

Form Part A 1 to be submitted in English language.

Form Part A 1

Version 1.0 – June 2010

Project title:	Regional Futures under the Microscope: Regional Challenges in Upper Austria (AT), Lower Austria (AT), Styria (AT) and Kassel (DE)	
Project acronym:	Regional Futures	
Mandatory registration number at Climate and Energy Fund:	K10AC1K00026	
Applicant:	University of Natural Resources and Life Sciences, Vienna (BOKU)	
Project partners:	<p><u>Within BOKU:</u> Center for Global Change and Sustainability (ZGWN, Dr. Thomas Lindenthal) Institute for Meteorology (BOKU-Met, Dr. Herbert Formayer) Institute for Sustainable Economic Development (INWE, Dr. Marianne Penker) Institute of Security and Risk Sciences (ISR, Dr. Wolfgang Kromp)</p> <p><u>Others:</u> Austrian Society for Environment and Technology (ÖGUT, Monika Auer) Austrian Institute for Regional Studies and Spatial Planning (ÖIR) Wegener Centre for Climate and Global Change, University of Graz (Prof. Karl Steininger) University of Kassel, Institute for Urban Processes (IUP, Prof. Dr. Ulf Hahne)</p>	
Thematic field:	<input checked="" type="checkbox"/> Thematic Area 1: Responding to Austria's Policy Community <input type="checkbox"/> Thematic Area 2: Understanding the Climate System and Consequences of Climate Change <input type="checkbox"/> Thematic Area 3: The Economics of Climate Change <input type="checkbox"/> Thematic Area 4: The Political, Cultural and Social Dimensions of Climate Change <input type="checkbox"/> Thematic Area 5: Reshaping Science and Governance in the Post-Copenhagen Environment	
Description of costs:	Total costs [EUR]: 335.326	Requested funding [EUR]: 285.958
Declaration	The applicant has submitted a proposal at the <input type="checkbox"/> 1 st Call of the ACRP (Project Number(s): _____) <input type="checkbox"/> 2 nd Call of the ACRP (Project Number(s): _____)	

SYNOPSIS: *ten lines description of objectives and content of the project*

In the course of an ongoing EU project to map vulnerabilities at the NUTS2 level vis-à-vis five major global challenges (climate change, sustainable and competitive energy, globalization, demographic change and social polarization) a number of questions emerged regarding the efficacy of the project's top-down approach to addressing such multifaceted issues. The ACRP "Regional Futures" project aims to improve the methodology based on an in-depth study of the vulnerabilities of four regions in Austria and Germany, with a focus on the climate change and energy challenge. Thus the project will improve the understanding of the robustness of results achieved under the constraints of the EU study and provide valuable information on exposure, sensitivity, adaptive capacity and vulnerability in the five regions for a spectrum of future scenarios.

Keywords: *please name 6 to 8 keywords for your project.*

Vulnerability; climate change; society; bottom-up; globalization; energy; demography; social polarization

Aims and Methodology

Technical and Scientific Content, Objectives and applied Methodology of the Project

(10 pages maximum)

1.1.1. Project objectives and their innovation content: Description of the project objectives, its improvement on existing solutions, degree of novelty, explanation of how the project could gain additional scientific results in comparison to state of the art and description of scientific uncertainties (which are the key scientific uncertainties and how will they be handled)

Motivation

An ongoing EU study "Regional Futures 2020 - Regional challenges in the perspective of 2020" is set up to identify regional vulnerabilities (vulnerability being defined as a function of exposure, sensitivity and adaptive capacity) towards five major challenges, i.e. globalization, demographic change, climate change, social polarization and sustainable and competitive energy, with the aim of obtaining a vulnerability analysis of the regions as a contribution to the debate on the future of the EU Cohesion Policy. It is a follow-up Study of the European Commission publication "Regions 2020 - An assessment of Future Challenges for EU Regions". In the course of the Regional Futures 2020 project, however, a number of questions emerged regarding the efficacy and reliability of the project's top-down approach to addressing such multifaceted issues—a common approach in EU projects.

Key scientific uncertainties lie in the methodology for assessing vulnerabilities at the NUTS2 level under the constraint of finding indicators that are available throughout the entire EU. On account of this constraint, indicators that may have been very appropriate for specific or even most regions, but are not available throughout the European Union, have been omitted, thus weakening the robustness and perhaps the accuracy of the results of the studies. The project commissioned by DG REGIO affords little opportunity for sensitivity studies, e.g. for different indicators or for testing of alternative aggregation methods for indicators.

A further uncertainty of these studies is the imprecise definition of the future scenarios. Tied to scenarios officially documented in EU policy papers or other official documents, the project struggles with the incompatibilities of the policies, and the scenarios remain blurred and inconsistent.

The present study was triggered by the wish to better understand the effects of the methodologies chosen in the EU study on calculated vulnerabilities and to improve the methodology for future studies in order to provide a more reliable decision support for different national and European policies.

Objectives

The "**Regional futures**" project was thus originally conceived as a study of methodologies. An evaluation of methodologies, however, calls for some reference (a reality) against which results can be compared. "Regional futures" proposes to use more detailed, in-depth analysis as well as expert judgment to define the reference for a limited number of test regions. Thus, apart from the

methodological advances expected, "Regional futures" will also produce valuable vulnerability studies for the test regions.

Although all five challenges will be included in the study, special emphasis will be put on the climate and the energy challenges. In the study of future developments the regional consequences of prioritizing climate and energy strategies will receive special attention.

Thus, the objectives of the project are the following:

- Contributions to the theoretical discussion surrounding the appropriateness and applicability of top-down versus bottom-up approaches for the assessment of vulnerabilities;
- Improvement of the methodologies of vulnerability assessments, taking account of typical constraints in EU studies;
- Contributions to scientific advancement in the vulnerability concept, particularly regarding climate change and sustainable energy, as vulnerabilities will be analysed with special regard to climate change adaptation and mitigation measures;
- Development of region-specific indicators for assessing vulnerabilities towards the five challenges (and identified sub-challenges) in four selected regions: Upper Austria (AT), Lower Austria (AT), Styria (AT) and Kassel (DE);
- Assessment of vulnerabilities towards the five challenges and their respective sub-challenges in the four regions with special emphasis on climate change and energy; and
- Provision of valuable information to Austrian and German stakeholders at both the regional and national levels, on exposure, sensitivity, adaptive capacity and vulnerability in order to inform policy-making.

The present study is set up to better understand, not to diminish the results of the EU studies. Hopefully it can further develop the methodology and give a better understanding of the robustness of results achieved under the constraints EU studies frequently suffer from.

Novelty

No study to systematically evaluate top-down methodologies frequently used in EU studies on climate change impacts or vulnerabilities and energy policy implications are known to have been made. The ongoing ESPON study partially attempts to avoid the problems encountered in other similar studies (see list of literature), but it is focused on results in substance, not on methodology. Especially the approach selected for the climate issue partly suffers from the same problems as the earlier EU studies. The ATEAM study, one of the first and most encompassing studies of climate change vulnerability in Europe, also leaves methodological questions regarding vulnerability unresolved.

Artificial indices combining several indicators are often criticized because of their arbitrariness regarding the selection of indicators as well as their way of standardization, weighing and aggregation. The choice of indicators and the methods of aggregation have considerable influence on the outcome. As knowledge about the regional system, its driving forces and socio-economic and ecological interdependencies is highly uncertain and future challenges will depend very much on decisions made by a variety of different actors with diverging interests and needs, there is no consensus on the most relevant indicators and their respective relevance. In contrast to top-down

approaches, we propose a bottom-up approach that is based on continuous involvement of non-academic experts and stakeholders. Such as process of mutual learning between society and science promises “user-inspired” and “user-useful” decision support, whereby regional knowledge is considered alongside scientific knowledge. Transdisciplinary approaches are hoped to provide more robust technical solutions and – to our knowledge - have not been systematically applied to the issue of regional vulnerability so far.

For the four specific regions this will be the first study addressing all five challenges simultaneously in a detailed, transparent manner. It will draw together information that is generally viewed separately with very little reference to the implications for other issues.

The comparison of the four regions that are basically similar, yet differ in many ways, can give additional insights into adaptive capacities and vulnerabilities that have not been addressed so far.

1.1.2. Methodology: Description of the questions to be addressed (hypotheses to be tested), the anticipated project results and the methodologies/approaches for achieving these results. Description of the **importance** and **relevance** of the proposed research project in relation to comparable, existing research results

The **geographical extent** of the previous two EU projects has been quite broad. On account of this, it has been difficult to identify common indicators based on data available throughout the domain. As there was no possibility to evaluate the appropriateness of the selected indicators the question of the accuracy of the projects’ results arose. For this reason, the ACRP “Regional Futures” will carry out a scaled down version of the project in order to analyze methodological questions in detail, and at the same time reap the co-benefits of a thorough analysis of potential impacts of the above challenges on the selected regions. Another crucial issue will be to define the appropriate scale, finding a balance between pragmatism regarding data availability and needs for context specific assessments and decision support.

“Regional futures” will therefore both build on the two previous EU studies as well as critically review and further develop the approaches of the two analyses by carrying out a detailed, in-depth analysis of four specific NUTS2 level regions in Europe. Three regions in Austria—Upper Austria, Lower Austria, and Styria—have been chosen, along with Kassel in Germany. Focusing on just four regions will allow for the selection and inclusion of a greater number of region-specific indicators that can more accurately identify the region-specific impacts of the challenges in economic, social and environmental terms.

The **selection of the regions** has methodological as well as practical reasons. ACRP being an Austrian research program with an emphasis on research to support Austrian climate policies, it was clear that the main focus must be on Austrian regions. However, including at least one region with other national policy foci was deemed necessary. Between the options of selecting as broad a spectrum of regions Austria could offer and selecting basically similar regions, the second option was chosen. The dissimilarities within Austria are not large enough to be representative for Europe. On the other hand, similar regions allow for more subtle analysis of methodologies.

The BOKU has done many studies for the Region of Lower Austria, especially such on climate change impacts and vulnerabilities. There is an ongoing cooperation between the Waldviertel in Lower Austria and Kassel on issues of energy and climate change, and the University of Kassel has collected a wealth of pertinent data on the region. By selecting Lower Austria and Kassel, synergies with past and ongoing projects can be made use of. Lower Austria surrounds the city of Vienna, but Vienna itself does not form part of the province. There are considerable functional ties between the center of Vienna and the periphery of Lower Austria, such as commuters, supply chain relations, and transport networks). This poses a specific socio-demographic challenge at the sub-NUTS2 level, which can be used to study aggregation methods. Demographic movements are also considerable in Styria, essentially depopulation in several peripheral rural communities and suburbanization processes around Graz. Styria is also probably one of the best researched provinces in terms of the socio-economic impacts of climate change in Austria, as the Wegener Center of the University of Graz and the Joanneum focus much of their research on this province. Upper Austria is geographically more similar to Lower Austria than hilly and mountainous Styria, but it has a very different economic structure, more similar to Styria, that also has some energy intensive heavy industry, lacking in Lower Austria. Thus the three selected regions offer an interesting spectrum of similarities and differences. They cover the main part of eastern Austria.

The project will consist of research within the consortium to define concepts, methodologies, indicators and assessments, but **continuous interaction with stakeholders** will give feedback and lead to adaptation of the results produced by the consortium. Moderation techniques (such as World Café or Open Space) and visualisation techniques (imaginary, maps) will play an important role in these participatory workshops. A constant exchange of knowledge and ideas is envisaged to approximate as best as possible reality through an informed choice of indicators and methods. Thus, following a project team meeting among partner organizations, a kick-off round of transdisciplinary workshops with relevant stakeholders in each region will take place in the beginning phase of the project, in order to exchange perspectives and gain valuable input regarding the current, local perspective of the issues. Throughout the project interactions with stakeholders will be essential, and near the end of the project, a further round of transdisciplinary workshops with relevant stakeholders in each region will ensure the quality of the results. The regional proximity of the regions to research partners and their former co-operation are essential assets for this approach.

