

**Regional Studies Association
Annual International Conference
Monday 24th - Wednesday 26th May 2010
Pécs, Hungary.**

Session D 10 Regional Development, Governance and the Notion of Sustainability

**Innovative use of local renewable energy potential:
findings from a package of activities in a peripheral rural region in Austria**

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1. Introduction

Since the 1980s the regional policy in Austria is oriented towards an „endogenous regional development“ approach which embraces targeted measures to enhance local and regional initiatives, to develop innovative ideas and projects and to stimulate business foundation in the regions. This approach was mainly directed at peripheral rural regions which were affected by out-migration and lagging behind according to a series of economic indicators. The shift from a problem-solving to a potential-oriented approach in regional policy aimed at enhancing the exploitation of the opportunities of rural areas considering the specific regional contexts (Gerhardter und Gruber 2001, 14). In parallel to this endogenous regional development approach, „classical“ regional policy measures like business-investment support, promotion of enterprise settlement and infrastructural investments continued to play an influential role. While the accessibility of peripheral regions was upgraded through infrastructural measures, other instruments were mainly directed on growth regions and agglomerations.

During the 1990s the regional development activities were more technology- and innovation-oriented and efforts to build new economic relations with neighbour countries were increased substantially after the long period of political and economical isolation. These developments were encouraged by new agencies in the Austrian provinces which aimed to promote economic development, e.g. through technology transfer and the foundation of innovation and technology centres in the regions. Especially after the fall of the „iron curtain“ in 1989 peripheral rural regions in eastern Austria, which had suffered from the closed borders for many decades, had to find new strategies for their development under the new geopolitical circumstances.

In this paper the situation of peripheral rural regions in Austria and an example of creative use of the local resource will be discussed. Since the 1990s, with the opening of the borders to Czech Republic, Hungary and (then) Yugoslavia (now Slovenia) and the accession of Austria to the European Union in 1995, circumstances have changed a lot in the area along the northern, eastern and southern border. In the Austrian context, the application of regional policies for rural areas is most important in peripheral regions which are particularly characterized by adverse development trends due to low accessibility, labour market problems (e.g. low employment rates and integration of women and young people) and consequently continuing decrease of population. The main areas of peripheral rural regions in Austria are nowadays located along the former “closed” border to the East and in the peripheral inner alpine regions (Salzburg, Styria and Lower Austria).

Findings of the national project on “New opportunities for peripheral rural regions” (2007-2009) commissioned by the Austrian Conference on Spatial Planning (ÖROK) will be presented here. The objective of that project was to provide new options for these areas through engaging in a debate including the “myths and taboos” of rural development. The iterative discussion process with experts from politics and administration at regional and provincial level aimed at raising understanding for a more comprehensive view on rural challenges and main drivers of changes in order to explore ways out of the “negative spiral” of lagging regional economy, out-migration and degradation of infrastructure in peripheral rural areas.

