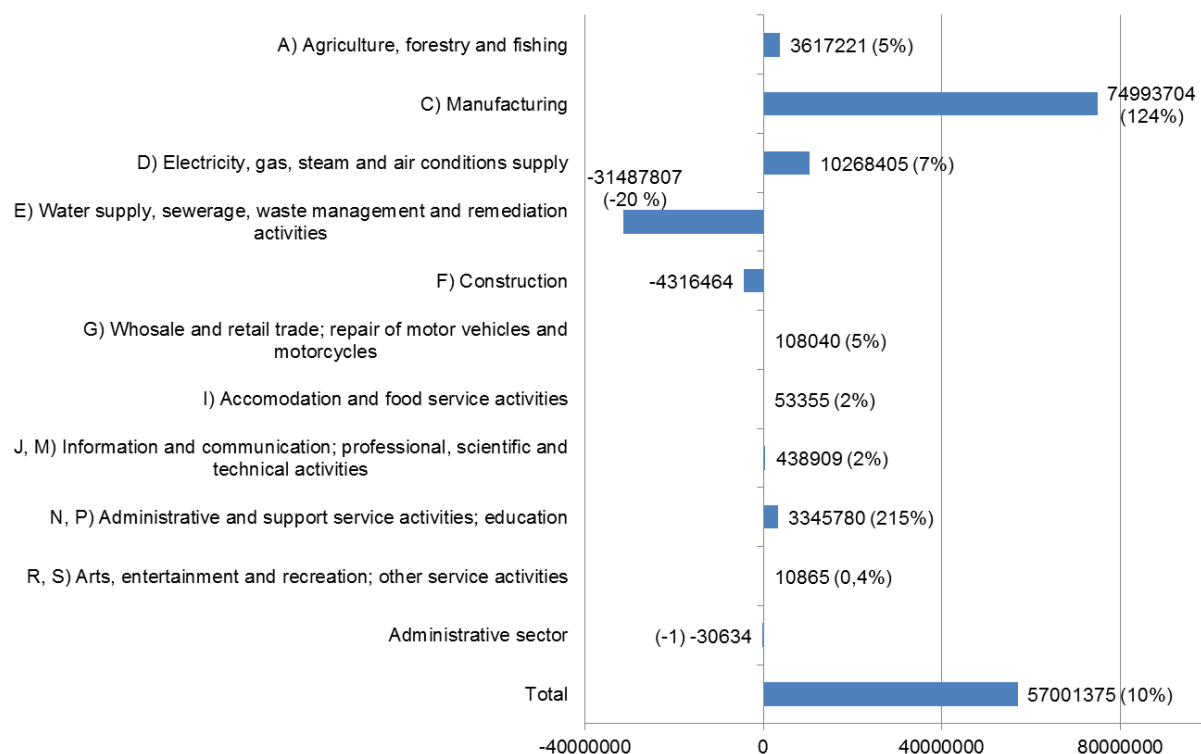
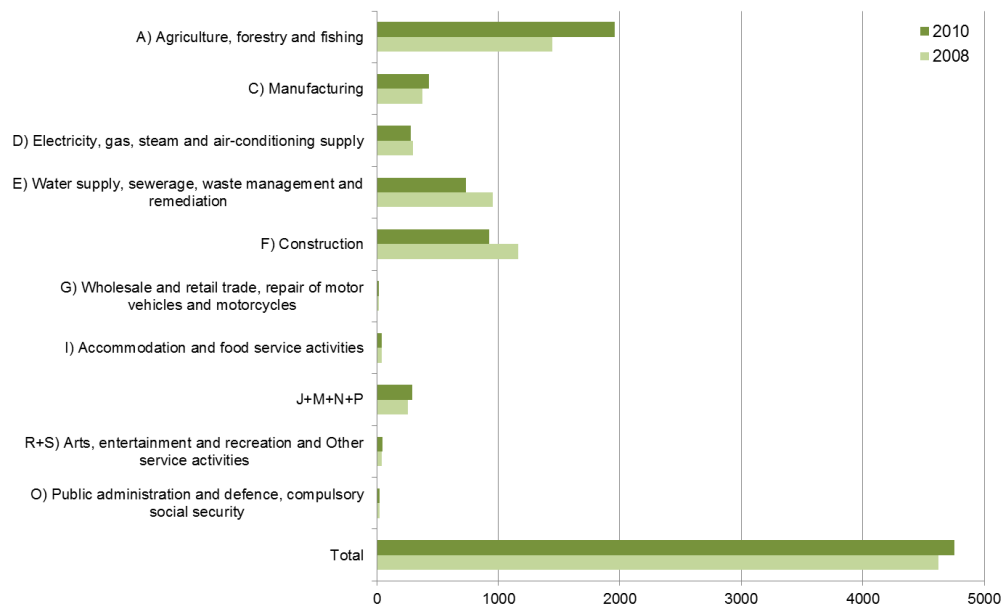
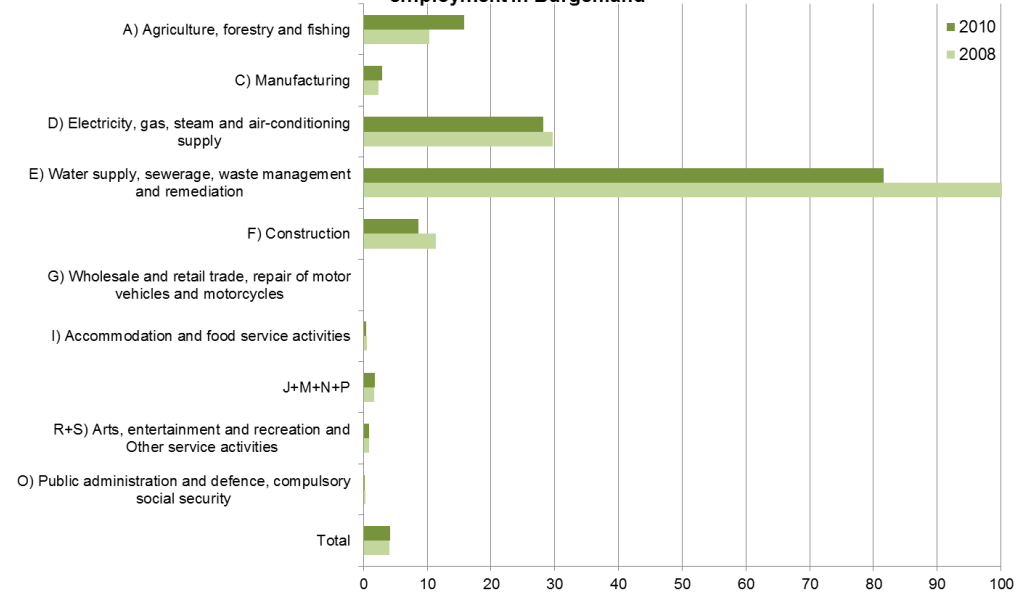


Figure 2.6 Change of EGSS turnover in the Burgenland, 2008-2010

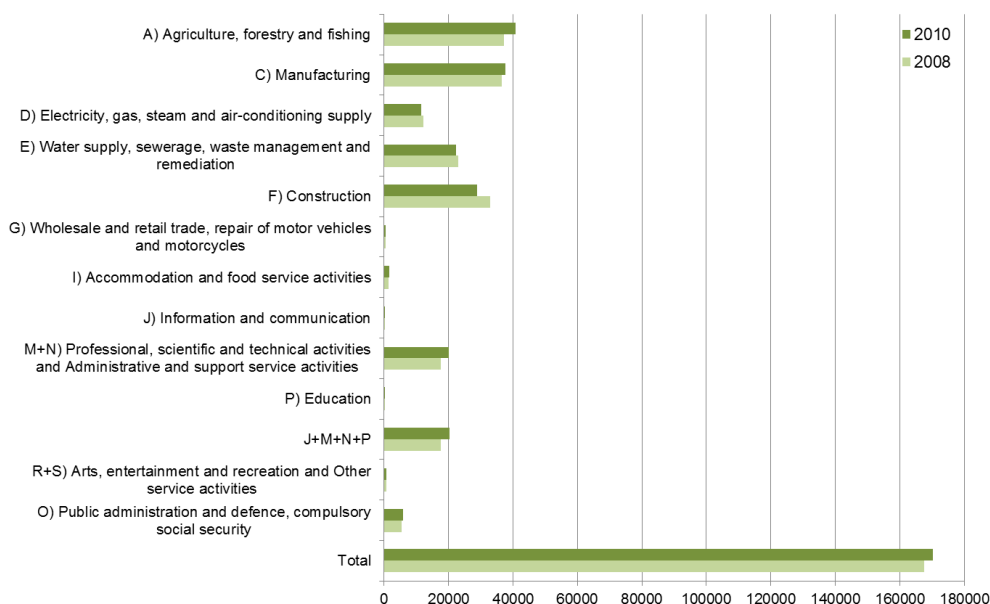
**Environmentally oriented production and service: EGSS jobs in Burgenland**