The project will **develop a bottom-up, transdisciplinary methodology** for assessing present and projecting future impacts of challenges on regional disparities and regional vulnerabilities. The results based on this methodology will be considered as reference against which top-down methodologies can be tested. The respective limitations, reliability, sensitivity, robustness and transferability of different approaches will be discussed. The project will seek to critically evaluate and develop theoretical and methodological bases for the assessment of regional vulnerabilities to the five challenges. It will also seek ways to include actual adaptation concepts and their effects on disparities. This will include literature research and review, the topics of which will range from appropriate methodologies, composite indicators, and projection methods to content-relevant literature focused on the five challenges. An evaluation of existing scenarios (ÖROK, ESPON) can help to test the vulnerability of different pathways of future regional development. Furthermore, this part will critically review the concept of regional vulnerabilities, including sensitivity of regions

towards direct and indirect impacts, the exposure towards those impacts and the adaptive capacity, including policy implications.

An important part will be the **identification and mapping of relevant indicators** for the regional assessments. The initial identification of sub-challenges and indicators will take place within the project consortium and will then be reviewed and adapted during transdisciplinary workshops within each region. The results of the regional workshops will then be merged and a methodology for the analysis of all selected regions will be agreed upon. This will entail the assessment of the indicators specific to and relevant for any region or for all four regions. Issues of the availability of standardized data (within Austria and the European Union), appropriate time-scales for the identification of dynamic developments, as well as appropriate spatial scales will be discussed. Sensitivity analyses will then help to select and reduce the indicators to a reasonable number. Different methodologies to combine indicators for exposure, sensitivity and adaptive capacity will then be tested and applied. A further step will include the aggregation of the indicators of individual sub-challenges to indicators for the five challenges and of the challenges to overall vulnerability. Several methods for doing this will be implemented in order to test the both the results of the aggregation and the overall added value of aggregation in the context of the study's aims. Once all these indicators and vulnerabilities have been calculated and mapped, each region's results will be put into perspective through literature review and transdisciplinary feed-back loops (e.g. with expert interviews or other forms of stakeholder exchange). This will help to rank methods for each region. Methods that provide implausible results in all regions can be eliminated.

The study will also identify the potential impacts of the five challenges on the development potential of the selected regions in the medium perspective of 2020 and, where necessary, beyond (especially climate change and energy, but also demography). To this end, plausible **future scenarios** for each challenge and for combinations of the challenges will be developed and contrasted with existing regional development scenarios of ESPON on the EU level, of the ÖROK on the national level and ongoing regional scenario processes, such as in Upper Austria. A number of alternative scenarios that take into account an assortment of possible future developments will be defined, thus enabling results that correspond more clearly with a range of eventualities. One important aspect in selecting scenarios will be the variation of where EU, national and regional policy priorities are put, e.g. on free market development or the EU 20-20-20 climate and energy goals. This will help to uncover conflicting policies and their effects on vulnerabilities. Thus the robustness of results in view of uncertain future development will be made more transparent.

The study will then analyze the **adaptive and mitigating capacities** of the selected regions as regards the likely future impacts of the challenges. The analysis requires taking stock of existing and planned regional and national strategies influencing the regions, such as the "Austrian Spatial Development Concept 2011" (ÖREK), the European Spatial Development Perspective (ESDP) or the Europe 2020 strategy. The study will identify possible feedbacks between adaptation and mitigation and the impacts of challenges on the economic, social and environmental systems of the regions. The different notions of adaptation and mitigation should be taken into account and combined with the framework of the scenarios. Practical response options for the regions for the five challenges will be discussed. The study will also scope ways to establish a regular process of creating regional outlooks for vulnerabilities, for example in co-operation with the ÖROK monitoring efforts ("Raumbeobachtung").

The evaluation and interpretation of the region-specific analyses will include a final round of transdisciplinary regional workshops to discuss the study's findings with local stakeholders and to contrast the different methods and approaches. In addition, the findings will be placed in the context of the theoretical and methodological basis developed previously.

The final results will then serve to **critically review** and then make suggestions for the further development of the composite indicators used in the "Regional Challenges in the Perspective of 2020", as well as in other relevant **top-down studies on the European or national level**.

In the last phase of the project, a **final report** will be drafted that details the findings of the project in the context of the theoretical and methodological basis developed previously and is presented in such a way as to maintain their relevance for other regions not included in the project. This report will be presented to the relevant regional government offices and stakeholders, as well as to the representatives of the respective national governments, thus increasing the impact of the study's findings. The appropriate findings relevant to the top-down approaches of studies at the European level will be published and made available to the persons concerned.

The **five challenges** that will be addressed in the study are broad concepts. In order to narrow the scope of analysis, the following restricted definitions of the challenges (in the European context) are suggested:

- *Climate change* impacts Europe's environmental, social and economic systems. The increasing variability of weather through extreme events will already affect Europe in the medium term. The impact of climate change will affect weather and climate dependent sectors such as tourism, agriculture, fisheries and energy production. Quality of life including human health in an aging society will be affected by changing physical conditions. Population and assets might be endangered by extreme weather events, for instance through flooding. Efforts to mitigate climate change by tackling the increase in greenhouse gas emissions and adaptation measures will also have regional impacts.
- *Secure, sustainable and competitive energy* represents one of society's main challenges. This challenge has been governed mainly by national choices as concerns energy sources and its diversification, connection to the European grids, the notion of healthy mix of decentralized and centralized energy supply in presence of renewable energies, the degree of openness of energy markets and their competition levels as well as national strategies towards external security of supply. The imperative to cut emissions has led to a new path of creating a low-carbon economy in Europe. Looming energy shortages and volatile energy prices add relevance and urgency to this challenge.
- *Globalization* is driving scientific and technological progress, making the European dimension ever more important in boosting knowledge, mobility and connection via infrastructure, competitiveness and innovation. The opening up of huge new markets creates vast new opportunities for Europeans, but at the same time tests Europe's capacity to further adjust to structural change and manage the ensuing socio-economic consequences. The transformation to a knowledge and service economy is as profound as the earlier switch from agriculture to industry. Meeting the globalization challenge using traditional economic parameters to

measure success and simultaneously meeting the climate and energy challenges proves especially difficult.

- *Demographic change* will transform the age and employment structure of our societies, raising important issues of economic efficiency, intergenerational equity and health. It might affect morbidity and mortality, as well as a number of other demographic effects such as an aging society, migration and its dynamics. Migratory pressure has the potential to affect Europe significantly, due to its proximity to some of the world's poorest regions and to those likely to be worst affected by climate change and natural resource constraints.
- *Social polarization* is both an outcome of a number of impacts of challenges and a challenge in itself. Social polarization refers to the notion of increased exposure towards exclusion and risk of poverty with important repercussions on structural indicators such as health and disease, long term unemployment, education, etc. Social polarization can occur within regions such as cities but also between urban and rural regions. It can therefore restrain the development of regional potentials. Meeting the climate change and energy challenges can alleviate social polarization if well managed, but it can also enhance it, if not taken into account by policies.

1.1.3. Links to research groups with high competence and relevance to Austrian research and policy needs and existing co-operations relevant for the research project;

Project partners have links to the following research institutions:

- Academy for Spatial Research and Planning (ARL), Hannover
- Austrian Conference on Spatial Planning (ÖROK)
- Austrian Institute for Regional Studies and Spatial Planning
- Club of Rome European Support Centre, Vienna
- Federal Institute for Research on Building, Urban Affairs and Spatial Development, Bonn
- Helmholtz Centre for Environmental Research (UFZ), Leipzig
- Joanneum Research
- ÖAR Regionalberatung
- Potsdam Institut für Klimafolgenforschung (PIK)
- Sustainable Europe Research Institute (SERI)
- Technical University Berlin
- University of California, Berkeley
- University of Vienna
- Wageningen University
- Wuppertal Institute for Climate, Environment and Energy

1.1.4. Description of any pre-projects (or their differentiation compared to previously submitted projects)

The BOKU Institute for Meteorology (Prof. Dr. Helga Kromp-Kolb, Dipl.-Ing. Heidelinde Trimmel) as well as the BOKU Center for Global Change and Sustainability (M.A. Matthew Aversano-Dearborn) are currently collaborating on the EU project "Regional Futures 2020 – Regional Challenges in the Perspective of 2020", commissioned by DG REGIO. In the context of three future scenarios, the project aims to identify regional vulnerabilities towards five major, global challenges: climate change, globalization, demographic change, social polarization and sustainable and competitive energy at the EU level. In addition to a focus on the European Union, the project also takes into account the EU neighboring countries and the ways in which they may be affected by the same

challenges and the potential consequences of these impacts for EU member states. The project is presently in its final stages.

The Institute for Urban Processes (Director: Prof. Dr. Ulf Hahne) combines economic, demographic, meteorological, social and planning experience and is involved in the management of numerous projects regarding the five issues. KLIMZUG Nordhessen (Regional network for climate change adaptation), for example, is an ongoing project on climate change combining research perspectives and implementation projects in the Kassel region, financed by a German federal research program. The Waldviertel in Lower Austria is a partner region in this project. The Institute is furthermore part of research projects on demographic, social and economic change in the Kassel region, also financed by national research programs.

The BOKU Institute for Sustainable Economic Development (INWE) was member of the core team in the ÖROK scenario project (2007-2009). Its objective was the generation of spatial development scenarios for Austria in the European context in 2030. These scenarios should help to frame thematic and spatial strategies for the Austrian provincial states, cities and municipalities as well as federal concepts (e.g. the sustainability strategy, or the new "Austrian Spatial Development Concept for 2011"). The process involved a number of participatory elements, involving several hundred experts and decision makers in spatial planning and regional development. Maps and particularly imagery were chosen as the medium for dissemination to capture a wide audience. Regional vulnerability and regional resilience was an often discussed issue and we therefore recommended a monitoring system that brings experts together in the future to discuss the effects of dynamic development of critical driving forces. We did, however, not come up with a satisfactory list of indicators that could be aggregated to an index of vulnerability as proposed by this project. The scenarios developed in the project could form one basis for the scenarios to be developed here.

1.1.5. Applicability and use of the project results (what will be the "user value" for various stakeholder groups like the scientific community (Austrian and international research community), Austrian policy makers, and private companies)

The project will result in an in-depth assessment of vulnerabilities to the five challenges and diverse sub-challenges of the four regions selected for the study. As mentioned above, previous EU studies have taken these regions into account, yet only as part of a larger study and without particular focus on specific regions. This has led to the selection of indicators that are not always appropriate for every region. This study, however, will place the focus squarely on the four selected regions; therefore the results will be especially important for both the local and regional decision-makers.

The five challenges will affect regional development potential as well as the dynamics of structural change. With that in mind, the results of the study will be directly valuable to the governments of the four selected regions in their determination of policies to address identified vulnerabilities. In addition to local and regional levels, the results of the study can serve an equally valuable role at the national level. On one hand, the methodology and results of the project will have the potential to form the basis of similar studies for other regions in Austria. On the other hand, the detailed results will assist policy-makers and planners with the formation of adaptation policies concerning the identified vulnerable areas.

Furthermore, the results of the study will be beneficial for the international research community, in that the results of several EU-level projects in the field of vulnerability and global challenges will be compared and evaluated on the micro-level for their robustness and accuracy. This will provide researchers with indispensable information regarding the usefulness of certain methodologies and may form the basis of similar studies outside of Austria. It will also help to judge the explanatory power of previous EU 2020 vulnerability studies, which – if they are used as political decision support, as can be expected – might be helpful in the upcoming negotiations for the next EU programming and funding period 2014-2020.

The methodological results to be achieved by the study are intended to help to better understand the results of top-down studies of similar content at the European level, and possibly bring forward the methodology used in future studies of this type.