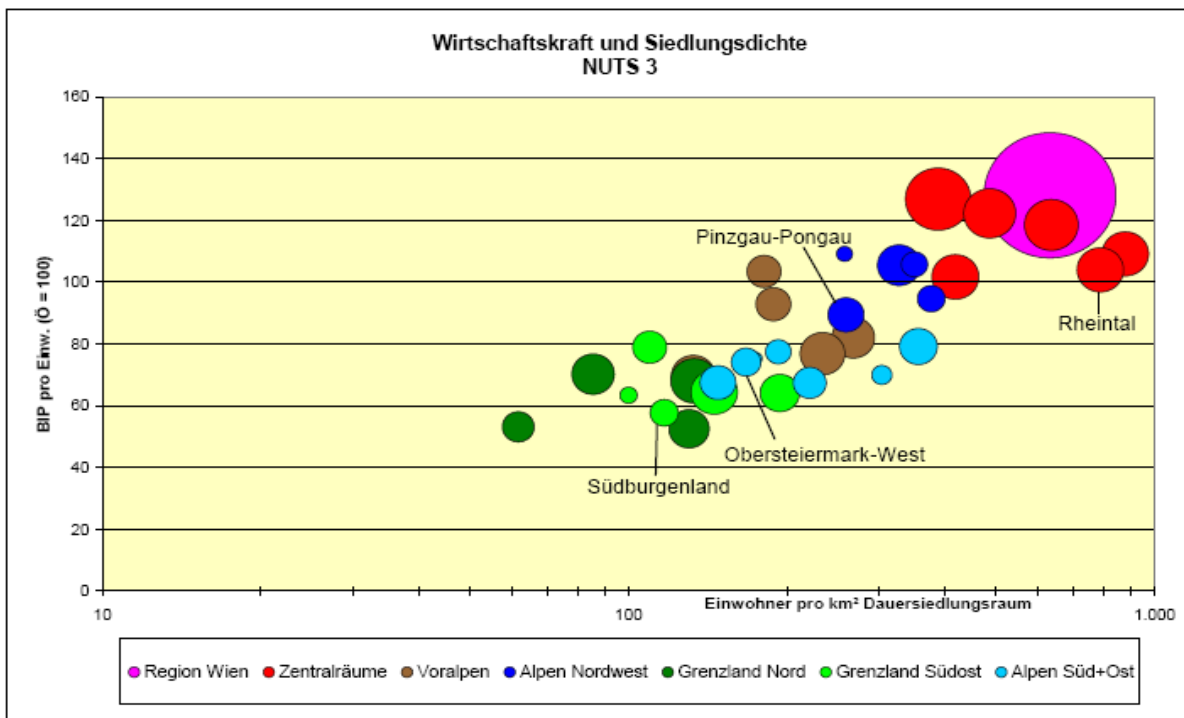
At the beginning of the paper main characteristics and selection of peripheral rural regions in Austria will be presented. The large proportion of less-favoured and mountainous areas in Austria and the different endogenous potentials of the various (peripheral) regions have led to diverse development strategies in these regions. Following analyses of key drivers for rural changes three priority actions

areas were identified, these include the issues *social diversity, inter-communal cooperation and land uses and changes of cultural landscapes* which have been experienced as particularly relevant for initiating innovative action in these areas. The discussions turned to far-reaching aspects and addressed questions like: *How can peripheral rural regions overcome the complex bundle of interrelated problems? Which (endogenous) development strategies do they develop and under which conditions can these strategies be transferred to other peripheral rural regions?* The paper will specify the case of the region of South-East Austria which suffered for a long time from its isolated location in Western Europe. However, several of small sub-regions have acquired remarkable experiences and distinct initiatives for rural development over the last 20 years. One case will be the town, respectively the micro-region, Güssing in southern Burgenland. Güssing is engaged in a strategy for achieving an energy-self-sufficient region since the mid-1990s and plans to expand this strategy to the surrounding municipalities of the whole district. This case study will provide a base for discussion of the relevance of a package of inter-related measures and actions addressing a tailored regional strategy in a peripheral rural context.

2. Characteristics of peripheral regions in Austria

The term „rural areas“ is omnipresent in everyday (German) language and inserted in numerous political documents, though its meaning is largely depending on thematic context and stakeholder’s attitudes. Considering the whole range of economic performance of Austrian NUTS 3 regions in Graph 1 (measured in GDP/head cross-tabulated with population density), a clear dependence of economic development from location and settlement structures can be concluded. Prosperous regions have both a high GDP and a high population density, like it is the case for the capital Vienna and other conurbations.

Graph 1: Regional economy and population density in Austria



Source: Huber 2008

Some peripheral regions within the Alps (e.g. Obersteiermark-West AT 226) and others at the southern border of Austria (e.g. Südburgenland AT 113) are affected particularly by low GDP and a low density of population. The population forecasts underpin the general trend in society of an aging population for all types of regions in the coming decades. The concentration of the population in larger cities and their surroundings and a further depopulation from some peripheral rural regions may be expected.