**Environmentally oriented production and service: share of EGSS jobs of total employment in Burgenland**



**Environmentally oriented production and service: EGSS jobs in Austria**



**Environmentally oriented production and service: share of EGSS jobs of total employment in Austria**

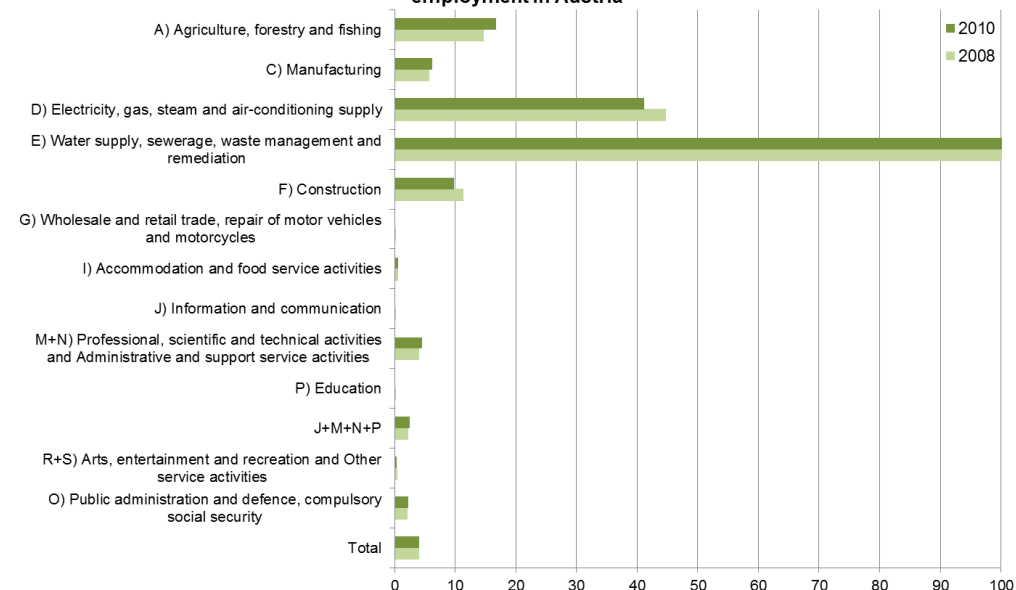


Figure 2.7 Change of EGSS jobs in Austria and in Burgenland, 2008-2010

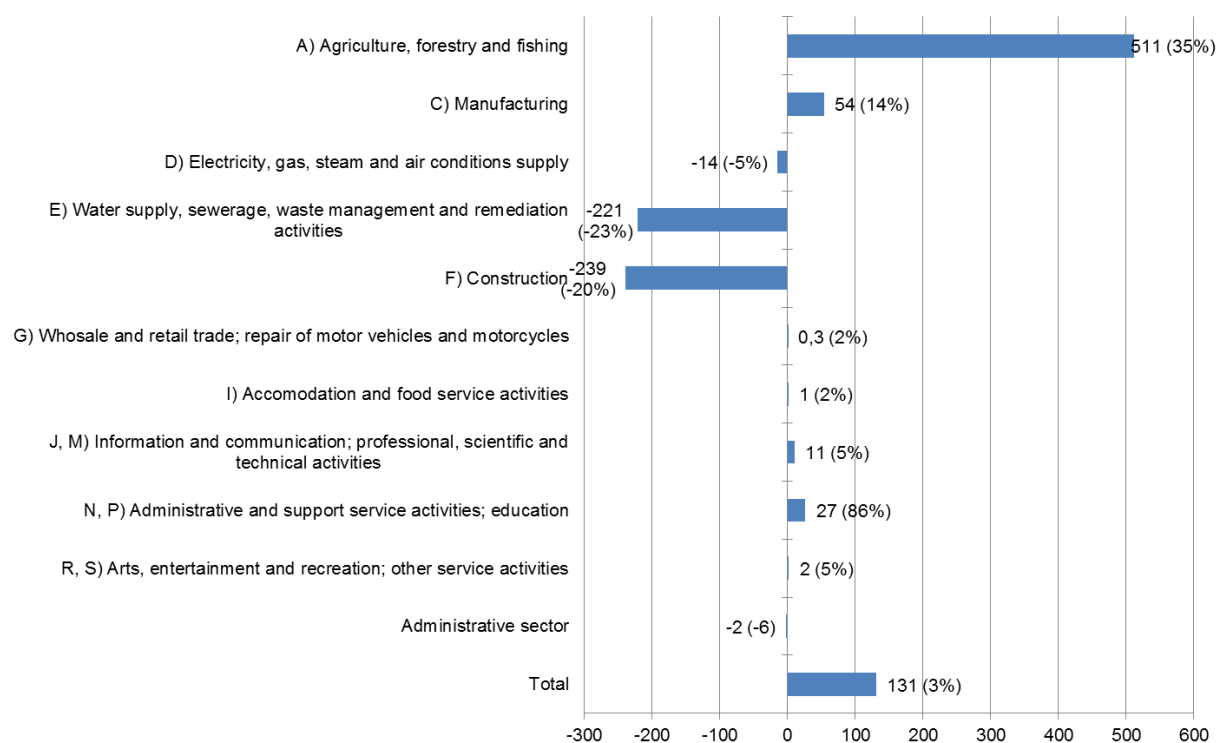


Figure 2.8 Change of EGSS jobs in the Burgenland, 2008-2010

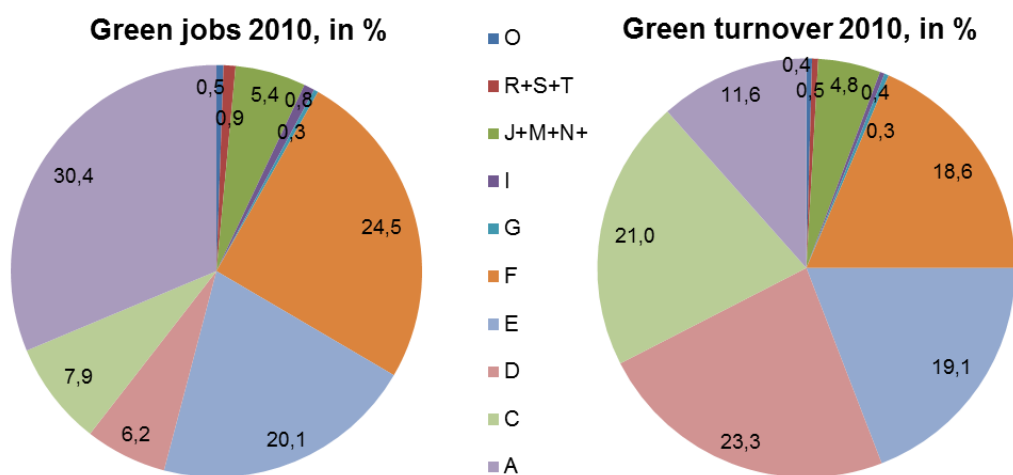
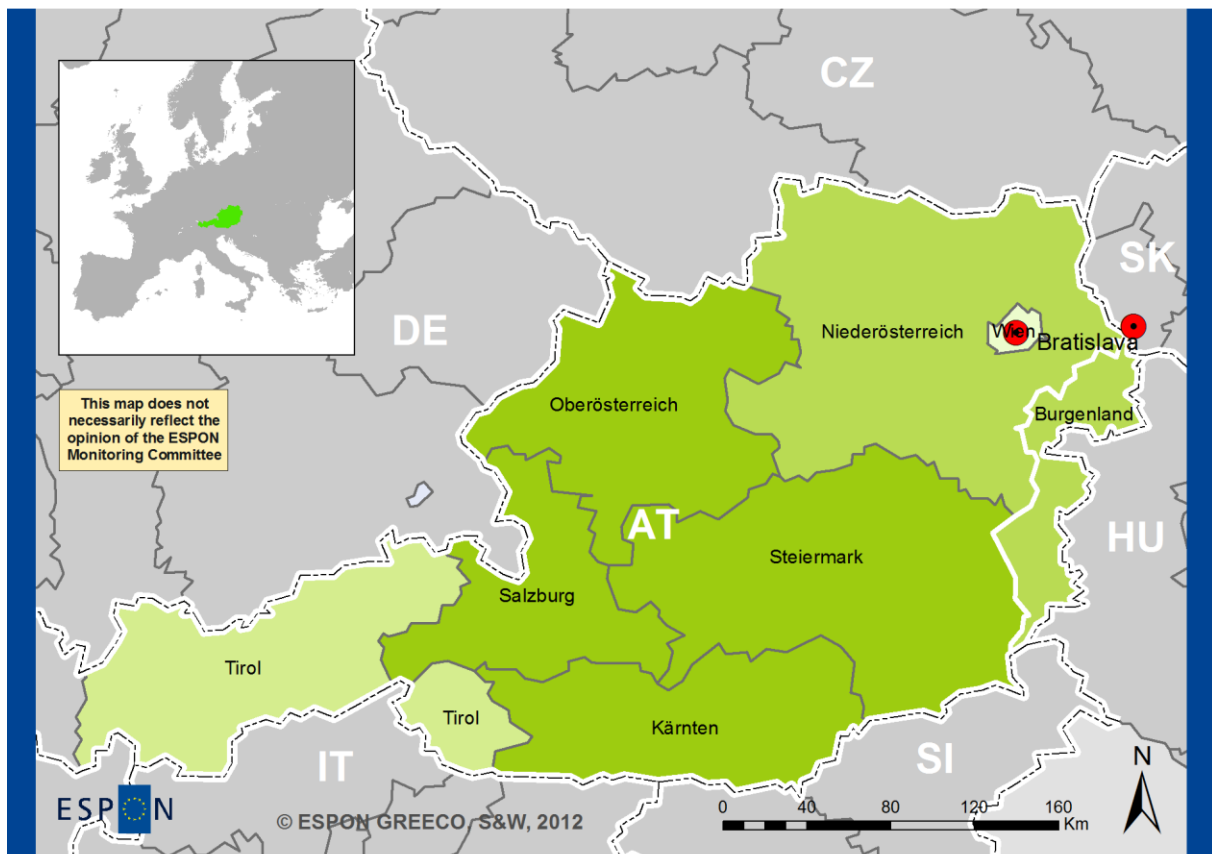


Figure 2.9 Green jobs and green turnover by economic sectors, 2010



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### Share of green jobs (EGSS) of total employment, 2010