General literature, pre-studies and relevant EU Communications and Directives:

- ADAGIO – Adaptation of agriculture in European regions at environmental risk under climate change (2007), Coordinator: Prof. Dr. Eitzinger, Inst. of Meteorology, BOKU Vienna
- ADAM (Adaptation and Mitigation Strategies: Supporting European Climate Policy; 2006-2009) <http://www.adamproject.eu/>
- Armonia (Applied Multi-Risk Mapping of Natural Hazards for Impact Assessment. Assessing and mapping multiple risks for spatial planning. Approaches, methodologies and tools in Europe. Rome; 2007).
http://www.anpassung.net/nn_1005392/SharedDocs/UDK-Dokumente/ ARMONIA.html
- ATEAM – Advanced Terrestrial Ecosystem Analysis and Modelling (2004), Potsdam Institute of Climate Impact Research (PIK)
- CIRCLE: (Climate impact analysis and adaptation response; ongoing), <http://www.circle-era.net/>
- Commission of the European Communities (2008): Regions 2020. An Assessment of future Challenges for EU Regions.
- Commission Staff Working Document Accompanying document to the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions. Limiting Global Climate Change to 2 degrees Celsius The way ahead for 2020 and beyond. Impact Assessment. SEC(2007) 8
- Commission Staff Working Document Annex to the Impact Assessment. Document accompanying the Package of Implementation measures for the EU's objectives on climate change and renewable energy for 2020. Brussels, 27.2.2008 SEC(2008) 85 VOL. II
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - 20 20 by 2020 - Europe's climate change opportunity (COM/2008/0030 final) and Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009
- Council of the European Union, Presidency Conclusions, Brussels European Council, 8-9 March 2007, 2 May 2007.7224/1/07 REV 1.
- EC White paper on Adaptation "Adapting to climate change: Towards a European framework of action" (COM/2009/147)
- EEA (2001) Designing Effective Assessments: The Role of Participation, Science and Governance, and Focus. Experts corner by Noelle Eckley, Environmental Issue Report No 26. European Environmental Agency, Copenhagen
- EEA (2005): Vulnerability and adaptation to climate change in Europe, European Environment Agency, EEA Technical report No 7/2005
- EEA (2006) Land accounts for Europe 1990 – 2000, Report No 11/2006

- EEA (2006) Urban Sprawl in Europe, Report No10/2006
- EEA (2007): Climate change: the cost of inaction and the cost of adaptation. European Environment Agency. EEA Technical report No 13/2007
- EEA (2008): Impacts of Europe's changing climate – 2008 indicator-based assessment. EEA Report No 4/2008. http://www.eea.europa.eu/publications/eea_report_2008_4/
- ESPON (2006) Spatial Scenarios and Orientations in Relation to the ESPD and Cohesion Policy. Luxembourg: ESPON (European Spatial Planning Observation Network)
- ESPON (2007) Scenarios on the territorial future of Europe. Luxembourg: ESPON (European Spatial Planning Observation Network)
- ESPON (2007) Territorial Futures: Spatial Scenarios for Europe. Luxembourg: ESPON (European Spatial Planning Observation Network)
- ESPON Climate Inception Report (2009): The ESPON 2013 Programme. ESPON CLIMATE – Climate Change and Territorial Effects on Regions and Local Economies. Applied Research Project 2013/1/4 <http://www.espon-climate.eu/>
- European Commission (2010) : A European strategy for smart, sustainable and inclusive growth 2020 COM(2010)
- Füssel, H-M. and Klein, R.J.T (2002): Assessing Vulnerability and Adaptation to Climate Change: An Evolution of Conceptual Thinking, pp. 45-59 in: A Climate Risk Management Approach to Disaster Reduction and Adaptation to Climate Change.(Proceedings of the UNDP Expert Group Meeting on "Integrating Disaster Reduction and Adaptation to Climate Change", Havana, Cuba, 17-19 June 2002)
- Füssel, H-M.,;Klein, R.J.T (2006) Climate Change Vulnerability Assessments: An Evolution of Conceptual Thinking. Climatic Change (2006) 75: 301–329. DOI: 10.1007/s10584-006-0329-3
- Hirsch Hadorn, G., Hoffmann-Riem, H., Biber-Klemm, S., Grossenbacher-Mansuy, W., Joye, D., Pohl, C., Wiesmann, U. & Zemp, E. (2008) Handbook of Transdisciplinary Research. New York; Dordrecht, Springer.
- Hulme M, Dessai S (2008) Predicting, Deciding, Learning: Can One Evaluate the 'Success' of National Climate Scenarios. Environmental Research Letters 3 045013:1-7
- IPCC (2007a): Climate Change 2007. The Physical Science Basis. IPCC Working Group II Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Ed. Solomon, S., Qin, D., Manning, M., Marquis, M., Averyt, K., Tignor, M.M.B., Miller, Jr., H.L. Chen, Z.. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.Cambridge.
- IPCC (2007b): Climate Change 2007: Impacts, Adaptation and Vulnerability. IPCC Working Group II Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Ed. Martin Parry, M., Canziani, O., Palutikof, J., van der Linden, P. Hanson, C.. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.Cambridge.
- IPCC (2007c): Climate Change 2007: IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Ed. [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)]. , Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- ISMERI et al. (2009): Regional Futures 2020 – Regional challenges in the perspective of 2020.
- Metzger, Marc J. , D. Schröter, R. Leemans and W. Cramer (2008): A spatially explicit and quantitative vulnerability assessment of ecosystem service change in Europe. Reg Environ Change (2008) 8:91–107. DOI 10.1007/s10113-008-0044-x
- Metzger, Marc J. and D. Schröter (2006): Towards a spatially explicit and quantitative vulnerability assessment of environmental change in Europe. Reg Environ Change (2006) 6:201–216. DOI 10.1007/s10113-006-0020-2

- MICE (Modelling the impact of climate extremes; till 2007) <http://www.ist-world.org/ProjectDetails.aspx?ProjectId=19a3c09b244a40a38dc04d6591e43cce>,
- OECD (2009): The green growth race. OECD Observer No. 273, June 2009
- ÖROK (2008): Szenarien der Raumentwicklung Österreichs 2030 – Materialienband. Austrian Conference on Spatial Planning (ÖROK). Vienna: Schriftenreihe Nr. 176/I.
- ÖROK (2009): Szenarien der Raumentwicklung Österreichs 2030 – Regionale Herausforderungen & Handlungsempfehlungen. Austrian Conference on Spatial Planning (ÖROK). Vienna: ÖROK Schriftenreihe Nr. 176/II.
- Penker M, Wytrzens H (2005) Scenarios for the Austrian Food Chain in 2020 and its Landscape Impacts. Landscape and Urban Planning 71:175-189
- PESETA (Projection of Economic impacts of climate change in Sectors of the European Union based on bottom-up Analysis) <http://peseta.jrc.ec.europa.eu/results.htm>
- PESETA Agriculture (2009): Impacts of climate change in agriculture in Europe. PESETA-Agriculture study <http://ftp.jrc.es/EURdoc/JRC55386.pdf>
- PESETA Coastal Systems (2009): Impacts of climate change in coastal systems in Europe. PESETA-Coastal Systems study. <http://ftp.jrc.es/EURdoc/JRC55390.pdf>
- PESETA Health (2009): Impacts of climate change in human health in Europe. PESETA-Human health study. <http://ftp.jrc.es/EURdoc/JRC55393.pdf>
- PESETA Tourism (2009): Impacts of climate change in tourism in Europe. PESETA-Tourism study. JRC. <http://peseta.jrc.ec.europa.eu/docs/Tourism.html>
- Pohl, C. (2008) From science to policy through transdisciplinary research. Environmental Science and Policy, 11, 46-53.
- Stern, N. (ed) (2006): The Economics of Climate Change: The Stern Review. Cambridge University Press, Cambridge.
- UNDP (2004): UNDP-GEF practitioner guide: Adaptation Policy Frameworks Developing Strategies, Policies and Measure. Ed. Lim, B., Spanger-Siegfried, E. Cambridge University Press.
- UNDP (2009): Human Development Report 2008/2009. Overcoming barriers: Human mobility and development. http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf
- Van der Heijden (1996) Scenarios: The Art of Strategic Conversation. Chichester: Wiley
- Volkery A, Ribeiro T, Henrichs T, Hoogeveen Y (2008) Your Vision or My Model? Lessons from Participatory Land Use Scenario Development on a European Scale. Syst Pract Action Res 21:459-477
- Water framework directive (2000/60/EC)
- Welp M, de la Vega-Leinert A, Stoll-Kleemann S, Jaeger CC (2006) Science-Based Stakeholder Dialogues: Theories and Tools. Global Environ Change 16:170-181

Quality of Planning

1.2.1 Description of Work Packages and the Work Plan and Schedule

A. Overview

Please fill in Table 1 below:

Table 1

WP no.	Title Work Package (WP)	Duration (months)
WP-1	Management of project, final reporting and dissemination	24
WP-2	Elaboration of the theoretical and methodological background	9
WP-3	Analysis of selected regions	15
WP-4	Evaluation and interpretation of the results of the analysis	12

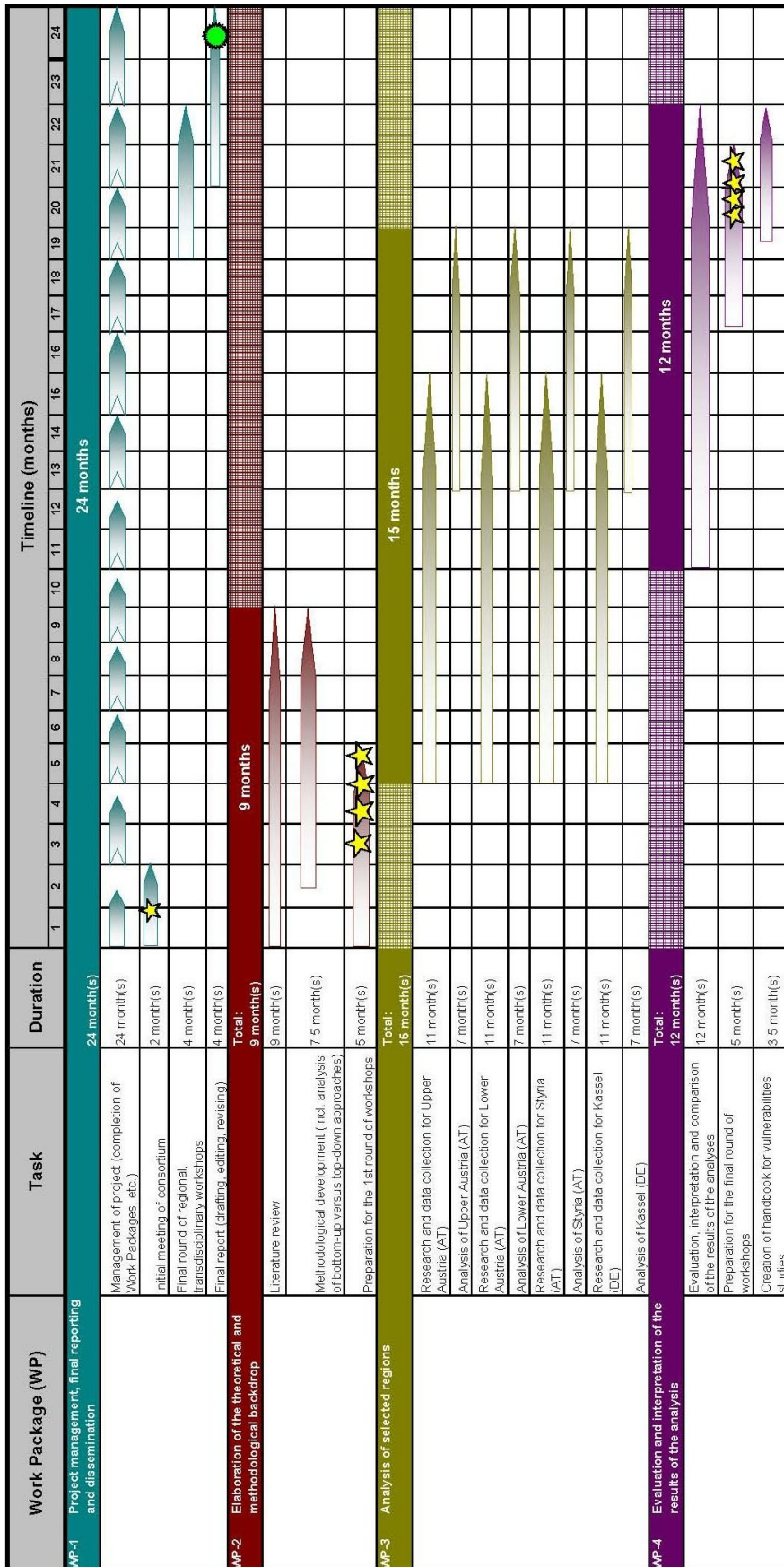
Please indicate the amounts (in EUR) for the cost categories listed and for the total costs in the table below:

PLEASE NOTE: In principle, the value-added tax attributable to the services to be funded is not an expenditure eligible for funding; Unless the funding recipient can prove that she or he is not entitled to value-added tax (i.e. input tax) reduction

Table 2

WP no.	Personnel costs incl. overhead rate	RTD investments (depreciation)	Travel costs	Costs of materials	Third party costs	Total costs
WP-1	45009		6330	10333		61.672
WP-2	68224		6212	9583	5000	89.019
WP-3	73222		3694		18636	95.552
WP-4	87096		992	995		89.083
Total	273551	0	17228	20911	23636	335.326

B. Project Workflow Plan (PWP) – Gantt Diagram:



★ = initial meeting / workshop

● = completion/submission of final report

C. Detailed Description of Individual Work Packages (WPs)

For describing the individual work packages, please use the structure below. For more than one Work Package please copy the table below.