Regional development trends can be explained based on different indicators. The long-term comparison of residential and working population in Austria shows a long-term sustained trend of diminishing population along the former „Iron curtain“ border as well as in the peripheral inner alpine regions. A positive migration balance is reported mainly for the agglomeration areas of cities and including the intermediate regions. A much wider area is affected by negative employment trends than by shrinking population figures; this indicates that large parts of (peripheral) rural areas fulfill mainly the function of residential areas. The West-East disparity that evolved in economic performance of Austria's regions in the post-war period due to the spatial separation from its eastern neighbouring regions has decreased with the integration of the new Member States and the application of Structural Funds support for the area (particularly objective 1 in Burgenland).

Different types of rural regions

There exist not only one type of „rural region“, but a number of heterogenous situations that are not as clearly to demarcate as often pretended in popular arguments. Rural regions differ widely with respect to their development paths and perspectives and therefore the actions they call for, also differ substantially. To start with the most integrated areas, *rural areas in urbanized regions* cover a space that can best be understood as functional areas, circumscribing the commuting areas of larger cities as well as in polycentric areas the surrounding zones of main transport routes. These regions exhibit a fast development dynamic and have to cope with the manifold challenges involved in spatial development and planning. There are few examples of this type in Austria; besides the region of the national capital Vienna, the region of the Rheintal in Vorarlberg at the far west of Austria (Rheintal-Bodenseegebiet AT 342) is instructive in providing a show-case where a comprehensive scheme for regional cooperation, spatial planning and integration of rural development of peri-urban areas was developed in a participative process. *Rural regions characterized by intensive tourism* are mainly located in the western parts of Austria's Alpine region (e.g. Pinzgau-Pongau AT 322). They are also characterized by a fast dynamic, but also by structural dependence on tourism. Ecological sensitivity heightens the need for steering spatial development taking account of the sensitivity of the natural environment.

Finally the *peripheral rural areas* located mainly in the southern and eastern parts of Austria's alpine regions and along the former border to the new Member States (Hungary, Slovenia, Slovakia and Czech Republic) present “problem” regions that are often alluded to as the typical kind of rural areas referred to. They are characterised by low economic productivity and shrinking population numbers. In these peripheral rural areas business activities and the population are increasingly concentrating in regional centres such as the district capitals. These are the local drivers for regional economic development at the micro-level revealing a distinct internal differentiation of spatial development within the small-scale regions. As regional policy in Austria is particularly focused on this latter group, the project objectives were also targeted at addressing new approaches to action for these contexts.

3. Strategic approaches and new policy priorities in peripheral rural regions

Elaborating future perspectives for the development of peripheral rural regions, three issues have crystallized to be particularly important for stimulating processes of change in these areas. These action areas have been highlighted at the start of the project in a survey on views and visions on “rural” regions that tried to address issues which are often ignored or neglected in policy development due to its controversial and multi-sector aspects. Many comments referred to the need to open up discussion to less tangible dimensions and not straightforward cause-effect relationships. This included an assessment that economic factors are exclusively decisive for further development of these regions, but also a number of future-oriented issues like *social diversity*, *inter-communal cooperation/ urban-rural cooperation* and *the evolvement of land use and shaping of cultural landscapes* are important factors for change and future development in peripheral rural regions (Dax et al. 2009). Having sorted out these three thematic areas, they underpin the different dimensions of socio-economic and cultural development that have to be realized in an integrated way to achieve regional activities that are adapted to the context and local societies, take account of specific resources and achieve sustainable results in its various dimensions.

Social diversity

It is not only economic efficiency and employment opportunities that determine the appeal of peripheral rural areas, but rather the richness in its social structures. The population in rural regions is far from homogenous and differs with respect to age, gender, ethnic groups and origin, and levels of knowledge. However, this diversity does not find due expression in the political and decision-making bodies of regional development organizations, and only rarely are all social groups specifically included in the development processes. Equal opportunities of men and women, the relationship between the generations, the integration of immigrants have not been given sufficient attention in rural development policy considerations up to now.