- 2,5 - 3,0
- 3,1 - 4,0
- 4,1 - 4,5
- 4,6 - 5,0

Figure 2.10 Share of green jobs (EGSS) of total employment, 2010

### 3 Eco innovation and renewable energies as key sectors for the green economy in the Burgenland

#### 3.1 Performance of the eco innovation and renewable energies sector:

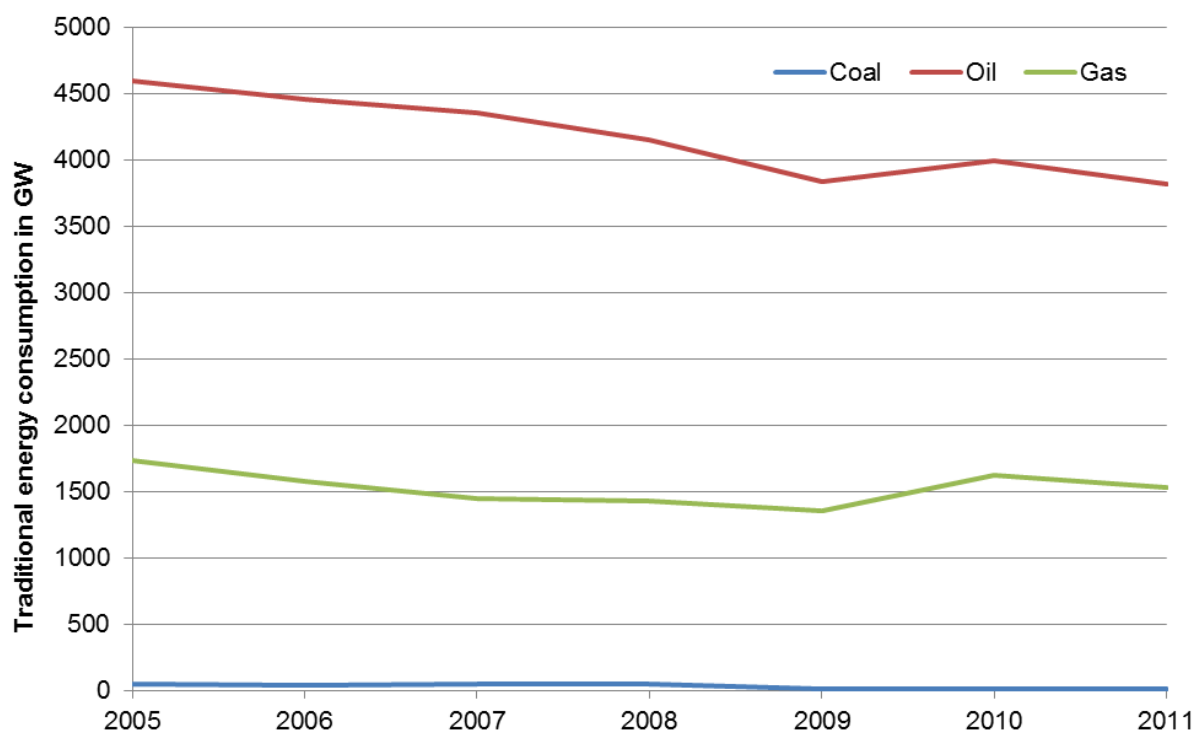


Figure 3.1 Traditional energy consumption in the Burgenland, 2005-2011

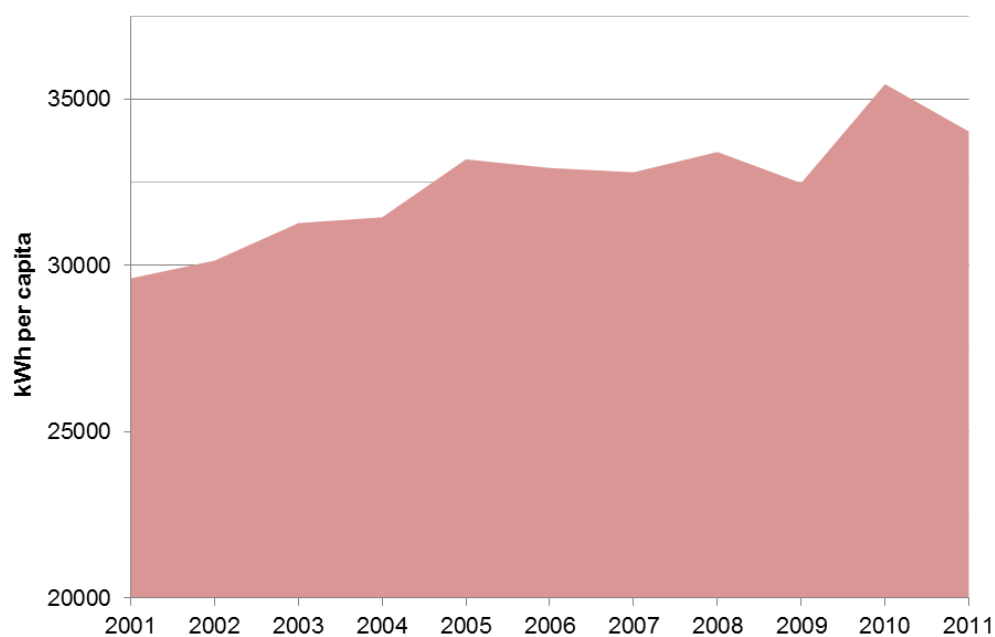
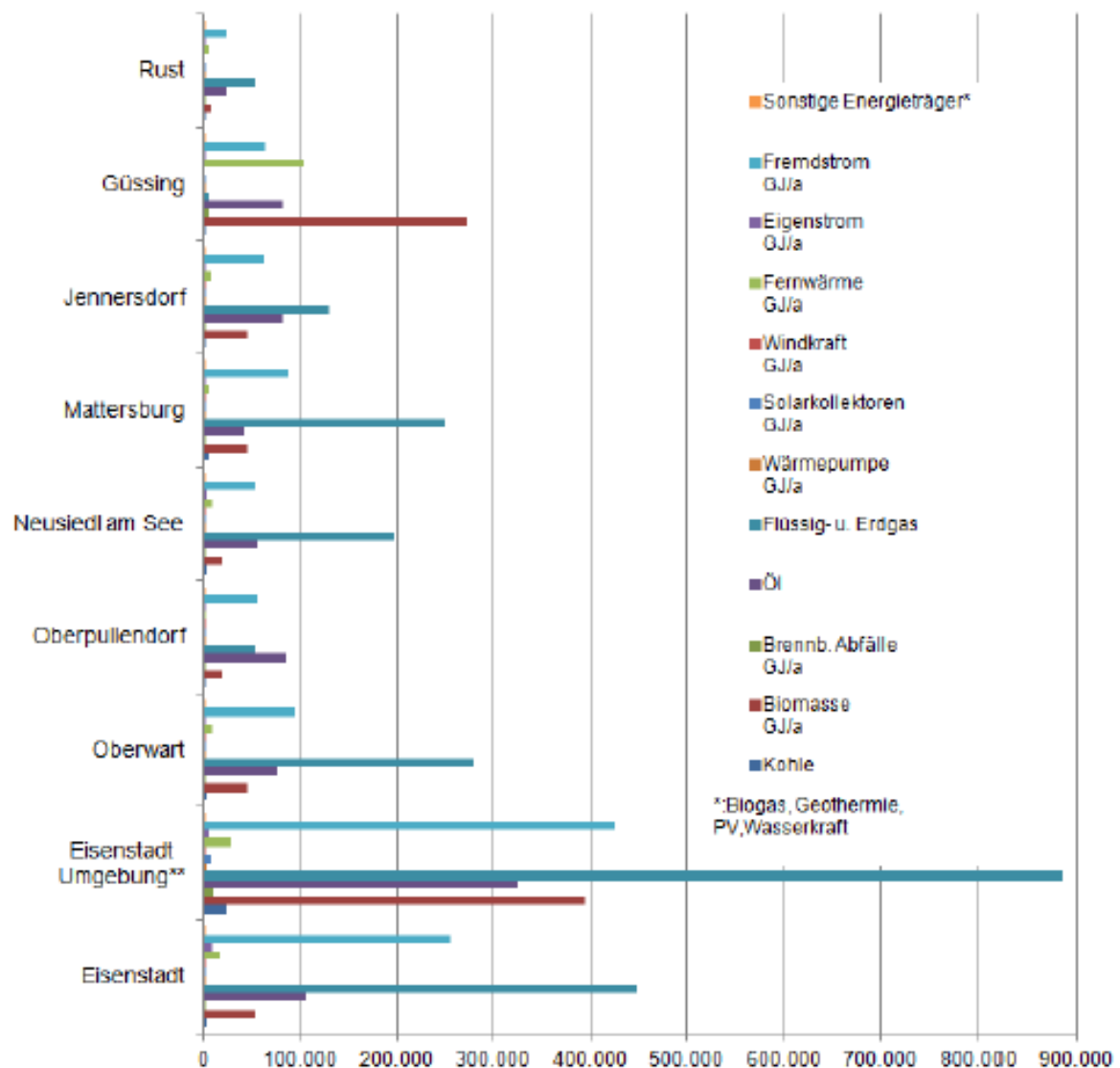


Figure 3.2 Energy consumption per capita in kWh in Burgenland, 2001-2011

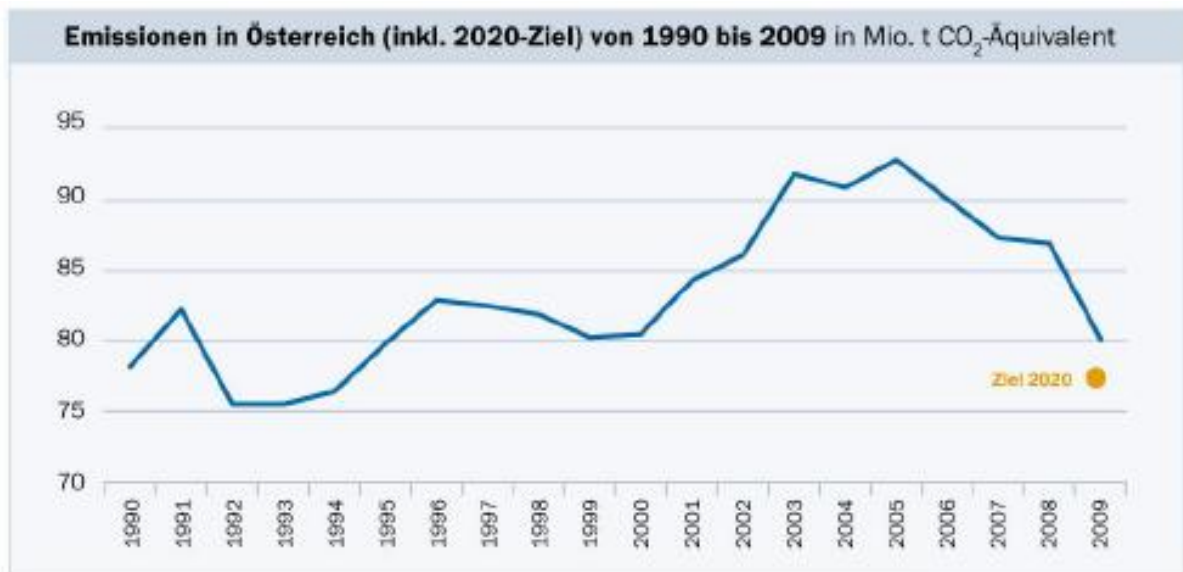
### Energieverbrauch in GJ pro Jahr (2009)



\*\* : Breitenbrunn am Neusiedler See, Donnerskirchen, Großhöflein, Hornstein, Klingenbach, Leithaprodersdorf, Loretto, Mörbisch am See, Müllendorf, Neufeld an der Leitha, Oggau am Neusiedler See, Oslip, Purbach am Neusiedler See, Sankt Margarethen im Burgenland, Schützen am Gebirge, Siegendorf, Steinbrunn, Stotzing, Trausdorf an der Wulka, Wimpassing an der Leitha, Wulkaprodersdorf, Zagersdorf, Zillingtal

Quelle: Burgenländischer Energiekataster, 2009: eigene Berechnungen, eigene Darstellung

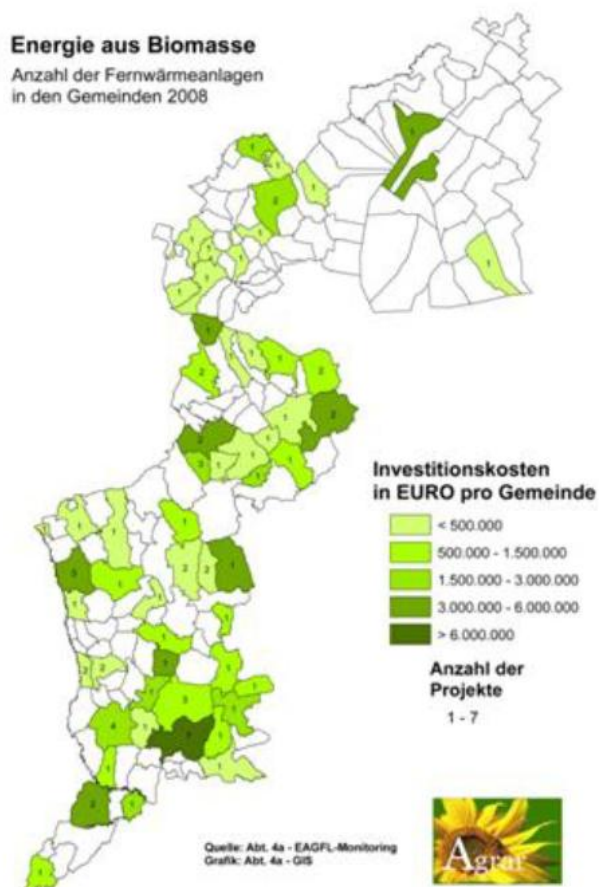
Figure 3.3 Final energy consumption by districts, 2009