(recommended length: 1 page per work package):

WP no. 1	Title of the WP: Management of project, final reporting, dissemination	
Starts: 03/11 Ends: 02/13	Total costs of the WP (EUR): 35,000	
Work Package Leader (organisation's name): BOKU Center for Global Change and Sustainability (ZGWN)		
Name of participating institute or enterprise	Share of total costs of the WP (euro)	Brief qualitative description of costs
(WP L) BOKU Center for Global Change and Sustainability	42382	<i>mainly personnel costs</i>
BOKU Institute of Meteorology	800	<i>Travel costs for the final round of workshops</i>
BOKU Institute for Sustainable Economic Development	8581	<i>Travel costs for the final round of workshops</i>
Austrian Society for Environment and Technology	800	<i>Travel costs for the final round of workshops</i>
Wegener Center for Climate and Global Change	800	<i>Travel costs for the final round of workshops</i>
University of Kassel, Institute for Urban Processes	2083	<i>Travel costs for the final round of workshops</i>
Austrian Institute for Regional Studies and Spatial Planning	6226	<i>Travel costs for the final round of workshops</i>
BOKU Institute for Safety and Risk Sciences	0	
Objectives of the WP: <p>WP1 will ensure that other work packages are being carried out according to the Terms of Reference and that deadlines are being met.</p> <p>WP1 will ensure that questions and uncertainties regarding the project, on the part of consortium members, are quickly and satisfactorily clarified.</p> <p>WP1 will coordinate communication among consortium members and provide regular opportunities for discussion and exchange among the consortium to ensure unanimity regarding methodologies, indicators, etc. (through informal and formal meetings).</p> <p>WP1 will organize an initial team meeting for consortium members with the aim of discussing the initial phase of the project – e.g. the design of the first round of transdisciplinary workshops with partner organizations and stakeholders.</p> <p>WP1 will encourage and support consortium members in publishing results in scientific journals and present them in scientific meetings as a means of quality assurance.</p>		

WP1 will coordinate and draft the final report to be submitted to the ACRP and the relevant offices of the four selected regions.

WP1 will organize a final round of transdisciplinary workshops with partner organizations and relevant stakeholders in the selected regions, in which the project and its results will be discussed.

Content and description:

An initial team meeting will take place at the beginning of the project, which will bring together the consortium organizations for team-building and in order to provide an opportunity for discussion of methodologies and approaches, as well as to prepare for the first round of region-specific, transdisciplinary workshops that will take place in the context of WP2 and involve stakeholders.

A final round of transdisciplinary workshops will be organized following completion of the regional analyses with the aim of presenting and discussing the findings. This will also be an opportunity for exchange and feedback regarding the analyses prior to the drafting of the final report. Furthermore, future areas in need of research that emerged over the course of the project will be identified.

In addition to the transdisciplinary workshops, “informal” meetings will be periodically organized as deemed necessary.

A final report will be drafted that will be intellectually and scientifically robust. It will combine the findings of WP2-WP4 in a text that is both scientific and readable.

Methodology (e.g. interviews, literature research):

- Transdisciplinary workshops with consortium
- Operating an internet-based platform for information exchange
- Informal meetings
- Literature research
- Expert interviews

Milestones and results:

- Initial team meeting with consortium members
- First round of region-specific, transdisciplinary workshops
- Completion of literature review and development of methodologies
- Completion of research, data collection, mapping and analysis for the four selected regions
- Completion of the evaluation and interpretation of the analyses’ results
- Second round of region-specific, transdisciplinary workshops
- Completion of the 1st draft of the final report
- Completion of the final report
- Dissemination of final report to ACRP and regional authorities

WP no. 2	Title of the WP: Elaboration of the theoretical and methodological background	
Starts: 03/11 Ends: 12/11	Total costs of the WP (EUR): 75,000	
Work Package Leader (organisation's name): BOKU Center for Global Change and Sustainability		
Name of participating institute or enterprise	Share of total costs of the WP (euro)	Brief qualitative description of costs
(WP L) BOKU Center for Global Change and Sustainability (ZGWN)	27644	<i>mainly personnel costs, material costs</i>
BOKU Institute for Sustainable Economic Development	5800	<i>mainly subcontract costs</i>
Austrian Institute for Regional Studies and Spatial Planning (ÖIR)	17158	<i>mainly personnel costs</i>
Wegener Center for Climate and Global Change	8580	<i>mainly personnel costs</i>
University of Kassel, Institute for Urban Processes	3775	<i>mainly personnel costs</i>
BOKU Institute for Meteorology	10790	<i>mainly personnel costs, material costs</i>
Austrian Society for Environment and Technology (ÖGUT)	10390	<i>mainly personnel costs</i>
BOKU Institute for Security and Risk Sciences (ISR)	4882	<i>mainly personnel costs</i>
<p>Objectives of the WP:</p> <p>WP2 will develop the theoretical and methodological background necessary for the following critical assessment of regional vulnerabilities regarding the five challenges as well as for the development of the future scenarios.</p> <p>WP2 will make an initial identification of indicators for use as a starting point for the first round of transdisciplinary workshops.</p> <p>WP2 will include the first round of region-specific, transdisciplinary workshops participating consortium members as well as with relevant stakeholders.</p>		
<p>Content and description:</p> <p>WP2 will review the EU Regions 2020 projects—in addition to other relevant works—for weaknesses and strengths in their chosen methodologies and seek to apply these results to “Regional futures under the Microscope”. The analysis of the methodological background will include a critical review of the vulnerability concept, a procedure for sensitivity analyses and aggregation of indicators and vulnerabilities across sub-regions, sub-challenges and challenges.</p> <p>WP2 will also define scenarios to be assessed in WP3.</p> <p>A kick-off round of transdisciplinary workshops will take place near the beginning of the project, which will include interaction with relevant stakeholders, in order to provide an opportunity for discussion of methodologies and approaches among consortium members as well as gain valuable input from local stakeholder regarding their</p>		

perspective(s) of the subject matter.

Methodology (e.g. interviews, literature research):

- Literature research
- Interviews with experts involved in relevant fields
- Discussion and exchange among the involved work package organizations
- Region-specific, transdisciplinary workshops with consortium members and stakeholders

Milestones and results:

- Completion of literature review
- Completion of the methodological development
- First round of region-specific, transdisciplinary workshops

WP no. 3	Title of the WP: Analysis of selected regions	
Starts: 09/11 Ends: 11/12	Total costs of the WP (EUR): 80,000	
Work Package Leader (organisation's name): Austrian Institute for Regional Studies and Spatial Planning (ÖIR)		
Name of participating institute or enterprise	Share of total costs of the WP (euro)	Brief qualitative description of costs
(WP L) BOKU Center for Global Change and Sustainability (ZGWN)	0	
BOKU Institute for Sustainable Economic Development	5650	<i>Mainly subcontract costs</i>
Austrian Institute for Regional Studies and Spatial Planning (ÖIR)	2114	<i>Mainly personell costs</i>
Wegener Center for Climate and Global Change	18155	<i>Mainly personell costs</i>
University of Kassel, Institute for Urban Processes	13636	<i>Mainly subcontract costs</i>
BOKU Institute for Meteorology	14658	<i>Mainly personell costs</i>
Austrian Society for Environment and Technology (ÖGUT)	41309	<i>Mainly personell costs</i>
BOKU Institute for Security and Risk Sciences (ISR)	0	
<p>Objectives of the WP:</p> <p>WP3 will identify and map relevant indicators for each region.</p> <p>WP3 will, on the basis of selected indicators and raw data, identify vulnerabilities within the selected regions to the impacts of the five challenges, as well as relevant sub-challenges, in the context of the previously identified future scenarios.</p> <p>WP3 will conduct a preliminary analysis of the findings in the context of each individual region</p>		
<p>Content and description:</p> <p>Generally speaking, WP3 will be carried out by consortium members located in one of the four respective regions. Those organizations will, however, continually exchange and discuss progress in order to mutually support each other's work. To that end, the BOKU Center for Global Change and Sustainability will coordinate between and provide support for the four organizations. The ÖIR will collect the data and subject them to the agreed upon analysis and procedures and make the results available to all consortium members.</p> <p>Each organization will identify relevant indicators and put the results of each case study into perspective through literature review and expert interviews. Preliminary analyses will be made for each region, which will form the basis for the subsequent evaluation and interpretation in the context of the methodological and theoretical approach developed in WP2.</p>		

<p>Methodology (e.g. interviews, literature research):</p> <ul style="list-style-type: none"> - Identification of relevant indicators - Mapping of indicators in respective regions - Literature research - Expert interviews (for periodic assessment of results)
<p>Milestones and results:</p> <ul style="list-style-type: none"> - Completion of case study research and data collection - Identification and mapping of relevant indicators - Completion of preliminary analysis of findings

WP no. 4	Title of the WP: Evaluation and interpretation of the results of the analysis	
Starts: 03/12 Ends: 02/13	Total costs of the WP (EUR): 40,000	
Work Package Leader (organisation's name): BOKU Institute for Sustainable Economic Development (INWE)		
Name of participating institute or enterprise	Share of total costs of the WP (euro)	Brief qualitative description of costs
(WP L) BOKU Center for Global Change and Sustainability (ZGWN)	0	
BOKU Institute for Sustainable Economic Development	35610	<i>Mainly personnel costs</i>
Austrian Institute for Regional Studies and Spatial Planning (ÖIR)	23642	<i>Mainly personnel costs</i>
Wegener Center for Climate and Global Change	2074	<i>Mainly personnel costs</i>
University of Kassel, Institute for Urban Processes	11383	<i>Mainly personnel costs</i>
BOKU Institute for Meteorology	4901	<i>Mainly personnel costs</i>
Austrian Society for Environment and Technology (ÖGUT)	11473	<i>Mainly personnel costs</i>
BOKU Institute for Security and Risk Sciences (ISR)	0	

Objectives of the WP:

WP4 will evaluate and interpret the results/vulnerabilities, which will emerge from the four regional studies in the methodological and theoretical context developed in WP2.

WP4 will put its evaluation and interpretation in a context that is relevant for other regions not included in the project.

WP4 will compare the results of the regional studies and its evaluation and interpretation with the results of the two EU "Regions 2020" projects in order to identify commonalities and disparities.

WP4 will discuss the limitations and applicability of the results for political decision support

Content and description:

The main task of the WP is to evaluate and interpret the results/vulnerabilities that will emerge from the four regional studies. Some organizations involved in this work package are also part of WP2 (theory and methodology). This is to ensure that the results of the practical case studies are accurately and robustly placed in the context of the theoretical and methodological discussion that took place in WP2.

Moreover, the results will also be compared with those of the EU "Regions 2020" projects in order to evaluate their robustness.

The results of this WP will form an important part of the final report and provide in-depth analysis to assist in the formation of regional policies concerning the challenges described in the project.