The social capital available in a region is defined by the extent to which the different actors and groups are able to develop their creativity, interests and talents and contribute to the development of their regions. „Narrowness“ of social space is a factor that contributes – apart from „hard“ factors such as available jobs – to out-migration and „brain drain“ from these areas.

There is a specific task for regional development that was potentially disregarded up to now in many contexts in this theme: However, interested field actors and analysts conclude that efforts to enlarge social spaces and enhance use of such spaces have to be increased to take full advantage of the local population’s potential. The activation of existing creative and innovative potential could very well release crucial stimuli for local and regional development and above all contributes to lasting effects. In rural regions, projects to better integrate migrants or to improve the compatibility of jobs and family can contribute, for example, to improving the quality of life. One of the main parts of activities in this aspect relates to the role of women in the development process. This implies the need for an understanding to strengthen the presence of women in public political functions and encourage dialogue with critical and creative persons. For example, people who have out-migrated from their “home” region often dispose of an increased awareness on the region’s contextual strengths (and weaknesses) and could share relevant know-how for regional development (Dax et al. 2009, 12).

Intercommunal and urban-rural cooperation

Regional actors in peripheral rural areas will only be able to enlarge their scope of action, if they achieve to bundle their strengths. This might lead to create development incentives and momentum for better exploiting existent opportunities. Therefore, regional development and planning will have to rely increasingly on taking advantage of cooperation potentials. In the past years, numerous initiatives were started in Austria to promote collaboration among municipalities (see examples e.g. in Styria the programme regio next and in Upper Austria the programme INKOBA). In spatial planning policy, several provinces promoted the formation or strengthening of small regional structures. Many rural municipalities took part in the cooperation projects of the Leader programme. Therefore, a lot of experience has been gained with the different types of inter-communal cooperation, e.g. the joint provision of public services, operation of infrastructure, the preparation of rural development schemes and the establishment of enterprises. The inter-communal cooperation has various forms of organisation and takes place within various types of cooperative structures with varying degrees of commitment.

In peripheral rural areas, business activities and the population are increasingly concentrating in regional centres, i.e. mainly the district towns. These are important for regional economic development as centres of employment and education, as supply centres and as small cultural centres ("meeting places"). Outmigration and depopulation are threatening many small-structured rural municipalities which makes it especially important to support any self-organized effort to secure community services. To achieve the positive overall development of peripheral rural areas, cooperation between the regional centres and the rural surroundings need to be strengthened.

Land use and shaping of cultural landscapes

Large parts of peripheral rural regions are characterised by adverse production conditions for agricultural and forest land use and, moreover, by limited options for other industries. Yet they have often attractive cultural landscapes that represent a specific potential for tourism uses. Regional development schemes often focus on the objective to preserve existing landscapes and build their strategies on these. This includes the wish to guarantee the agricultural land use also in areas with unfavourable production potential and structures. In fact, the landscape patterns are evolving and the desired mosaic of diversified land use has already changed in many cases. It would seem to make sense to allow for the discussion of new objectives and engage in the development of new outlooks and alternative uses, before the exodus process of giving up active land use (particularly through farming activities) accelerates. A differentiated view of land use intensity is important especially for peripheral, mostly sparsely populated areas. Spaces where landscapes in a situation close to natural conditions and possibly also areas with „wilderness“ elements still exist, the tendencies to increase valuation for such low-intensity areas could be seen as opportunity, signifying uniqueness of the places. Such diverse landscapes are often sought as a special attraction and the low share of "wilderness" areas in Europe has been highlighted recently by a European Parliament resolution.