Quelle: Umweltbundesamt

Figure 3.4 Greenhouse gas emissions in Austria, 1990-2009

### Biomass



Stand: 2008

Figure 3.4 Biomass plants and investment costs in municipalities, 2008

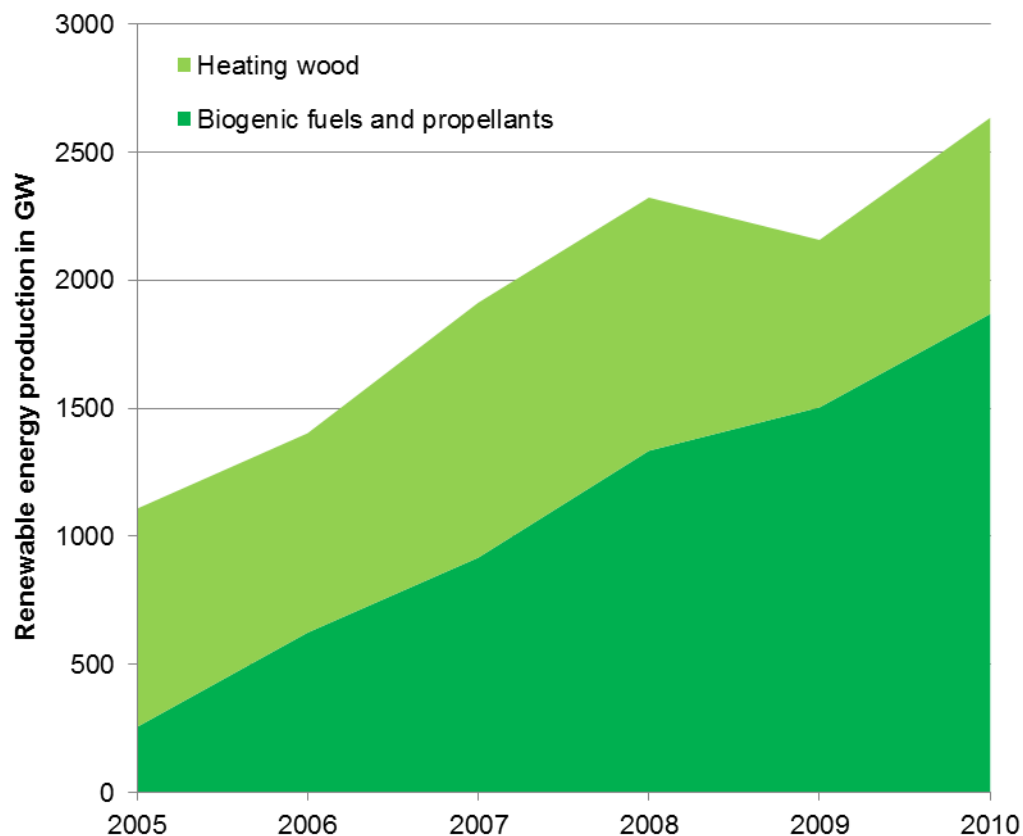


Figure 3.5 Energy production from biomass in the Burgenland, 2005-2010

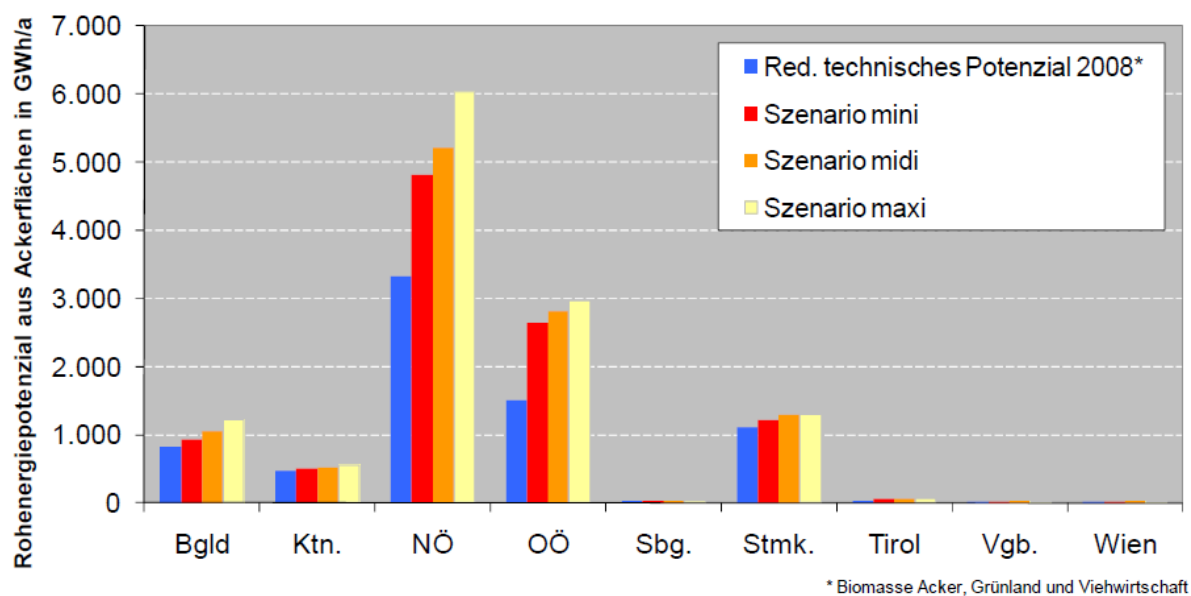
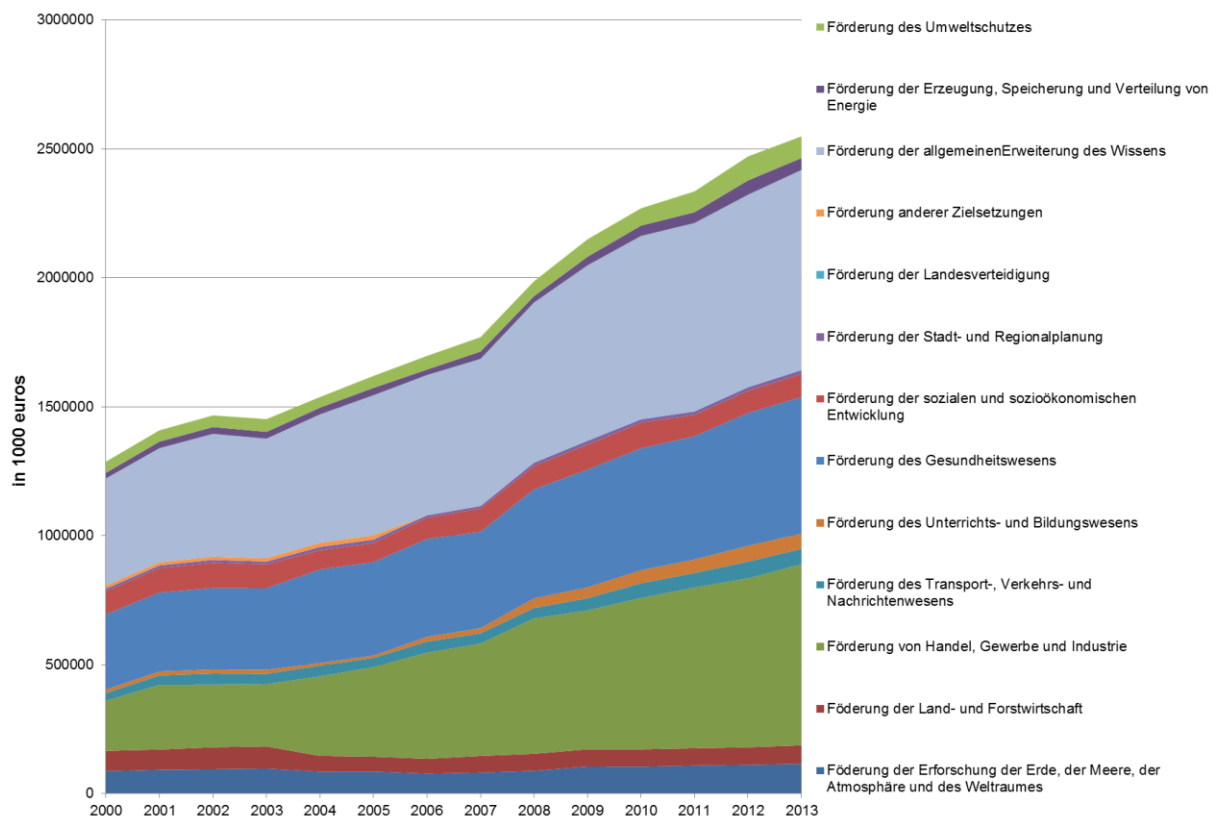