Methodology (e.g. interviews, literature research):

- Literature research
- Comparison with EU "Regions 2020" projects
- Mapping of vulnerabilities
- Visualisation and moderation techniques (such as World Café)
- Participatory evaluation

Milestones and results:

- Second round of region-specific, transdisciplinary workshops
- Completion of the evaluation and interpretation of the results of the case study analyses
- Completion of the discussion of results against the international literature and the theoretical and analytic framework developed in WP2
- At least one article submitted to an international scientific journal
- Handbook documenting the procedures, indicators, data availability and aggregation methods for the use of vulnerability studies elsewhere (for free download)

Suitability of Funding Applicants / Project Partners

Overview

Table 3

Applicant (A) / Partner no. (P x)	Type of organization*	Federal state**	Share of costs in total costs [EUR]	[%]	Funding applied for [EUR]	[%]
(A) BOKU Center for Global Change and Sustainability (ZGWN)	RI-U	W	70026	21	46217	16
(P1) BOKU Institute of Meteorology (BOKU Met)	RI-U	W	47860	14	39245	14
(P2) BOKU Institute for Sustainable Economic Development (INWE)	RI-U	W	51525	15	39159	14
(P3) Austrian Society of Environment and Technology (ÖGUT)	RI-N	W	29609	9	29609	10
(P4) Wegener Center for Climate and Global Change	RI-U	ST	29594	9	25895	9
(P5) University of Kassel, Institute for Urban Processes	RI-U	A Germany	32432	10	32432	11
(P6) Austrian Institute for Regional Studies and Spatial Planning (ÖIR)	RI-N	NÖ	69398	21	69398	24
(P7) BOKU Institute for Security and Risk Sciences (ISR)	RI-U	W	4882	1	4003	1
Sum of total costs			335326	100	285958	100

* **Add type of organisation:** Please use the following acronyms

<i>Large enterprises</i>	<i>LE</i>
<i>Medium-sized enterprises</i>	<i>ME</i>
<i>Small enterprises</i>	<i>SE</i>
<i>Research institutions – universities, universities of applied sciences</i>	<i>RI-U</i>
<i>Research institutions – non-university research institutions</i>	<i>RI-N</i>
<i>Research institutions – individual researchers</i>	<i>RI-I</i>

<i>Research institutions – others</i>

<i>RI-O</i>

**** Add Federal state:** Please use the following acronyms

B: Burgenland, K: Carinthia, NÖ: Lower Austria, OÖ: Upper Austria, S: Salzburg, ST: Styria, T: Tyrol, V: Vorarlberg, W: Vienna, A: Abroad

Table 4

Applicant (A) / Partner no. (P x)	Main task in the project
(A) BOKU Center for Global Change and Sustainability	Project management; coordination, dissemination
(P1) BOKU Institute of Meteorology (BOKU Met)	Climate Change Challenge; Input EU-project experience
(P2) BOKU Institute for Sustainable Economic Development (INWE)	Regional, socio-political implications, participatory processes, discussion of methods, coordination of evaluation and interpretation of results
(P3) Austrian Society for Environment and Technology (ÖGUT)	Regional assessment (Lower Austria)
(P4) Wegener Center for Climate and Global Change	Regional assessment (Styria), support evaluation and interpretation of results
(P5) University of Kassel, Institute for Urban Processes	Regional assessment (Kassel)
(P6) Austrian Institute for Regional Studies and Spatial Planning (ÖIR)	WP3; coordination of the regional assessments
(P7) BOKU Institute for Security and Risk Sciences (ISR)	Review; development of scenarios

Applicant and Partners (1 page maximum per partner)

a) Name of institution or enterprise, or name of scientist

(A) BOKU University of Natural Resources and Life Sciences / Center for Global Change and Sustainability

Dipl.-Ing. Dr.nat.techn. Thomas Lindenthal; MA Matthew Aversano-Dearborn

b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

(CVs are to be enclosed in the annex)

The BOKU Center for Global Change and Sustainability was founded in July 2010. It supports the University of Natural Resources and Life Sciences, Vienna in realizing its societal responsibility. It provides impetus for ideas regarding topics of global change and sustainable development. The Center is a place of interdisciplinary, scientific debate and offers a learning environment for complex relationships and innovative ideas. As such the Center contributes toward communicating concepts for the future to society.

Thomas Lindenthal has ample experience in managing large projects and coordinating many partners within interdisciplinary projects (e.g. as leader of the project "Carbon Footprint of Foodstuffs (FiBL Austria)"). He has been active in fostering cooperation within the scientific community as well as organizing funding for the community. At the Center for Global Change and Sustainability he is responsible for, among other things, coordinating research cooperation in addition to the day-to-day operations of the Center's activities.

Matthew Aversano-Dearborn is currently a doctoral student at the University of Vienna. His dissertation subject area focuses on human vulnerability and climate change. Furthermore, he has supported organizations globally with organizing funding for projects, as well as with the coordination of activities and events at local, national and international levels. In addition, he is collaborating on the EU project "Regional Futures 2020 – Regional Challenges in the Perspective of 2020", commissioned by DG REGIO.

c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

The Center networks between institutes, departments, platforms and initiatives at the University of Natural Resources and Life Sciences, Vienna, in their research and teaching in the areas of global change and sustainability (e.g. climate change and climate protection, sustainable concepts for ensuring global food security, transportation, waste management, water supply and use). This work involves research as well as teaching, policy advice and public relations. Furthermore, these cooperative and networking activities of the Center extend to national and international research institutes and organizations.

Currently, the Center employs seven researchers and one member of staff dealing with administrative duties. It is therefore well-equipped to manage projects and network groups of people, to organize workshops and events. It is entitled to make use of the facilities of the BOKU, e.g. meeting rooms or lecture halls.

a) Name of institution or enterprise, or name of scientist

(P1) BOKU University of Natural Resources and Life Sciences / Institute of Meteorology

Dr. Herbert Formayer; Dipl.-Ing. Heidelinde Trimmel

b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project

The Institute of Meteorology (BOKU-Met) is part of the Department of Water, Atmosphere and Environment. The Institute of Meteorology focuses on applied meteorology, carried out by several working groups: Agro-meteorology, Climate and Climate Change Impact, Boundary Layer Meteorology and Small-Scale Climatology, Environmental Meteorology and Radiation. The institute is a coordinator of the Austrian climate research initiative (AustroClim) and plays a central role in the Austrian climate change research community, with regard to research as well as coordinating activities. For many years BOKU-Met and its researchers have been involved in statistical and dynamical downscaling of climate change scenarios and in interdisciplinary climate change impact assessments ranging from agriculture and forestry, the hydrological cycle to the socio-economic impact on tourism. Several projects related to the topic of the SeRAC-CC at national and international level were carried out or are ongoing (e.g. ADAGIO, CECILIA, ACQWA, CC-Waters, reclip:century, KlimAdapt)

Dr. Herbert Formayer is expert in applied climate analyses and downscaling of climate scenarios. Since 1995 he is working in the field of climate analyses and regional climate modelling. In 1998 he was a visiting scientist at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, in the research group of Filippo Giorgi. He participated in more than 50 national and international research projects financed by e.g. the EU-FP 6 and 7, ERDF, or the national programs "man and biosphere", ProVision, StartClim and ACRP. Most of these projects were interdisciplinary, so he is experienced with working in interdisciplinary teams.

Heidelinde Trimmel is part of the research team for the EU project "Regional Futures 2020 – Regional Challenges in the Perspective of 2020". She has also been involved in a range of other projects dealing primarily with climate change and its effects (e.g. contribution to the book "Agriculture Facing Climatic Change / Landwirtschaft im Klimawandel"; participation in the project "Spatial Differentiation of Microclimatic Properties of Viennese Urban Structures and Adaptive Measures"). Like Dr. Formayer, she is experienced with the development, collection and aggregation of indicators, particularly in the field of climate change and vulnerability.

c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

The Institute of Meteorology is equipped with staff and infrastructure to carry out research, manage projects and network groups of people, as well as to organize workshops and events. It is entitled to make use of the facilities of the BOKU, e.g. meeting rooms or lecture halls.

Currently, the Institute employs twenty-two researchers and five staff members dealing with administrative and/or technical duties.

- a) Name of institution or enterprise, or name of scientist

(P2) BOKU University of Natural Resources and Life Sciences / Institute for Sustainable Economic Development

Ao.Univ.Prof. Dipl.-Ing. Dr.nat.techn. Marianne Penker; Dipl.-Ing. Dr. Barbara Enengel

- b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

The BOKU Institute for Sustainable Economic Development (INWE) combines disciplinary approaches from economics, regional development sciences, and sociology to interdisciplinary solutions contributing to sustainable development. INWE strives for an integrative perspective on questions in the fields of land use, rural development, regional management, environment and natural resources.

Marianne Penker has been working at BOKU since 1996 (at INWE since 2003), as visiting scholar at the University College London (2003, Department of Economics - Centre of socio-economic Research on the Global Environment), and as guest professor at the Free University Bolzano in Northern Italy (2003-2008) and at the University Klagenfurt in Austria (since 2008). At BOKU she holds the tenure position of an associate professor for regional development since February 2007 (Ao.Univ.Prof., Habilitation). She leads a group of six researchers specialised in governance and sustainability of regional development. Apart from institutional economic analyses, spatial socio-economic analyses and regional development tools, she has developed a considerable repertoire of inter- and transdisciplinary techniques and methods (e.g., participatory scenario planning, participatory impact assessments, system analysis tools, moderation tools).

Barbara Enengel has just finished her PhD in Social and Economics Sciences at the Doctoral School of Sustainable Development (dokNE) with a particular focus on costs, benefits and risks of participative co-management arrangements. Her theoretical and empirical approaches are routed in institutional economics and inter-disciplinary research of regional governance. As lecturer, she is specialised on inter- and transdisciplinary courses.

- c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

Apart from the project-relevant experience form "Spatial and regional development scenarios for Austria in the European context in 2030" (funded by the Austrian Conference on Spatial Planning), the institute is partner/co-ordinator of several EU-projects (e.g., [Climate Change Terrestrial Adaptation and Mitigation in Europe](#), [Non-food Crops-to-Industry schemes in EU27](#)) and other research projects (e.g., filière.paysage – The supply chain for landscape production, Goat-Grazing and Biocultural Diversity – a transdisciplinary system approach, Alpine-Space-Project DEMOCHANGE: adaptation strategies for spatial planning and regional development, Analysing climate change mitigation and adaptation strategies for sustainable rural land use and landscape developments in Austria, Biomass for Energy Uses in Austria – Regional effects on the Primary Sector and Downstream Industries).

a) Name of institution or enterprise, or name of scientist

(P3) Austrian Society for Environment and Technology (ÖGUT)

Monika Auer; Mag. Michael Cervený; Dipl.-Ing. Inge Schrattenecker; Dr. Martina Handler

b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

The Austrian Society for Environment and Technology (OGUT) is a non profit organisation, formed as a scientific platform for environment, economy and administration. Due to the membership of around 80 organisations from ministries (e.g. Ministry of Economics and Labour, Ministry of Agriculture, Forestry, Environment and Water Management), public authorities (e.g. Municipality of Vienna, Province of Lower Austria), private industry and enterprises (e.g. Siemens Austria), interest groups (e.g. Chamber of Commerce, IG Passivhaus), environmental organisations (e.g. Greenpeace, WWF, Global 2000) and professional individuals, OGUT has the best preconditions for networking, preparation and providing of competent information and innovative solutions in order to meet and initiate challenges in the environmental field.

Monika Auer, with an educational background in political science—specifically environmental policy—serves as a member of the Executive Board of ÖGUT and is an expert in energy-contracting. Furthermore, she has ample experience in organizing seminars, workshops and conferences.

Michael Cervený is Head of the Energy Unit and project manager at ÖGUT. As such, he has a wealth of knowledge and experience in the energy sector. In addition, his background in political economy and the environment provide him with an interdisciplinary perspective that will be key for Regional Futures.

Inge Schrattenecker is scientific project manager at ÖGUT, with a focus on topics related to gender and social responsibility. Moreover, she has experience in the field of urban and local development and has broad project management experience.

Martina Handler is senior scientific program manager in the fields of participation and sustainable development at ÖGUT. In addition, she lectures in the Department of Environmental Sciences at the University of Graz and on the topic of energy at the Technical University of Vienna. Furthermore, she has considerable experience in national and international environmental projects.

c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

With a membership comprising around 70 organizations from business, administration, employment and the environmental movement, OGUT is well equipped to forge links between its members, to process information competently and to initiate innovative ways of dealing with challenges involving the environment.