4. Peripheral rural areas in South-East Austria

The southern part of Austria (Carinthia, Styria and Southern Burgenland) was for a long time characterized by a low GDP and continuing out-migration from its remote areas. The economic indicators were persistently lagging behind the economic development of Austria. After opening of the borders to the neighbour countries, hopes awakened that a new economic area could be developed through a trans-national cooperation process, leading to the so called „Future Region South-East“ (Carinthia, Styria, Burgenland, Hungary, Slovenia, Italy). Indeed since the 1990s the economic development is catching up after restructuring processes in industries (Styria) and investments from the EU Structural Funds. Although the value added is growing and the employment situation became better, the commuting rate is still extremely high in these regions. Nevertheless the peripheral rural areas in Southern Austria have gained from an overproportional growth in the last two decades related to the EU-average (EU 25). There are hopes for an increasing economic growth in the near future in the fields of business services, tourism, production of industrial goods and innovation- and technology-orientied fields (e.g. sustainable technologies) (Mayrhofer et al. 2004) which would add to the creation of a more powerful trans-national economic area in this formerly lagging region.

The most severely hit peripheral areas within the South-East of Austria is to be found in Southern Burgenland and Eastern Styria. We will focus on the situation of Burgenland and specify the particular development within a district of the Burgenland, the area of Güssing which concentrated their development efforts on the use of alternative energy. These parts suffered for almost one century from its remote location and the weak economic situation. It is the Southern Burgenland which had in the 1980s the lowest regional GDP (58 %) of the Austrian regions.

Regional integration of the province of Burgenland

Burgenland lies in the east of Austria at the border to the Slovak Republik, to Hungary and to Slovenia and is one of the smallest provinces in Austria. In terms of population (about 280.000 inhabitants) it has a particular low population figure. Due to its north-south elongation (160 km) on the one hand and the consequences of the re-drawing of borders after the collapse of the Austro-Hungarian empire and the associated loss of functional markets, particularly the loss of all developed urban centres (Sopron, Szombathely), internal economic development had great difficulties. As Burgenland was separated from the former Western Hungary in 1921 and became the ninth Province of the Austrian federation, it is the “youngest” Austrian province and thus also there were additional institutional development problems. Topographically, the Burgenland is largely set between the periphery of the Hungarian lowlands and the Alpine areas of other regions of Austria to the west.

While Northern Burgenland, particularly the area around Eisenstadt and Mattersburg can be considered central places in terms of accessibility to the federal capital Vienna and their attractiveness as a business location, most of Central and Southern Burgenland can be classified as extremely peripheral (EC 2009, 3; Dax et al 2009, 34-35). The peripheral situation and the lack of urban amenities made Burgenland to a classic emigration region for decades (and even centuries, Dujmovits 1975). From the 1850s through to the 1950s many inhabitants emigrated mainly to the United States, Canada, and South America. Over this period for years Burgenland had negative population growth. Population development lagged well behind the comparative population trend for Austria up until the 1980s.

Only in the late 1980s a catching-up process in economic development started and lately had some impact on population development. However, at first sight this was mainly perceptible in Northern Burgenland and Middle and Southern Burgenland still were left behind. These other parts of the province developed with a rather negligible increase, and the population was stagnant or even still in decline. Compared with 1991, the 2001 census reported a 2.5% population increase for the province as a whole, which is below the average development for Austria. The positive population growth in the last two decades is mainly attributed to net immigration (including external immigration, e.g. from new MS and Balkan countries). In several parts of the regions the population balance is still negative which is also due to the fact that the Burgenland has one of the lowest fertility rates in Austria.

Despite the economic catching-up process, which has picked up speed in the last ten years, Burgenland is still the least economically developed province in Austria. As a matter of fact this was underscored by recognizing the province as the only Objective 1 area of the EU Structural Funds. The situation is exacerbated by a pronounced North-South differentiation of economic development, services provision and accessibility. The economic strength of Burgenland, measured in GDP per capita, is well below the Austrian average and the respective thresholds for EU-27. Following the support from objective 1 funds and the wide range of activities for regional development in the 1990s the province reached 82.5 % of the European average level in 2002 which already signifies a substantial increase from the former even lower level. This improvement of the economic performance was subject to pronounced regional disparities. Northern Burgenland almost reached the European average (EU-25), while other areas of the province are lagging behind significantly. At the national level the comparison with the Austrian average shows that the province is among the least performing regions, only achieving 67 % of the national average nowadays (EC 2009, 3).