Figure 3.6 Potentials of energy production from biomass

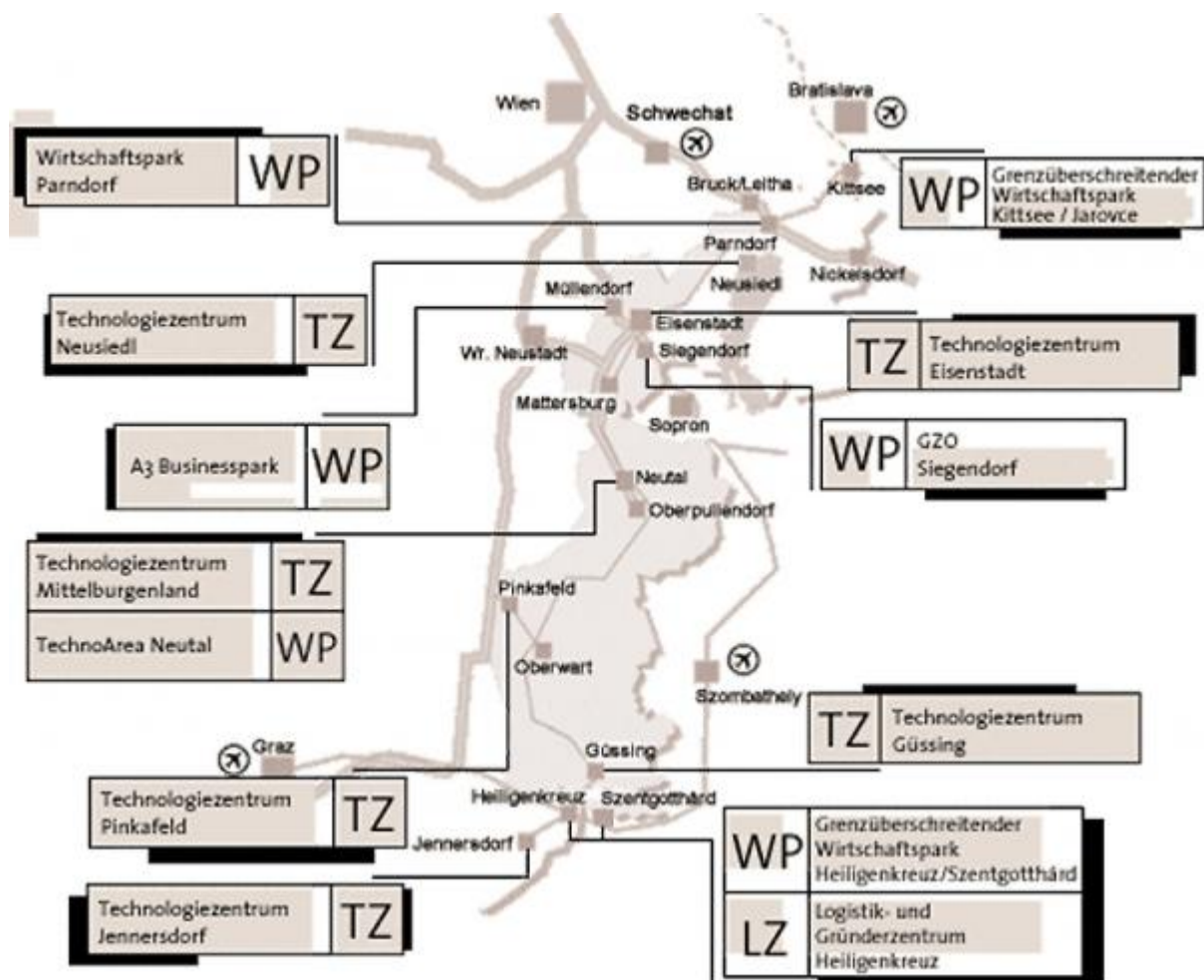
### Research and development purposes





Quelle: Statistic Austria, 2013

Figure 3.7 Federal expenditure on research and research promotion, 2000-2013



<http://www.burgenland.at/wirtschaft/wirtschaftszonen>

Figure 3.8 Technology centers and business parks in the Burgenland

## Solar energy

Abbildung 61: Jahressummen der Globalstrahlung in Österreich

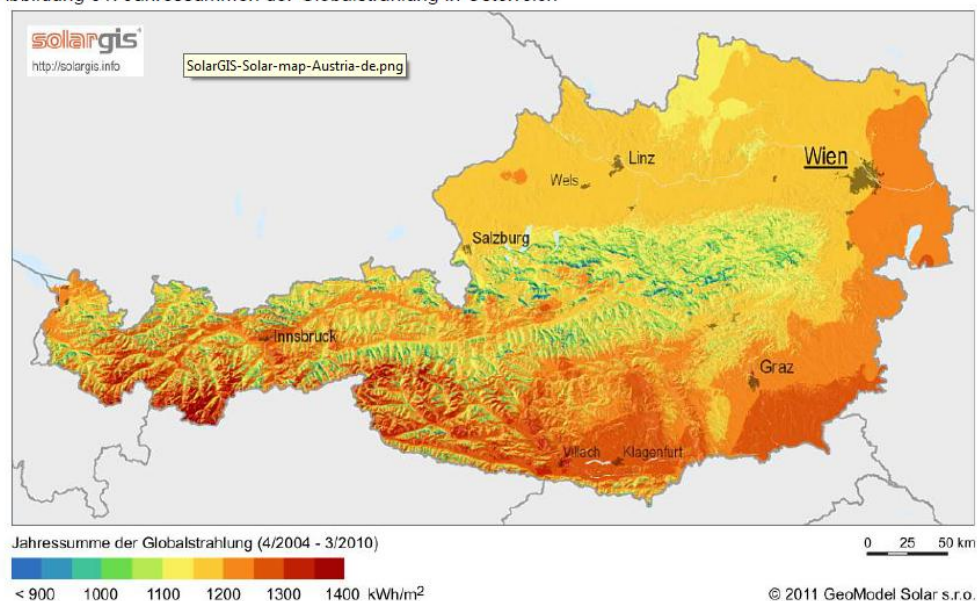


Figure 3.9 Annual totals of global radiation in Austria, 2011

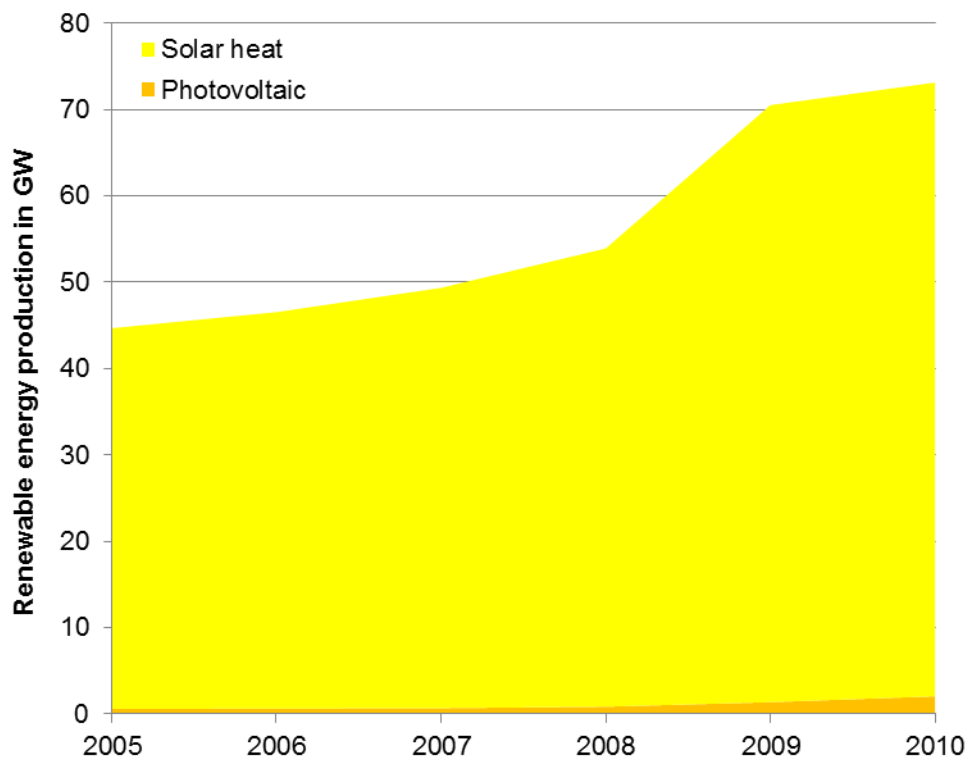


Figure 3.10: Energy production from solar in the Burgenland, 2005-2010

Abbildung 3.19: Solarthermie – Zukunftsszenarien 2020 im Bundesländervergleich

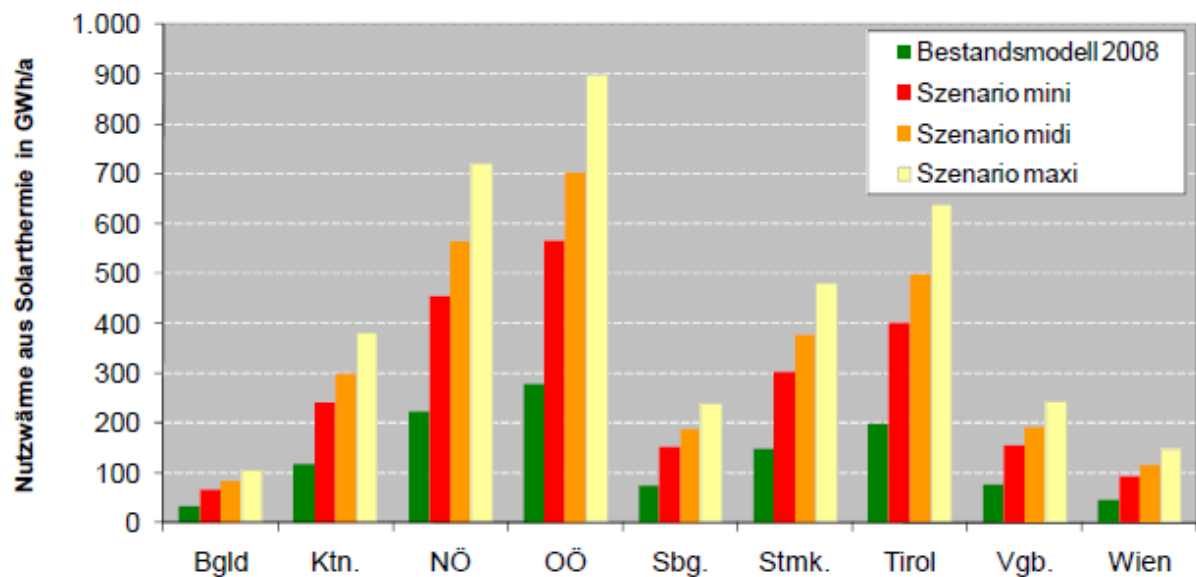
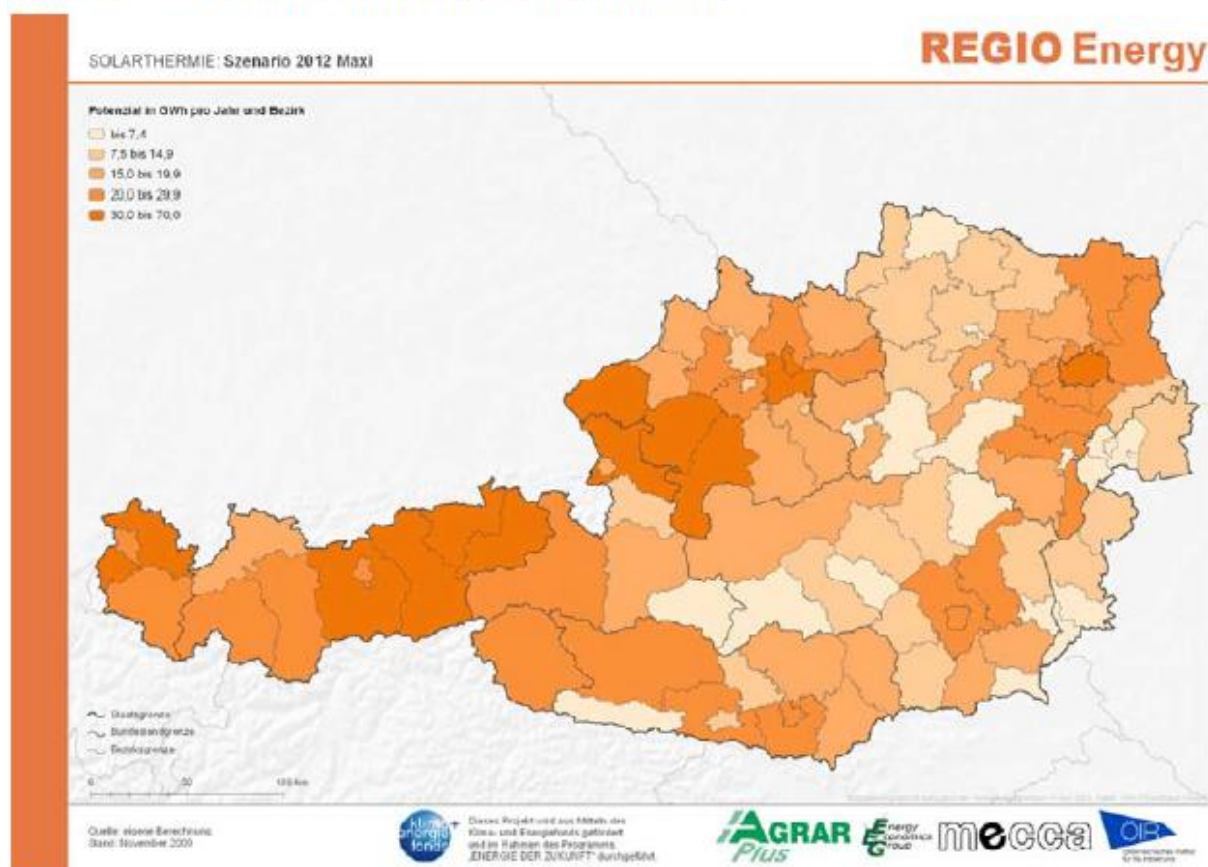