OGUT has a permanent staff of 35 employees (28 scientists). Besides scientific expertise - where one of the main emphases is laid on sustainable buildings, OGUT has a designated expertise in project and program management.

- a) Name of institution or enterprise, or name of scientist

(P4) University of Graz / Wegener Center for Climate and Global Change

Ao.Univ.Prof. Mag. Dr. Karl Steininger; Mag. Brigitte Gebetsroither

- b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

The Wegener Center is an interdisciplinary, internationally oriented research center which combines the competences of the University of Graz in the research areas "Climate, Environmental, and Global Change". The center brings together about 40 scientists from fields such as geophysics and climate physics, meteorology, economics, geography, and regional sciences. The research interests extend from monitoring, analysis, modeling and prediction of climate and environmental change, via climate impact research to the analysis of adaptation to and mitigation of climate change.

The Wegener Center has extensive experience in quantitative economic and GHG emission modeling, in GHG adaptation and mitigation policy analysis both at the international and national level. In particular the involved researchers have cooperated in the analysis of Austrian climate policy scenarios in research projects within StartClim and Kli:En programs. Extensive experience in research project management for both small and large consortia for the European Union (up to FP7), the OECD and national research funding organizations (FWF, FFG) and ministries.

Karl Steininger, Univ. of Graz, Department of Economics, Head of the Economics of Climate and Global Change research group (EconClim) at the Wegener Center, has long-lasting research experience in inter- and transdisciplinary climate and energy research, in particular in mitigation and adaptation quantitative economic modeling. He has authored or edited 4 international books on climate change and lead various climate policy research and stakeholder analyses.

Brigitte Gebetsroither, member of the EconClim research group, has project experience in climate policy and in transport analysis. She has particular experience in structuring stakeholder integration; most recently she managed the extensive stakeholder integration within the Climate Action Plan Styria. She will support WP3 and WP4.

- c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

The Wegener Center has at its disposal an excellent research infrastructure in a building close to the University central campus, including the necessary communication, room, server and computer capacity, software and data access.

- a) Name of institution or enterprise, or name of scientist

(P5) University of Kassel / Institute for Urban Processes

Univ.-Prof. Dr. Ulf Hahne

- b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

The Institute for Urban Processes (Director: Prof. Dr. Ulf Hahne) combines economic, demographic, meteorological, social and planning experience and is involved in a lot of running projects regarding the five issues. E.g. KLIMZUG Nordhessen (Regional network for climate change adaption) is an ongoing project on climate change combining research perspectives and implementation projects in the Kassel region, financed by a German federal research program. The Institute is furthermore part of research projects on demographic, social and economic change in the Kassel region, also financed by national research programs. It combines the competences of seven professorships in urban planning. The Institute is focused on urban processes of sustainable development. Its members are well grounded in regional knowledge and guarantee access to key actors and institutions in the Kassel region.

There is an ongoing cooperation between Kassel and the Waldviertel in Lower Austria on issues of energy and climate change, and the University of Kassel has collected a wealth of pertinent data on the region, especially such on climate change impacts and vulnerabilities. By selecting Lower Austria and Kassel, synergies with past and ongoing projects can be made use of.

- c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

As part of the University of Kassel, the Institute for Urban Processes, Department Economy of Urban and Regional Development, is entitled to make use of the university facilities, e.g. meeting rooms and lecture halls. Moreover, the Institute is equipped with staff and infrastructure to carry out research, manage projects, and organize workshops and events. Currently, the Department employs nine researchers and one staff member dealing with administrative duties.

a) Name of institution or enterprise, or name of scientist

(P6) Austrian Institute for Regional Studies and Spatial Planning (ÖIR)

MBA Bernd Schuh; MSc Sebastian Beiglböck; MSc Tobias Panwinkler

b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

The Austrian Institute for Regional Studies and Spatial Planning [Österreichisches Institut für Raumplanung] (ÖIR) is a private and independent institute conducting applied research for public and private bodies in strategic issues with a spatial context. Its scope of work covers European research projects as well as the practical applications of project development, impact analyses and communication processes at the local level.

ÖIR combines independent expertise and organizational know-how to master complex projects and processes efficiently and effectively. We perceive our work as a contribution to the economic and social development of society, which is environmentally compatible and energy saving. It's carried out with respect for the cultural foundation of society, open to new developments and impulses, and sensitive to social impacts.

From the range of completed and ongoing projects of ÖIR, the following issues are of main importance for the proposal at hand (for references, please see CVs):

- Regional and local analysis
- Stakeholder support in development processes
- Analysis and prognoses on population and settlement development
- Regional and national spatial policies and spatial impact assessment of measures
- Transport analysis and traffic forecasting
- Settlement structures and options for supply with public transport and their impacts on traffic
- Ecological effects and sustainability in relation to spatial development, especially concerning situation and change potential in terms of settlement development and transport

Bernd Schuh shows more than 10 years of working experience in the field of environmental economics, ecological economics and urban development. Being a graduated economist, he has specialised in environmental and spatial development issues and shown his competence in these fields in various research projects, university courses (both undergraduate and graduate) and publications. Especially the capacity to act as mediator and moderator between different disciplines has been useful for his methodological specialisation in Multi-criteria Decision Aid and Multi-criteria Analysis methods. In recent years he has participated in various national and international research projects in the field of sustainable urban development.

Sebastian Beiglböck studied urban and regional planning at the Vienna University of Technology and the Universidad Politécnica of Madrid and graduated with a master's degree. At ÖIR he works on regional development projects on both national and European levels and specializes in rural development issues. He was key expert in the 6th Framework Programme project TERESA – Types of interaction between Environment, Rural Economy, Society and Agriculture in European regions. He conducted management, evaluation and scientific activities in ESPON,

INTERREG and other Structural-Fund-related projects and a number of projects in the national context.

Tobias Panwinkler studied Spatial Research and Spatial Planning at the Geography Department of the University of Vienna and at the Geography Department of the University of Turku [Finland] and graduated with a Master's degree. In addition, he is still studying Cartography and Geo-Information at the University of Vienna. He started at the ÖIR in 2007 and has already worked on several transport planning projects as well as urban and regional development projects, both on national and international level. He has experience in collecting, analysing and visualizing geo related data. Since 2008, Tobias Panwinkler is responsible for cartographic issues –especially cartographic visualizations such as maps and map related representations–within

- c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

In its office Franz-Josefs-Kai 27, 1010 Wien, the ÖIR has at its disposal all equipment necessary for the successful accomplishment of the project, as there are namely adequate premises and the required hard- und software is available. Most important databases and statistical sources are available in-house.

- a) Name of institution or enterprise, or name of scientist

(P7) BOKU University of Natural Resources and Life Sciences / Institute for Security and Risk Sciences (ISR)

Ao.Univ.Prof.i.R. Dr. Wolfgang Kromp; Klaus Gufler

- b) Information on the scientific competence of the organization and of the persons participating in the project (if international partners, please indicate how they will contribute to building Austrian research competence). Focus on know-how relevant to the project.

The Institute of Security and Risk Science (ISR) of the BOKU University of Natural Resources and Life Sciences Vienna (formerly Institute of Risk Research (IRR) of the University of Vienna) was founded 1995. It was transferred 2009 to BOKU University with the aim to support interdisciplinary, independent and critical scientific discussion of societal and environmental risks. As an academic institution it coordinates interdisciplinary risk, safety and security relevant projects on nuclear energy, bio gas, wind energy, and does conceptual work on risk theory including ethical questions regarding political decision making on technology.

The institute consists of a qualified team of researchers from different scientific fields. Originally research focused on security and environmental questions of nuclear electricity generation. Lately work has also evolved towards feasibility and risk studies on wind energy and sustainable energy production from biomass as well as security of food production in oil reduced agriculture.

Wolfgang Kromp is Director of the BOKU Institute for Security and Risk Sciences and has significant experience collaborating on research projects (e.g. "Fusion Foresight Study" and several studies related to renewable energies). His main research areas include: foresight scenario assessment and development, risk perception, and feasibility and risk studies on sustainable energy production.

Klaus Gufler is currently a student and will finish his master's degree Political Science in 2011. Since January 2008 he has been working as Junior Researcher at the Institute of Security and Risk Sciences. His main areas of expertise are: socio-political and environmental risks concerning renewable energy sources. Furthermore, he manages a project regarding the appropriate scale of renewable energy power plants for different energy consumption structures and was part of the team elaborating the "Euratom Foresight study" project.

- c) Description of existing project-relevant infrastructure and other aspects of capacity for carrying out the project.

The ISR is entitled to use BOKU university facilities, including meeting rooms and lecture halls. The Institute is currently comprised of nineteen researchers and one staff member dealing with administrative duties.

Subcontractors

Please list the following information for all subcontractors with subcontracts > EUR 2,000.

1) Basic information

Relevant WP(s)	WP2, WP3	Subcontractor to A/Px	P1
Name of subcontractor	Upper Austrian Academy for Environment and Nature, Department for Environment (DI Andreas Drack)		
Subcontractor's address	DI Andreas Drack, Upper Austrian Commissioner for Climate Change Amt der Oö. Landesregierung Direktion Umwelt und Wasserwirtschaft Abteilung Umweltschutz / Oö. Akademie für Umwelt und Natur Kärntnerstraße 10-12 4021 Linz		
Costs of the subcontract [EUR]	10,000.00 EUR		
Types of costs (stated in %)	<i>100% personnel costs</i>		

2) Description of the subcontracted activity

The Upper Austrian Academy for Environment and Nature (DI Andreas Drack) will assist both with the elaboration of challenges, scenarios and criteria for the study's methodology as well as with the development of indicators (discussion partner). In addition, the Academy will carry out the collection and provision of indicators for Upper Austria in order for partner organizations to analyze and map the region's vulnerabilities.

3) Offer (if available)

1) Basic information

Relevant WP(s)	WP3	Subcontractor to A/Px	P5
Name of subcontractor	Joanneum Research		
Subcontractor's address	Mag. Dr. Franz Prettenthaler , M.Litt JOANNEUM RESEARCH Forschungsgesellschaft mbH Steyrergasse 17-19 8010 Graz		
Costs of the subcontract [EUR]	15,000.00 EUR		
Types of costs (stated in %)	<i>100% personnel costs</i>		

2) Description of the subcontracted activity

Joanneum Research will be responsible for the collection and provision of indicators to the Wegener Center for Climate and Global Change for the region of Styria.

3) Offer (if available)

Consortium and Management (2 pages maximum)

Please describe the items listed below:

- Potential of the consortium for implementing the project objectives, Coverage of all addressed topics by experts - if one topic is not covered please specify how the lack of expertise will be dealt with. Management structure for reaching these project objectives

The consortium has a high potential for implementing the project objectives. The relatively large number of participating organizations and their expertise in a range of relevant fields should allow for a valuable exchange of information, knowledge and experience in order to create relationships of mutual support. This will enable organizations in WP3, for example, to utilize the expertise of other organizations if they have difficulties with a specific sub-challenge, for which they lack expertise.

In the unlikely event that the consortium members are not able to overcome an obstacle internally, all participating organizations have links with other, outside research groups who would be able to provide advice and recommendations. With that in mind, there should not be any insurmountable barrier to achieving the aims of the project.

The project will have a relatively flat hierarchy, which should encourage discussion. WP1, which includes project management, will be led by the BOKU Center for Global Change and Sustainability, which—although it has research expertise relevant to the project—will play primarily a coordinating role and will ensure that issues are addressed and obstacles are overcome in order for the objectives to be met. In addition, there will be a range of workshops as well as informal meetings that will allow for regular exchange among consortium members.

- Use of tools for comprehensible review of the project objectives (self-evaluation: catalogue of evaluation criteria and concept)

Review of the project objectives will take place in a variety of ways. Objectives will be discussed and further defined in the initial team meeting among consortium members. The kick-off round of region-specific, transdisciplinary workshops will also provide a venue for review prior to beginning the analyses of the four selected regions. During that period organizations will primarily self-evaluate, but will be in regular contact with the WP leader, who will also regularly evaluate progress and adherence to the Terms of Reference and the objectives of the project.

The final report will be accompanied by a catalogue of indicators, annexes, and other raw data to ensure that the methodology can be reviewed.