Graph 2: CENTROPE Region



Source: <http://centrope.com/centropenew>

After the political and economic changes in the 1990s through the opening of the borders and the Austrian EU-accession many efforts were taken to develop new economic regions under the new geopolitical order. Burgenland has become part of the „CENTROPE“ region which comprises the area of the capitals Vienna and Bratislava, as well as the city areas of Győr and Brno and surrounding

regions (see Graph 2). It is also part of the „Future Region South-East” with the Austrian provinces Carinthia, Styria and Burgenland, and the neighbouring regions of Hungary, Slovenia and Italy as well as a partner in the EU Regio West/ Nyugat Pannonia (Burgenland, Győr-Moson-Sopron, Zala and Vas).

Since the accession of Austria to the European Union the regional policy strategy focused on efforts to enhance the economic development and to reduce the north-south development gap through Objective 1-funding with a technology- and tourism-offensive strategy. Since 1995 other policies like the Community Initiative for rural development, the EU-Leader programme, were implemented and added to the substantial changes in the regional economy and society. The province is also very engaged in the application of the Interreg Programme and participates in the programme ESPAN (Energy Strategy for Pannonia). As for rural development the current funding period includes three Local Action Groups (LAG) in the Leader programme which apply to all the area of the province. The main fields of action in the local development strategy of the LAG „Southern Burgenland” are: *development of the leadership in renewable energy, a strategic approach for advancing eco-mobility, the diversification and marketing of local food specialities, enhancing the multicultural region and activities for learning without borders*. Due to mainstreaming of the Leader programme into the national Rural Development Programme there have been considerable administrative changes which have also implications for the contents of the actual programme activities (Strahl et al. 2010). The efforts for developing the region are not only caused by the EU-Structural Funds programmes or national programmes but also arise from deep suffering of the weak economic situation of the region as a whole and of communities in particular in this peripheral area of Austria.

The following example of the strategic approach of a municipality in Southern Burgenland (and the surrounding district) will be presented as an instructive case where a series of inter-related action have been taken. The process started in early 1990 and aimed to overcome the “negative spiral” of regional development. It thrived to find ways how to improve the weak economic and employment situation. The idea was to reach „energy autarchie” in the municipality (and later in the micro-region) through the innovative use of the local renewable energy potential.

5. The case of Güssing: energy-self-sufficiency as development concept

The district of Güssing is situated in the southern part of Burgenland and had long suffered from its isolation. It was considered a “dying” region affected by high and persisting out-migration, extremely high commuting rates (with very long commuting distances, as far as to Vienna, about 150 km) and increasingly land abandonment. Because of the geographically unfavourable location near the border, major trade or industrial businesses did not establish at that time and the whole district did not have any transport infrastructure at all (neither railroad nor highway). This resulted in a scarcity of jobs, with 70% weekly commuters to Vienna. In addition, there was the problem of substantial capital outflow from the region caused by the need for energy from outside (oil, power, fuels), while existing resources (e.g. 45 % forest land of the total area) remained largely unused (bmvit 2007).

Because of these weak economic circumstances the Council of the town Güssing adopted a new energy concept for the town in 1990 in order to save money for energy expenditures. The aim was a 100 % replacement of fossil energy use for heating, power generation and transport fuels by alternative energy, produced in the region. First, the town evaluated its energy consumption patterns and applied energy saving practices such as optimizing streetlights. In this way the municipal energy expenditure could be reduced by 50 % within only a few years (Brunner et al. 2006, 93).

In the following years the responsible actors in the town developed the advanced use concept for existing renewable energy resources in the region, e.g. 45 % of the total area is forest land which has been largely underused or even remained unused until that time. The aim was to halt the high capital outflow for the purchase of energy and to produce and provide renewable energy within the region, aiming to selling it to the citizens (customers). Within a short period a district heating plant, fired with wood chips, was constructed. More than 27 kilometres of long distance heating pipelines were built and 40 % of Güssing's private households, 95 % of public buildings and several enterprises are currently connected to the plant. In summer heating energy is used for cooling and industrial purposes (bmvit 2007).