Figure 3.11 Potentials of energy production from solar energy

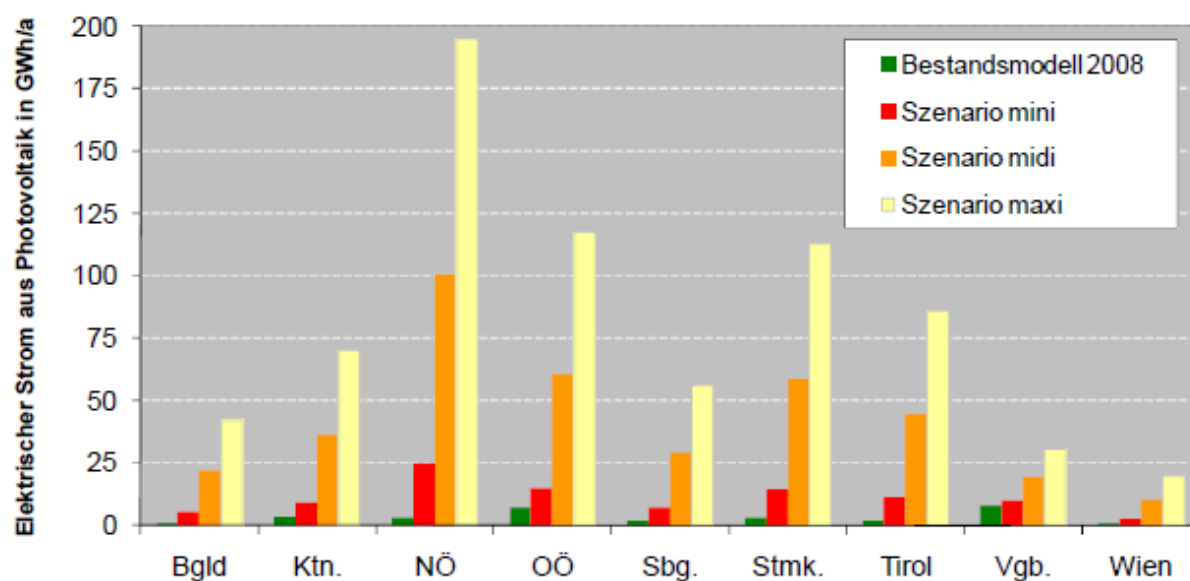
Karte 3.17: Solarthermie – Szenario 2012 maxi auf Bezirksebene



Quelle: EEG

Figure 3.11 Potentials of energy production from solar energy in municipalities

Abbildung 3.22: Photovoltaik –Zukunftsszenarien 2020 im Bundesländervergleich



Quelle: EEG

Figure 3.12 Potentials of energy production from photovoltaic

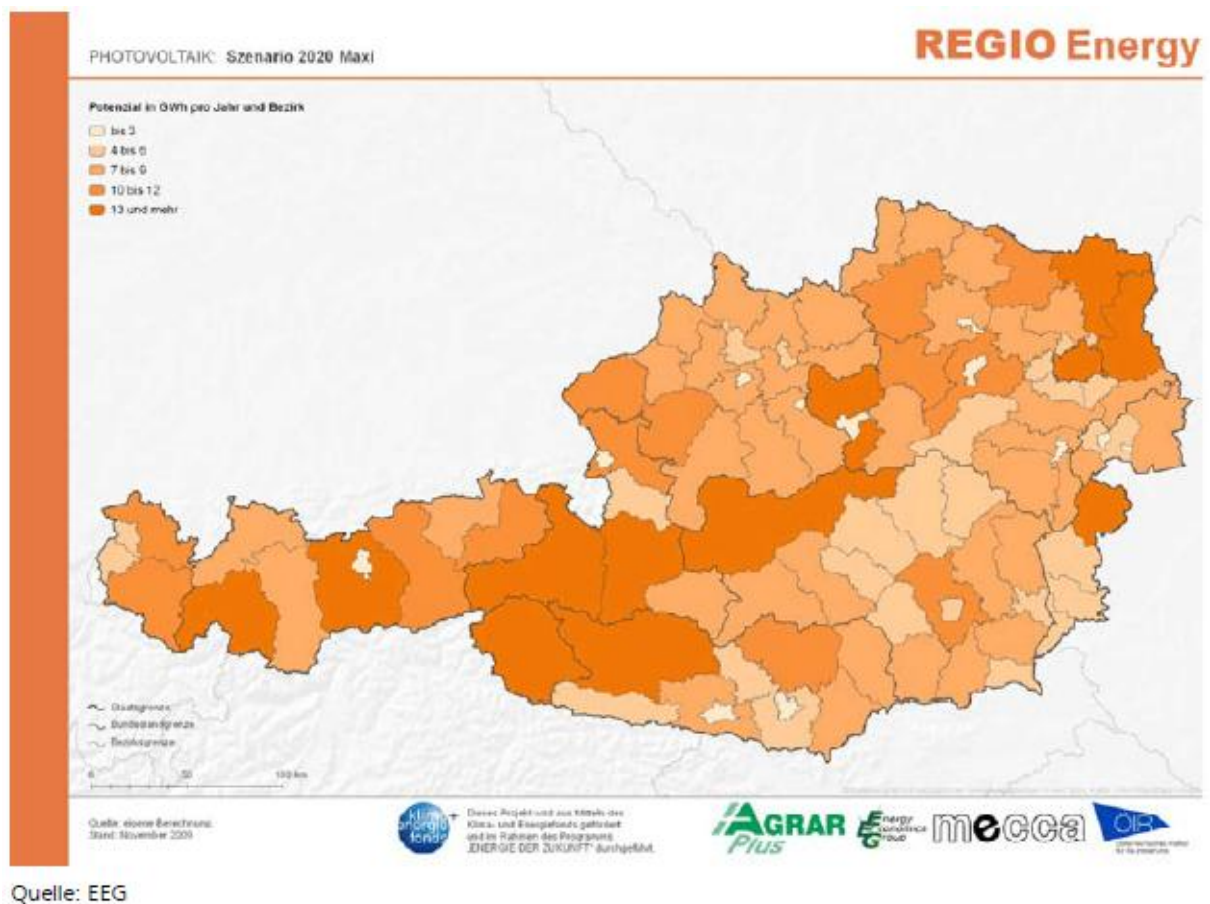
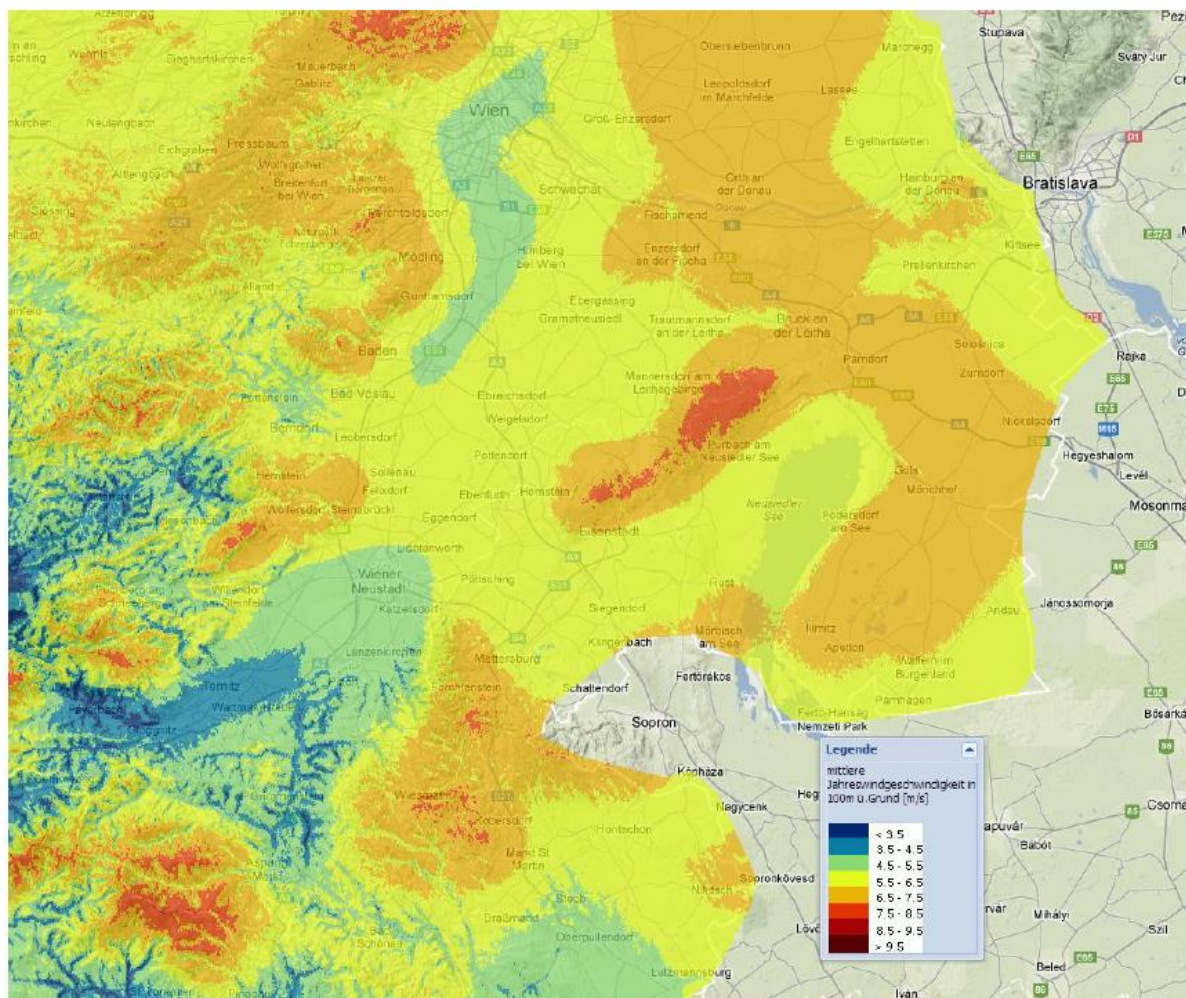