- Building up competence and other medium to long-term advantages provided by the consortium to the individual partners

On account of the relatively flat hierarchy, the high caliber of the participating organizations and the scope and interdisciplinary character of the project, partners will have many opportunities to exchange and discuss the project. In addition, opportunities will be provided (workshops, informal meetings, etc.) that will facilitate exchange among partner organizations. The ongoing discussion that will occur over the course of the twenty-four months that the project is anticipated to last will build up networks between consortium members and will enable partners to build up competencies in many areas.

Similar studies for other regions in Austria or follow-up studies addressing other challenges that might be of special relevance to particular regions could draw upon the expertise of the consortium by a handbook published online for free download.

Dissemination and Economic Potential

(3 pages maximum)

Expected publications

Please describe planned publications (journals, books, conferences, etc) and other planned dissemination activities

Publications in scientific journals focused on different aspects of the study (methodological, relevant to a specific challenge, etc.) as well as presentations of results in scientific symposia are planned.

The project will also result in a final report that will be provided to the ACRP, governments of the four selected regions as well as the respective national governments. The final report will also be made available for download (print on demand).

One or more workshops could potentially include public symposia.

Another important part of the dissemination process will occur through the transdisciplinary character of the project. On account of this, stakeholders in each region will be regularly involved in the project, thus raising their awareness of the project and the vulnerability of regions. The project aims at a common learning process on regional vulnerability between science on the one hand and regional decision makers and stakeholders on the other hand.

Follow-up presentations for policy makers and other stakeholders in the regions are planned.

Expected resulting data sets and / or tools

Please describe which data sets and/or tools (e.g. models, methodologies, checklists,...) are expected to be generated and who will benefit from them (i.e. what is the added value for potential users)

The study will primarily result in two beneficial tools. The first tool will be the detailed vulnerability maps that will be included in the final report and will be submitted to both the ACRP and the governments of the four selected regions. These maps, along with the final report, will be valuable for local and regional policy-makers, city and regional planners and other public and private entities for generating strategies to manage the impacts of the five challenges taken into account in the study: climate change, demography, globalization, energy, and social polarization.

The second tool that will be generated by the study will be the methodology developed in the scope of the project for evaluating vulnerabilities in specific regions. This will be valuable for researchers and scientists in relevant fields, regardless of the geographic focus of their studies. Based on the developed methodology, they will be able to carry out similar assessments in other regions.

In addition, the results of the study will provide a comparison of the EU "Regions 2020" projects—thus offering stakeholders a point of reference regarding the accuracy of the top-down approaches frequently implemented in European Union projects.

Contribution to the Objectives of the Programme and user value

Please describe how the project contributes to the objectives of the ACRP programme and how potential stake holders (research community, decision makers, private companies) will benefit from the results of the research activity

The project will result in an in-depth assessment of the four selected regions' vulnerabilities to the five challenges and their diverse sub-challenges. As mentioned above, previous projects have taken these regions into account, yet only as part of a larger study and without particular focus on specific

regions. This study, in contrast, will place the focus squarely on the four selected regions; therefore the results will be especially important for regional decision-makers in Austria and Germany. The results will allow decision-makers to reach informed policy decisions regarding some of the most significant global challenges facing society today. In addition to local and regional levels, the results of the study can serve an equally valuable role at the national level. On one hand, the methodology and results of the project will have the potential to form the basis of similar studies for other regions in Austria. On the other hand, the detailed results will assist policy-makers and planners with the formation of policies concerning the identified vulnerable areas.

Furthermore, the results of the study will be beneficial for the international research community, in that the results of several EU-level projects in the field of vulnerability and global challenges, particularly climate change, will be compared and evaluated on the micro-level for their robustness and accuracy. This will provide researchers with indispensable information regarding the usefulness of certain methodologies and may form the basis for similar studies outside of Austria. In so doing, this study will make a significant contribution to, inter alia, the advancement of high level climate research, which will enable Austria to deal better with the impacts of the challenges climate change, globalization, social polarization, energy, and demography.

In sum, the identification of vulnerabilities regarding the five challenges will benefit the research community, decision-makers (at the local, regional and national levels) and private companies who are located or have investments in those regions and for whom those regions' vulnerabilities are also important.

Annex

1. **CVs:** please insert 2 pages per partner maximum into this document, including description of a maximum of 10 publications relevant to the project

(A) BOKU Center for Global Change and Sustainability (ZGWN)

Thomas Lindenthal, Dipl.-Ing. Dr.nat.techn. (ZGWN Coordinator)

Education and professional development: Master in Agricultural Sciences, University of Natural Resources and Life Sciences, Vienna; Doctorate in the field of Organic Farming at the University of Natural Resources and Life Sciences, Vienna.

Collaboration in research projects: e.g. leader of the project "CO₂-emissions and sustainability assessment of organic and conventional foodstuffs in Austria" (FiBL Austria); coordinator of the sustainable region-project "Full conversion to organic farming in the two NUTS III-regions Liezen.

Main research areas: Interdisciplinary agriculture and forestry; sustainable economics; agricultural ecology; industrial ecology; knowledge transfer; and sustainable development.

Matthew Aversano-Dearborn, MA

Education and professional development: Bachelors in Spanish and German Studies, Western Washington University, USA; Masters in International Relations, Catholic University of Eichstätt-Ingolstadt, Germany. Currently pursuing a doctorate with a focus on human vulnerability and climate change at the University of Vienna.

Collaboration in research projects: e.g. "Regional Challenges in the Perspective of 2020", DG REGIO; climate Change Collaboratory (Triple-C).

Main research areas: environmentally and climate induced migration, vulnerability/resilience, climate change, disaster risk reduction, sustainable development.

Selected Publications

Lindenthal, T., Steinmüller, H., Wohlmeyer, H., Pollak, M., Narodoslawski, M. (2001): Landwirtschaft und nachhaltige Entwicklung des ländlichen Raumes (Agriculture and Sustainable Development in Rural Regions). 2. SUSTAIN Report: Umsetzung nachhaltiger Entwicklung in Österreich, Verein Sustain, TU Graz, BMVIT Vienna.

Fromm, E., Kratochvil, R., Lindenthal, T. Milestad, R. und P. H. Brunner (2001): Nachhaltigkeit erkennbar und planbar machen. (Sustainability Assessment) 2. SUSTAIN Report: Umsetzung nachhaltiger Entwicklung in Österreich, Verein Sustain, TU Graz, BMVIT, Vienna.

Lindenthal, T., Bartel, A., Darnhofer, I., Eder, M., Freyer, B., Hadatsch, S., Milestad, R., Muhar, A., Payer, H., Penker, M. Rützler, H., Schneeberger, W., Velimirov, A., Walzer, A. (2003): Full conversion to organic farming - assessment in two NUTS III-regions in Austria. Final Report. Austrian Landscape Research (KLF II) des BMUWK. Vienna, 134 S.

Freyer B. und T. Lindenthal (2003): Stationen eines Forschungsprozesses am Beispiel einer gedachten Umstellung von Regionen auf die Ökologische Wirtschaftsweise. In: Tagung der Gesellschaft für Humanökologie, 8.-10.5.2003, Sommerhausen.

Freyer, B., Darnhofer, I., Eder, M., Lindenthal, T. und Muhar, A. (2005): Total conversion to organic farming of a grassland and a cropping region in Austria-economic, environmental and

- sociological aspects. In: ISOFAR: 15th IFOAM Organic World Congress, 21.-23. September 2005, Adelaide, Australia, 308-311 (reviewed)
- Christanell, A., Burger-Scheidlin, H., Vogl, C. R. & Lindenthal, T. (2007): Climate change in the alpine valley Großes Walsertal and in Western Styria, Austria: Witnessing the dynamics in local knowledge between farmers' experiences and global discourses. Paper presented at: Society for Applied Anthropology, 67th Annual Meeting • March 27 - 31, 2007, Tampa, USA
- Voigt, D., Lindenthal, T., Spornberger, A. (2007): Landscape, land use and soul: ecopsychology: mending a troubled relationship. In: Zollitsch W., Winckler C., Waiblinger S., Haslberger A. (Eds.), Sustainable Food Production and Ethics (EurSAFE, 7th Congress 13.-15. September 07), Academic Publishers, Wageningen; ISBN 978-90-8686-046-3; S. 506-511.
- Darnhofer, I., Lindenthal, T., Bartel-Kratochvil, R., Zollitsch, W. (2010): Conventionalisation of organic farming practices: from structural criteria towards an assessment based on the organic principles. A review. *Journal Agronomy for Sustainable Development* 30, 67 - 81.
- Gotschi, E., Vogel, S., Lindenthal, T. und M. Larcher (2010): The Role of Knowledge, Social Norms and Attitudes Toward Organic Products and Shopping Behaviour: Survey Results from High School Students in Vienna. *Journal of Environmental Education*, 41 (2), 88 - 100.
- Hörtenhuber, S., Lindenthal, T., Amon, B., Kirner, L., Zollitsch, W. (2010): Greenhouse gas emissions from selected Austrian dairy production systems – model calculations considering the effects of land use change. *Renewable Agriculture and Food Systems*, 1-14. doi: 10.1017/S1742170510000025.

(P1) BOKU Institute of Meteorology (BOKU-Met)

Herbert Formayer, Mag. Dr. (Research Scholar)

Education and professional development: Diploma (Mag.) in Meteorology at the University of Vienna (1995). Doctoral Thesis at the University of Natural Resources and Life Sciences, Vienna (BOKU) (2001). Since 1998 he has held the positions of meteorologist, researcher and teacher at the Institute of Meteorology, University of Natural Resources and Life Sciences. Head of the Working Group Climatology at the Institute of Meteorology.

Main research areas: Applied climate analyses, regionalization of climate change scenarios, climate impact assessments. Research experience in several national and international programs as 6th and 7th EU framework program, INTERREG-ERDF, Man and Biosphere, ProVision, Austrian Climate Research Program (ACRP), StartClim. Since July 2010 member of the Center for Global Change and Sustainability of the BOKU.

Heidelinde Trimmel, Dipl.-Ing.

Education and professional development: Graduate Engineer in Landscape Planning at the University of Natural Resources and Life Sciences, Vienna.

Collaboration in research projects: e.g. "Regional Challenges in the Perspective of 2020" (DG REGIO); ADAGIO project; "Spatial Differentiation of Microclimatic Properties of Viennese Urban Structures and Adaptive Measures" (MA 22); and "Biotop City".

Selected Publications

Holzmann, H., Lehmann, Th., Formayer, H., Haas, P. (2010): Auswirkungen möglicher Klimaänderungen auf Hochwasser und Wasserhaushaltskomponenten ausgewählter Einzugsgebiete in Österreich. *Österr. Wasser- und Abfallwirtschaft*, 56.JG, 1-2/10, 7-14

- Trnka, M; Eitzinger, J; Hlavinka, P; Dubrovsky, M; Semeradova, D; Stepanek, P; Thaler, S; Zalud, Z; Mozny, M; Formayer, H (2009): Climate-driven changes of production regions in Central Europe. *PLANT SOIL ENVIRON.* 2009; 55(6): 257-266.
- Schaumberger, A; Formayer, H; Tiefenbach, P; Grillenberger, J; Strobl, J (2008): Modelling of spatio-temporal variation of snowcover. *MITT OSTERR GEOGR GES.* 2008; 150: 163-182
- Eitzinger, J., Formayer, H., Thaler, S., Trnka, M., Zdenek, Z., Alexandrov, V. (2008): Results and uncertainties of climate change impact research in agricultural crop production in Central Europe. *BODENKULTUR*, 59/1-4, 131-147; ISSN 0006-5471
- Seibert, P., A. Frank, and H. Formayer (2007): Synoptic and regional patterns of heavy precipitation in Austria. *Theor. Appl. Climatol.*, 87 (1-4), 139-153, DOI 10.1007/s00704-006-0198-8
- Trnka, M., Eitzinger, J., Kapler, P., Dubrovsky, M., Semeradova, D., Zalud, Z., Formayer, H. (2007): Effect of Estimated Daily Global Solar Radiation Data on the Results of Crop Growth Models. *SENSORS-BASEL*, 7, 2330-2362; ISSN 1424-8220
- Matulla, C., Formayer, H., Haas, P., Kromp-Kolb, H.. (2004): Mögliche Klimatrends in Österreich in der ersten Hälfte des 21. Jahrhunderts. *Österreichische Wasser- und Abfallwirtschaft*, 56, 1-2, 1-9; 0945-358X
- Matulla, Ch., Penlap, E.K., Haas, P. and H. Formayer (2003): Comparative Analysis of Spatial and Seasonal Variability: Austrian Precipitation during the 20th Century. *International Journal of Climatology*, 23, 13, 1577–1588
- H.Trimmel 2008 "Using Microscale Computer Simulation in Landscape Planning - an ENVIMet3 users perspective" Diplomarbeit, Betreuer: Prof. Mursch-Radgruber(Meteorologie) und Prof. Frohmann(Freiraumplanung)
- E.Mursch-Radgruber, H.Trimmel, T.Gerersdorfer 2009 „Räumliche Differenzierung der mikroklimatischen Eigenschaften von Wiener Stadtstrukturen und Anpassungsmaßnahmen“

(P2) BOKU Institute for Sustainable Economic Development

Marianne Penker, Ao. Univ.Prof., Dr.