Furthermore intensive co-operation with the Technical University of Vienna and the collaboration with business actors started. With the construction of the biomass power plant, a surplus of heat energy in summertime could be achieved. Several enterprises with high energy demands, among others two parquet manufacturers, settled in the area and now use the heat energy for their wood drying equipment. Production wastes (e.g. sawdust) are simultaneously used as fuel for heating. This biomass power plant in Güssing represents a new type of power plant, which makes it possible for small local units to produce heat, power, gaseous and liquid energies. Energy is produced using a new system of combined heat and power based on biomass gasification. The procedure converts chemical energy into electric power. The overall efficiency, measured against the energy use for electric power and heat, exceeds 85 % (BKA 2006, 34-35).

The experiences gained in the biomass plant Güssing gave rise to a number of research projects, which were realized continuously in cooperation with Austrian and international partners in the fields of science and industry (e.g. Volkswagen, Daimler Chrysler, Volvo, BP). In the area of research and development, efforts into the commercial production of synthetic gas and fuels from biomass, as well as into alternative methods for generation power, such as photovoltaic technologies, energy-storage systems and energy-generation systems, are being intensified (bmvit 2007, BKA 2006).

The case of Güssing shows that investment in renewable energy production and the use of endogenous potential has also significant impacts in many other sectors and branches as well. These activities are being supported by the agricultural and forestry sectors, industry and trade, research and development, and education. Nowadays the strategy extended to even strengthen the export of procedures, products and services focusing on renewable energies, with the aim to apply the strategy at a larger scale and impact on the economy of the southern Burgenland.

With the smart use of existing support schemes (ERDF objective 1) and the establishment of a research friendly infrastructure (especially with the network of excellence „Renewable Energy Network Austria“) researchers became interested and established research facilities in Güssing, especially on hydrogen technologies, fuel cells, methane and transport fuel generation from wood gasification and cooling techniques from district heating plants (Plieninger et al. 2008, 156).

Another important group of actors is made up of forest owners as providers of wood fuels. The small scale pattern of forest ownership (average parcel size is 0.6 ha) had often inhibited an optimal mobilization of wood resources and led to structural underuse of forest in the area. This structural barrier was overcome by bundling the activities of the Wood Association of the Province („Burgenländischer Waldverband“), a 5,200 member strong forest owners association that has signed a long term contract for the delivery of the CHP plant with wood fuels. The association is the responsible partner for wood harvesting, delivery and processing (Plieninger et al. 2008, 156).

Two decades after the town council has adopted the energy self-sufficient strategy many new economic incentives have been developed and new prospects have opened up:

- Settlement of enterprises (50 new enterprises, 1,000 direct and indirect jobs created): parquetry production and hardwood drying, solar cell production (Blue Chip Energy - Joint Venture with Solon AG)
- European Centre for Renewable Energy (EEE) (1996)
- RENET: Renewable Energy Network Austria (1999)
- Center for Technology in Güssing (quite a number of institutions related to energy technology combined in one place)
- ECRE Güssing International AG (2008)
- 30 demonstration plants in the district of Güssing
- Training courses for solarteurs in Güssing – a cooperation project between the European Centre for Renewable Energies Güssing Ltd. and the grammar school of Güssing (Oberstufen-Realgymnasium). Plumbers, electricians and specialists from related technical professions are being trained here to become skilled solar-energy workers.
- Technicum – a research institute in cooperation with Universities in Vienna and Graz and senior technical colleges in Pinkafeld (Burgenland) and Wieselburg (Lower Austria).

Numerous synergies have resulted from the package of incentives and activities with other areas of business, among others tourism and agriculture. These have in turn a positive impact on the development of the region's overall economy. Also tourism activities have intensified. Many people come to visit the numerous demonstration plants (biomass, biogas, solar and photovoltaic installations). Green energy tourism has become an additional economic sector of great importance for the region and a hotel has been built to accommodate the guests. The EEE offers special training courses for certified tourist guides to enable them to organize guided tours in the various plants. In addition, networking with cultural and sports organizations results in various joint activities and local offers of sports facilities (e.g. eco-energy marathon) (bmvit 2007).