Figure 3.13 Potentials of energy production from photovoltaic in municipalities

## Wind energy





Quelle: Windatlas Österreich, Stand: 2010

Figure 3.14 Average annual wind speeds at 100 m above ground, 2010

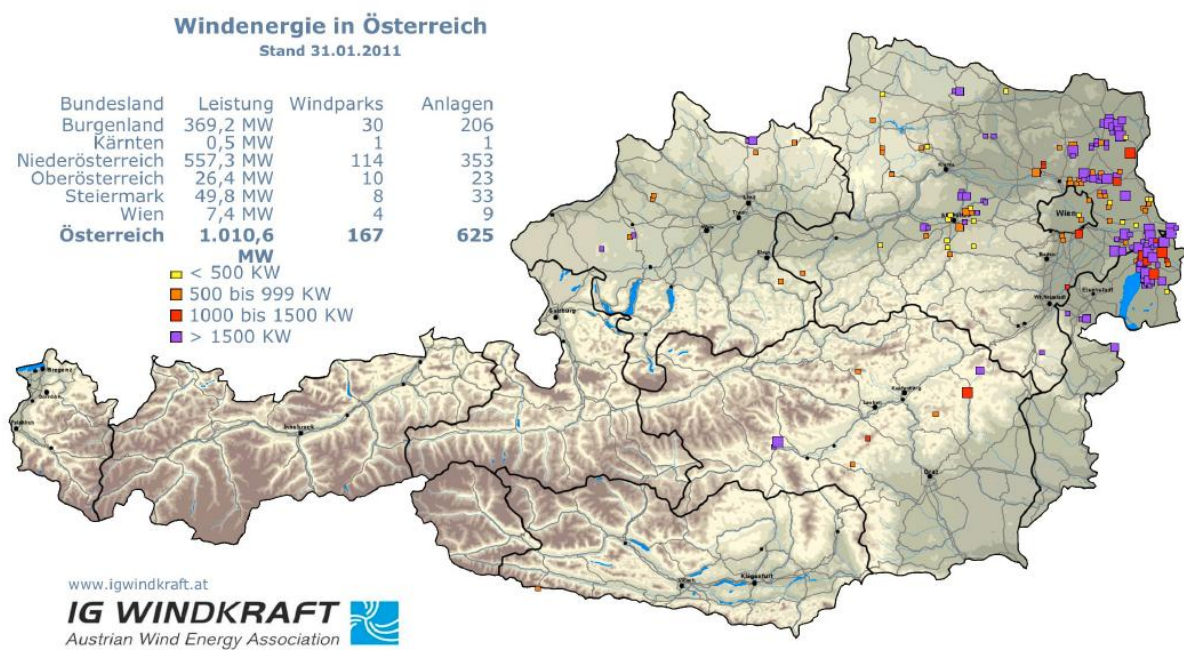


Figure 3.15 Existing wind turbines and their spatial distribution, 2011

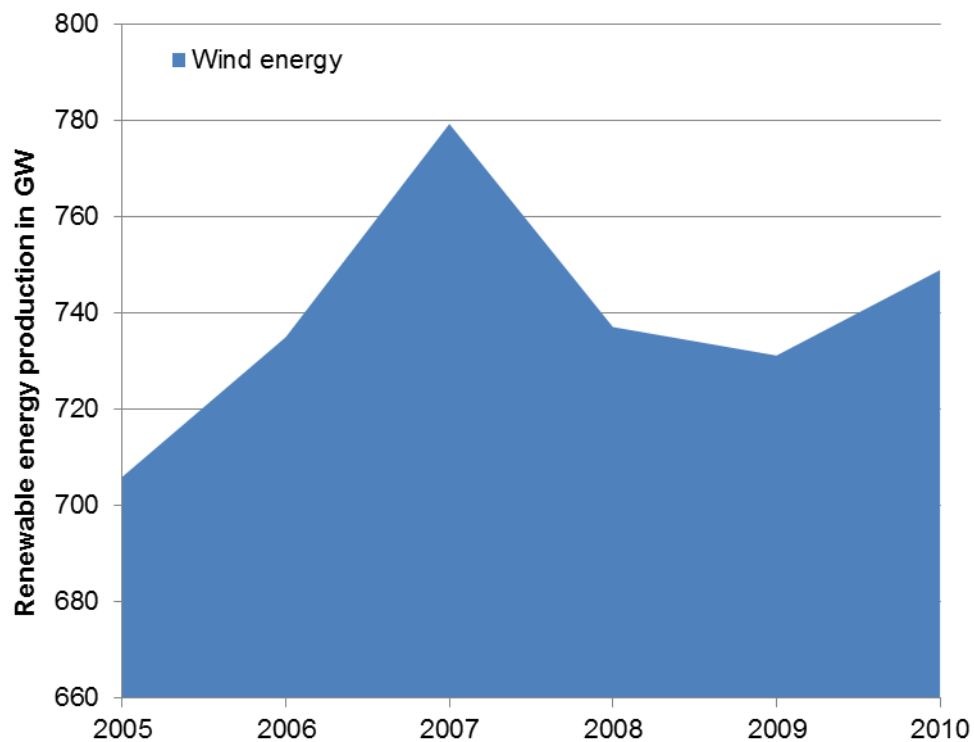


Figure 3.16 Energy production from wind energy in the Burgenland, 2005-2010

Karte 3.30: Windkraft – Szenario 2020 maxi auf Bezirksebene

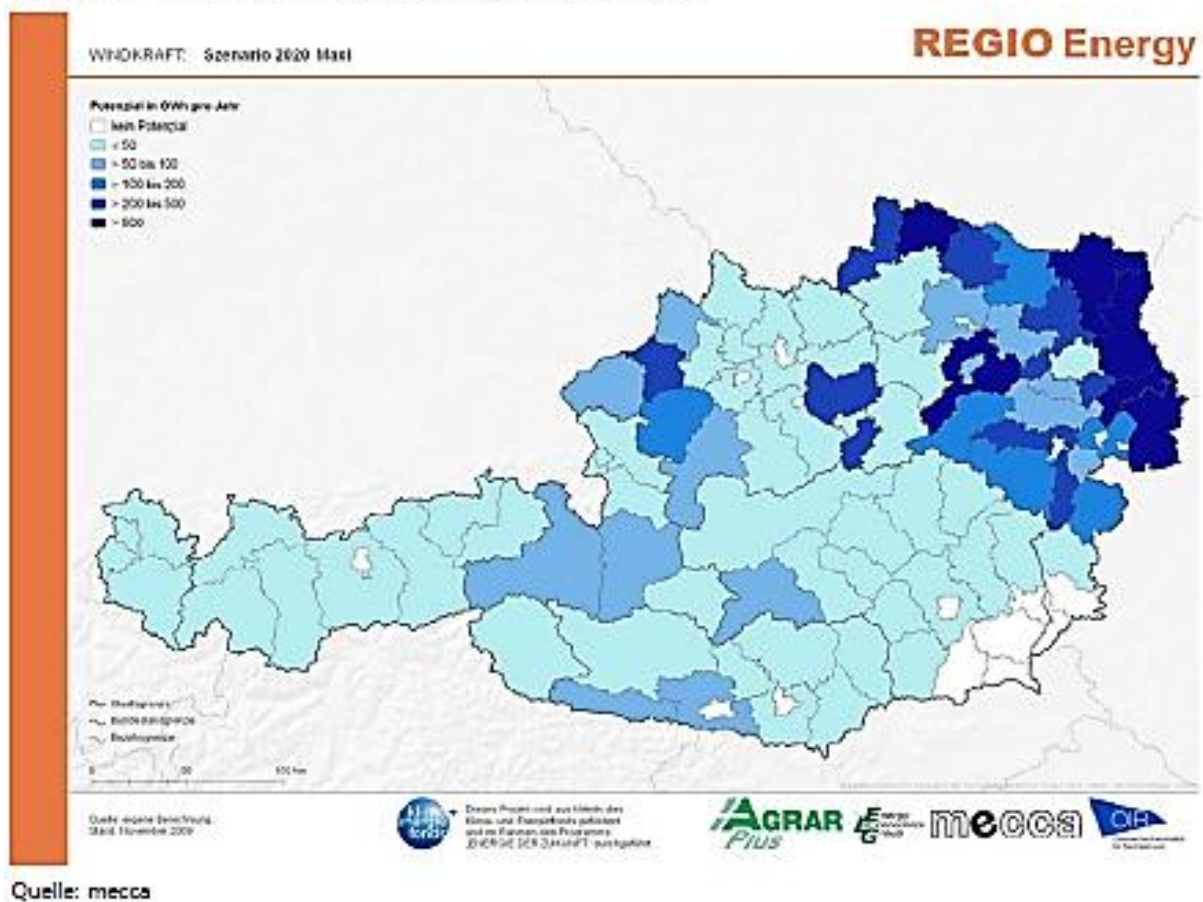


Figure 3.16 Potentials of energy production from wind in municipalities

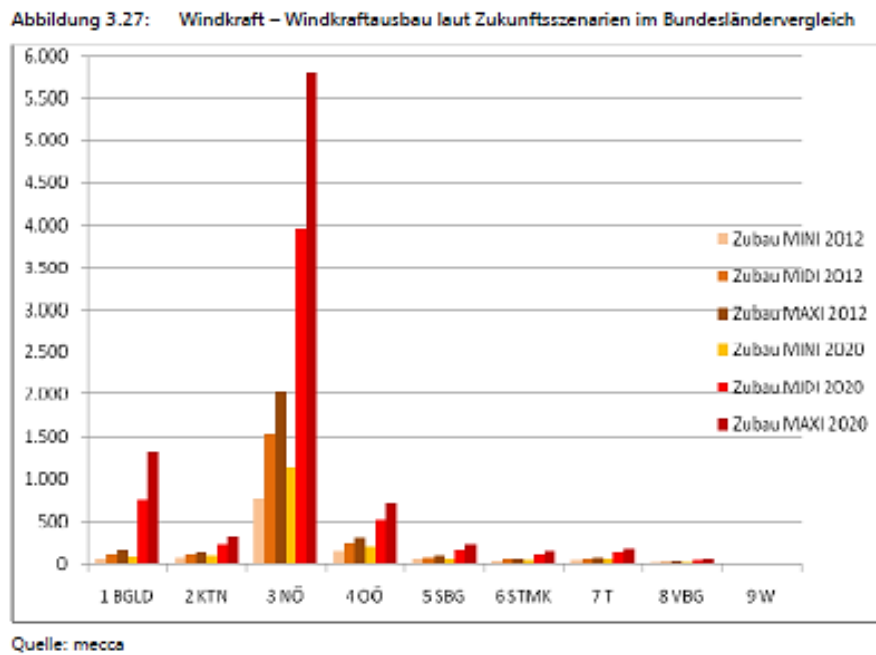


Figure 3.17 Potentials of energy production from wind

### Combined effects

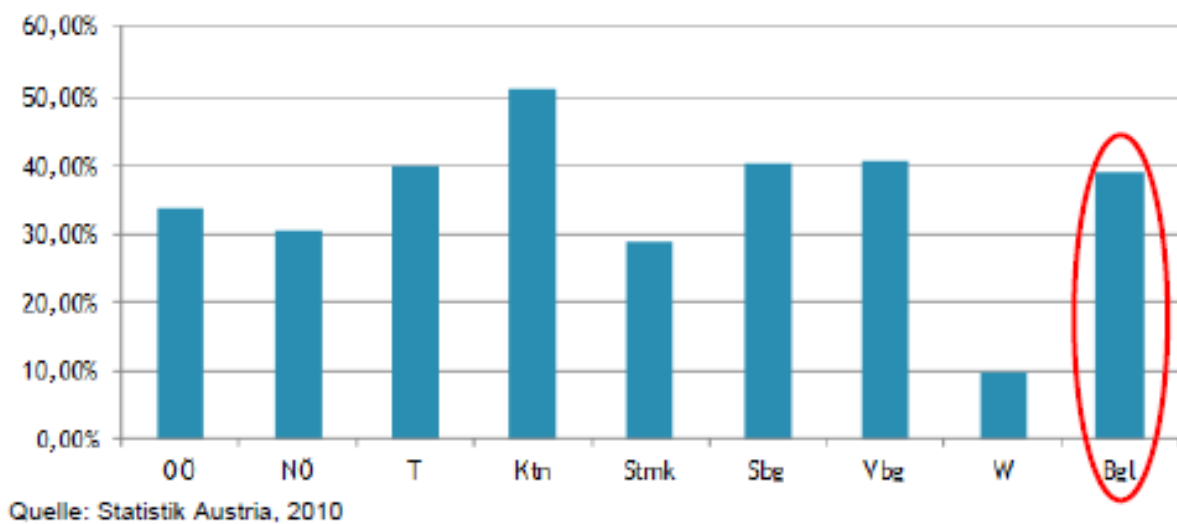


Figure 3.18 Share of renewable energies in final energy consumption, 2010



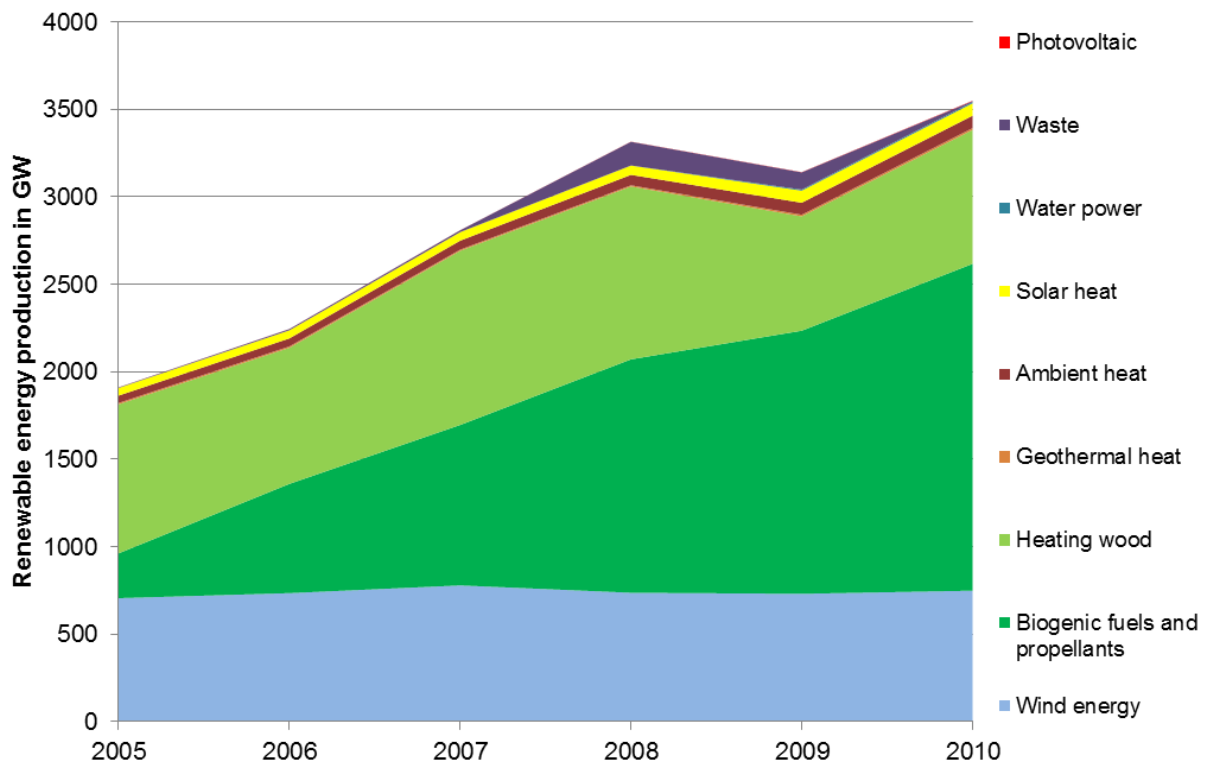


Figure 3.19 Energy production from RES in the Burgenland, 2005-2010

Potenzielle Selbstversorgungsgrade an Strom – Szenario 2020 maxi<sup>1</sup>

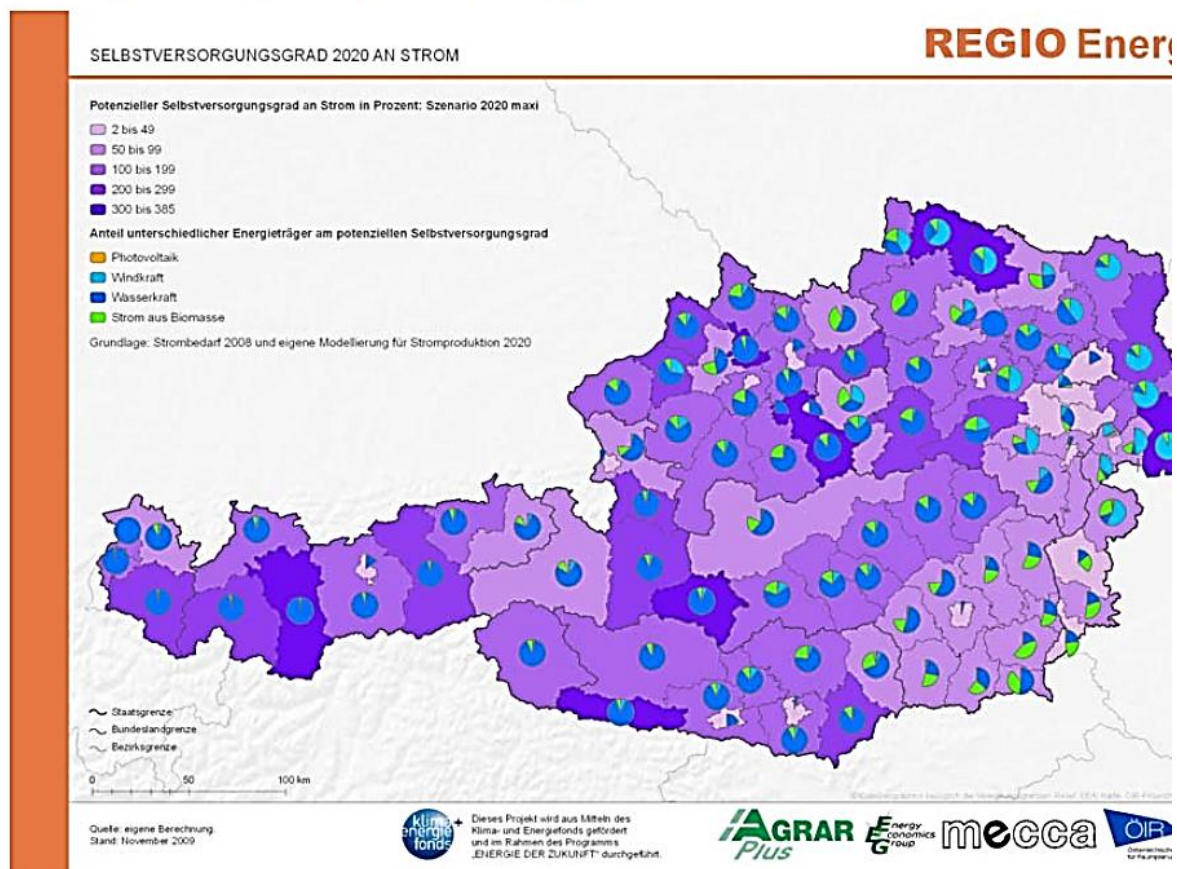


Figure 3.20 Potential of self-sufficiency in electricity

### 3.2 Key milestones of the development of the eco innovation and renewable energies sector

### 3.3 Drivers, barriers and enabling conditions

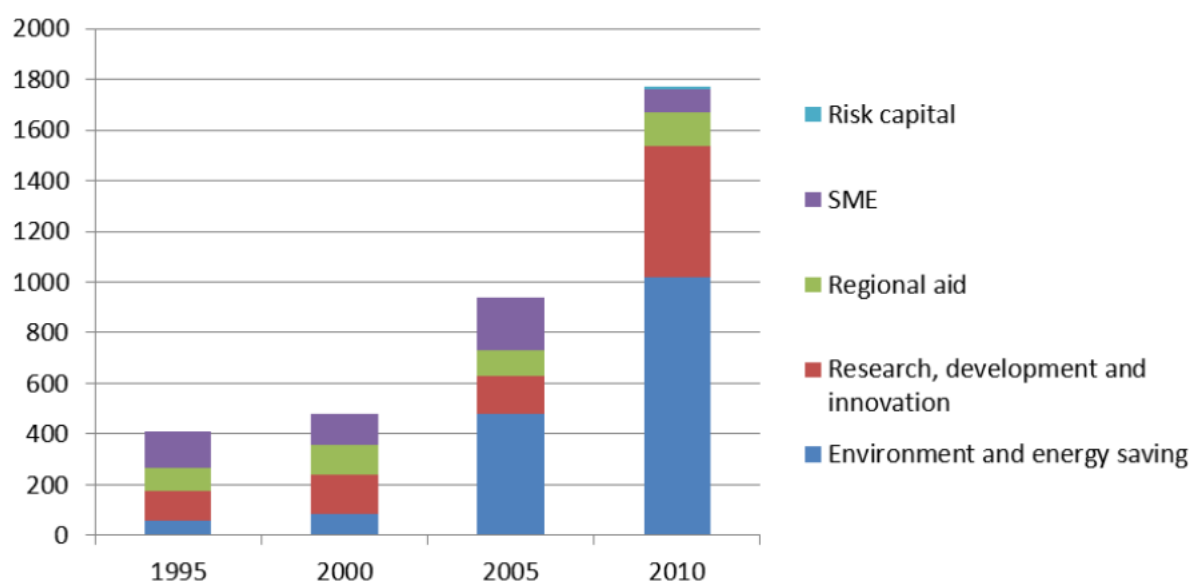
#### ERNEUERBARE ENERGIE, BURGENLAND (1995 - 1999, 2000 - 2006)

Förderprogramm	Anzahl Projekte	Förderbare Kosten	Beträge in €	
			EU	National
Ziel 1995 - 1999 (EFRE)	4	15 735 299	2 865 890	4 412 469
Ziel 2000 - 2006 (EFRE)	15	95 900 644	17 741 507	9 607 864