Inspired by all this development, a cooperation of local actors from culture, sports and tourism made the area attractive for visitors and thus created a small industry of eco-energy tourism. They attract between 200 to 300 visitors per week and special events such as Güssing's run in the sun' marathon (Plieninger 2008, 155-156). Although it was not a primary objective of the original concept, the attractiveness of the multitude of actions has led to an interest in "creative" professions to settle in the area. There have been some indications for the potential even before the start of the energy-autarchy concept in Güssing, but this initiative with its multi-faceted aspects has added to attract creative actors. The increased cultural activities, e.g. the increasing number of events with the 'Theatre Summer' as a flagship example highlights best the regional momentum for innovative action in the area.

Considering the new strategy of the province Burgenland for the increase of renewable energy under the label of „energy-self-sufficiency until 2020“ it can be concluded that the case of Güssing was one of the forerunners of renewable energy and contributed to shaping this vision (Binder 2010). It thus had considerable impact to the development of bio-energy regions in Austria and abroad, besides its direct implications for the region itself.

6. Conclusions

In Austria regional policy is oriented since the 1980s towards an „endogenous regional development“ approach. This approach was mainly directed on peripheral rural regions which were affected by out-migration and lagging economic performance. The shift from a problem-solving to a potential-oriented approach in regional policy aimed at enhancing the exploitation of the opportunities of rural areas considering the specific regional contexts. Following the accession to the EU in 1995, the regions in Austria could develop specific strategies and find financing with the support of Structural Funds for many projects in peripheral rural areas to overcome their difficult situations. The geopolitical changes in Europe in the 1990s created new chances for the former isolated peripheral rural areas. Local and provincial politicians and other stakeholders used the „window of opportunities“ in the 1990s to get Objective 1 funding for a technology offensive strategy and to intensify the use of renewable energy, particularly in the province of Burgenland (wind, biomass, photovoltaic).

In the case of the energy-self-sufficient micro-region of Güssing the mayor, responsible actors for the energy supply, an engineer who didn't want to leave the region and commute to other places, and several other main actors in the region developed the complex concept of an „energy-self-sufficient model of Güssing“. The first activities were to reduce the energy use in the municipality's buildings, to overcome investment difficulties and to build the biomass power plant and later on to extend the concept through establishing various demonstration plants as well.

Cross sectoral interactions and synergies which are an important principle of endogenous development are characteristic for the energy-self-sufficient strategy of Güssing. Starting with an ambitious concept for energy-self-sufficiency in the 1990s the activities expanded gradually. The uniqueness of this project is that different actors of different sectors were brought together and cooperated in many ways. The collaboration with Austrian Universities of Technology and Universities of Applied Sciences in the province of Burgenland and beyond, the establishment of technical centres in the districts of Burgenland, objective 1- and national funding for building biomass power plants and conducting research in renewable energy technology in the region, educational programmes and the implementing of green energy tourism and cultural programmes made the „energy-self-sufficient“ model of Güssing to a best practise model for endogenous development in peripheral rural areas. However, the issue of analysing energy efficiency and the spatial scale and sectors to include in the assessment is not resolved. More detailed, comprehensive studies should investigate the various dimensions of the concept and its inter-relation to other regions and policy programmes.

This example of good practice is not limited to the town or district of Güssing, but exports its energy self-sufficient knowledge to other regions in whole Europe through services like creating concepts for energy-self-sufficiency for communities or regions and through the green energy tourism in the district of Güssing. Also in terms of climatic change aspects the use of renewable resources (wind, biomass, solar energy) can be conceived as important opportunities for rural areas. These renewable resources will become more important and the regional value added might grow in many cases. With the challenges of climatic change mitigation approaches become interesting and open up doors for innovative regional development processes.

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