Additionalität 2000 - 2006 (EFRE)	20	43 214 981	0	11 861 321
Interreg IIA	10	674 439	222 164	241 937
Interreg IIIA	4	922 646	461 323	276 879
LEADER+	10	1 954 736	892 045	250 292
Ziel 1 2000 - 2006 (EAGFL)	190	21 994 684	6 339 824	2 113 274
<b>Gesamt</b>	<b>253</b>	<b>180 397 429</b>	<b>28 522 753</b>	<b>28 764 038</b>

European Commission, 2009

Figure 3.21 ERDF funding in the field of renewable energies

[http://ec.europa.eu/regional\\_policy/sources/docgener/presenta/brochures/osterreich\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/presenta/brochures/osterreich_en.pdf)



[http://ec.europa.eu/regional\\_policy/sources/docgener/evaluation/pdf/eval2007/expert\\_innovation/2012\\_synt\\_rep\\_at.pdf](http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/eval2007/expert_innovation/2012_synt_rep_at.pdf)

Figure 3.22 Development and structure of Austria state aid to enterprises by horizontal objective in EUR million

### 3.4 Spatial dimensions of the development of the eco innovation and renewable energy sector

### 3.5 Links with other sectors

### 3.6 Potential for development of the sectors

## 4 The road ahead: transferability and conclusions

## 6 References



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The ESPON 2013 Programme is part-financed by the European Regional Development Fund, the EU Member States and the Partner States Iceland, Liechtenstein, Norway and Switzerland. It shall support policy development in relation to the aim of territorial cohesion and a harmonious development of the European territory.

ISBN