Education and professional development: Venia Docendi (habilitation) in Rural / Regional Development; Doctorate in Agricultural Sciences, University of Natural Resources and Life Sciences, Vienna; Degree in Landscape Planning and Landscape Management, University of Natural Resources and Life Sciences, Vienna; Landscape planning, Politecnico di Milano (EU ERASMUS exchange); Law, University of Vienna. Currently Vice-Head of the Department of Economics and Social Sciences at the University of Natural Resources and Life Sciences, where she also holds the position of Associate Professor of the Institute for Sustainable Economic Development. She has also served as an EU-expert for the evaluation of research proposals for EU FP 6 funding.

Selected research projects: The supply chain for the production of landscapes and landscape governance (French Ministry of Sustainable Development); Scenarios for the spatial and regional development of Austria in the European context (ÖROK: Austrian Conference on Spatial Planning); Alternative need assessment in the Austrian system of fiscal equalization to consider demographic changes in rural regions; Participatory decision making in nature conservation and landscape development a transaction costs analysis; Civil society engagement in cultural landscape protection; Integrative spatial land use modelling for simulation, analysis and valuation of agricultural production schemes (all dokNE projects: Doctoral school Sustainable Development, 16 PhD-projects funded by the Federal Ministry of Education, Science and Culture (proVision), Amt der

Niederösterreichischen Landesregierung, Amt der Steiermärkischen Landesregierung, City of Vienna, Federal Ministry of Agriculture, Forestry, Environment and Water Management); *Leben 2014 – Perspektiven der Regionalentwicklung in der Nationalparkregion Hohe* (Federal Ministry of Education, Science and Culture); *Fast Food – Slow Food – Sustainable landscape development and food chain management* (Federal Ministry of Education, Science and Culture, Austrian research programme Cultural Landscapes)

Barbara Enengel, Dipl.-Ing.in Dr.in

Education and professional development: Post-doc and Senior Lecturer at the Institute for Sustainable Economic Development, Department of Economics and Social Sciences, University of Natural Resources and Life Sciences, Vienna. Doctorate in Social and Economics Sciences, University of Natural Resources and Life Sciences, Vienna; Doctoral School Sustainable development at BOKU; Exchange student at the University of Wales, Aberystwyth (EU ERASMUS exchange); Degree in Agricultural Economics, University of Natural Resources and Life Sciences, Vienna.

Selected research projects: Participative Landscape-Governance - Cost-benefit-risks-relations from the perspective of participants; a PhD-project funded by the Federal Ministry of Education, Science and Culture (proVision), Amt der Niederösterreichischen Landesregierung, Amt der Steiermärkischen Landesregierung, City of Vienna, Federal Ministry of Agriculture, Forestry, Environment and Water Management; The supply chain for the production of landscapes and landscape governance (French Ministry of Sustainable Development); Agricultural abandonment in rural areas of Upper Austria funded by the Austrian National bank (Jubiläumsfonds).

Selected Publications

- ÖROK (2009): Szenarien der Raumentwicklung Österreichs 2030 [Scenarios of Austria's Spatial Development 2030]; [Hiess, H. \(Redaktion\), Gruber, M., Payer, H., Penker, M., Schrenk, M., Wankiewicz, H.](#), Austrian Conference on Spatial Planning (ÖROK). Vienna: ÖROK Publications No. 176/I und No. 176/II (ISBN: 978-3-85186-090-0 und 3-85 186-092-6), 259 pp. / 192 pp.
- Laschewski, L., Penker, M. (2009): Rural change and the revalorisation of rural property objects. Editorial of the Special Issue on Rural Change: Revalorization of property objects and the institutionalization of (new) property rights. *International Journal of Agricultural Resources, Governance and Ecology (IJARGE)*, 8 (1), 1-13.
- Penker, M. (2009): Landscape governance for or by the local population? A property rights analysis in Austria, *Land Use Policy*, 26 (49), 947-953. [Impact factor 08: 1.821]
- [Schönhart, M., Penker, M., Schmid, E.](#) (2009): Sustainable Local Food Production and Consumption – Challenges for Implementation and Research. *Outlook on Agriculture*, 38 (2), 175-182. [Impact factor 08: 0.361]
- Williams, R., Penker, M., Hiess, H. (2009): Critical Evaluation of Scenarios for Spatial Planning and Regional Development, Online-proceedings of the 49th European Congress of the European Regional Science Association: Territorial Cohesion of Europe and Integrative Planning, August 25-29, 2009, Lodz, Poland.
- Penker, M. (2008): Gefahren und Chancen des demographischen Wandels für die regionale Wirtschaft. [Demographic change: challenges and opportunities for the regional economy]; *Agrarische Rundschau. Zeitschrift für Agrar- und Wirtschaftspolitik mit Agrar- und Umweltrecht*. Issue 5, 31-34.
- Enengel, B., Penker, M., Muhar, A. and Williams, R. (resubmitted): Benefits, efforts and risks of participants in landscape co-management: An analytical framework and results from two case studies in Austria. Resubmitted to the *Journal of Environmental Management*.

[Enengel, B.](#) (2009): Partizipative Landschaftssteuerung - Kosten-Nutzen-Risiken-Relationen aus Sicht der Beteiligten. Dissertation; Universität für Bodenkultur Wien.

Enengel, B. (2009): Natura 2000 - Raum für lokale Mitbestimmung? Land & Raum, 3/2009, 15-17.

[Enengel, B. and Penker, M.](#) (2009): Benefits, efforts and risks of participants in landscape co-management - An analytical framework and two Austrian case studies. In: Oueslati, W. et al., Papers. European Consortium on Landscape Economics. First International Conference on Landscape Economics, University of Natural Resources and Applied Life Sciences, Vienna, 2.-4. July 2009, 197-222.

(P3) Austrian Society for Environment and Technology

Monika Auer

Education and professional development: Member of the Executive Board (ÖGUT); Management of the Division of Energy-Contracting; Studies in Political Science at the University of Vienna with a focus on Environmental Policy.

Main research areas: Energy-contracting; environmental politics.

Michael Cerveny, Mag.

Education and professional development: Head of the Energy Unit; Project Manager, ÖGUT; Master degree in Political Economy, University of Economics and Business, Vienna.

Main research areas: Energy and climate protection.

Martina Handler, Drⁱⁿ.phil.

Education and professional development: Senior scientific project manager in the fields of participation and sustainable development; Lecturer in the Department of Environmental Sciences, University of Graz; Lecturer on Renewable Energy, Technical University of Vienna; Doctorate in Political Science, University of Vienna.

Her key activities lie in the fields of public participation, cooperative conflict resolution, sustainable development, demographic change and social cohesion.

Inge Schrattenecker, Dipl.-Ing.

Education and professional development: Scientific project manager on the topics gender and social responsibility; Graduated Engineer in Physical Planning and Regional Planning, Technical University Vienna.

Main research areas: Gender; social responsibility; spatial and regional planning; urban development.

Selected Publications

Working Group Environmental Report and Sustainability (Amt der NÖ LReg.), Monika Auer - Endredaktion, Gerhard Bayer, Julia Fielitz, Joachim Schreiber (OGUT) (2009): Umweltbericht des Landes NÖ - Rückblick 2004 - 2009 und Perspektiven 2009-2012. Amt der NÖ Landesregierung

Auer, Monika (2009): Contracting-Fibel - Eine Anleitung zum Handeln für Gemeinden, Gewerbe & Industrie, Dienstleistende und Wohnungswirtschaft. ÖGUT

- Paula, M., Cerveny, M., Gadner, J., Indinger, A. (2009): Energieforschungsstrategie für Österreich. Bundesministerium für Verkehr, Innovation und Technologie.
- Cerveny, Michael (2009): Nach der Finanzkrise droht die Energiekrise. Österreichischer Biomasseverband.
- Cerveny, Michael, et.al. (2004): NÖ-Klimaprogramm 2004-2008. Amt der Niederösterreichischen Landesregierung.
- Handler, M., Purker, E., Tingas, K., Toth, M. (2005): Promoting Environmental Mediation as a Tool for Public Participation and Conflict Resolution. Federal Ministry of Agriculture, Forestry, Environment and Water Management.
- Ebner, Greisberger, Handler, et.al. (2004): Hotspots of a future environmental policy. Federal Ministry of Agriculture, Forestry, Environment and Water Management.
- Greisberger, H., Hasenhüttl, Handler, M. (2004): Sustainable climate protection: ecological, economic and social dimension of climate protection measures. Chamber of Labor, Vienna.
- Schrattenecker, Inge, Hausner, Beatrix (2009): FEMtech Expertinnen 2008. BMVIT.

(P4) Wegener Center for Climate and Global Change

Karl Steininger, Ao. Univ. Prof. Mag. Dr.

Education and professional development: Master in social sciences (combined program Computer Science and Economics), University of Vienna and Technical University of Vienna, Austria; graduate studies at UC Berkeley (Resource Economics); Fulbright Scholar; Ph.D. Social Sciences, University of Vienna, Austria (1994); Venia docendi Economics (habilitation), University of Graz (1999); Consultant, Environment Dept., World Bank, Washington, D.C. (1990, 1992), Assist. Professor University of Graz (1994); Guest Professor, University of Trieste (1997); Assoc. Professor, University of Graz (1999); Social Science Delegate National Global Change Committee, Austrian Academy of Sciences (2000-present); Head of the Human Dimensions Program (HDP) and the Wegener Center Deputy Director (2005-present).

Main research areas: Quantitative economic analysis. Focus on modeling of climate change and climate policy, and spatial models.

Further project-specific qualifications: Research management of projects on behalf of the OECD, World Bank and various national research funding agencies. Leading national and international inter- and transdisciplinary research projects on climate change.

Brigitte Gebetsroither, Mag. (staff scientist)

Education and professional development: Master in Economics and Environmental Sciences, University of Graz

Main research areas: Environmental economics and econometrics, i.e. reduction of Greenhouse Gas emissions, transport economics and transport econometrics. She worked on these topics in several research projects.

Selected Publications

- Bednar-Friedl, B., Muñoz Jaramillo, P., Schinko, T., Steininger, K. (2009), The Carbon Content of Austrian Trade Flows in the European and International Trade Context, FIW Research Report 2009/5, Vienna.

- Bednar-Friedl, B., Koland, O., and K.W. Steininger, Urban Sprawl and Policy Responses: A General Equilibrium Analysis of Residential Choice, forthcoming in Journal of Environmental Planning and Management 54(1) January 2011, accepted May 14, 2010.
- Cogoy, M. and K.W. Steininger (Eds.) (2007), The Economics of Global Environmental Change: International Cooperation for Sustainability, Cheltenham: Edward Elgar.
- Farmer, K., and K.W. Steininger (1999), Reducing CO₂-Emissions Under Fiscal Retrenchment: A Multi-Cohort CGE-model for Austria, Environmental and Resource Economics, 13, 309-340.
- Grossmann, W.D., Grossmann, I., and K.W. Steininger, Indicators to determine winning renewable energy technologies with an application to photovoltaics, Environmental Science and Technology, 2010, 44 (13), pp 4849-4855.
- Grossmann, W.D., Steininger, K.W., Grossmann, I., and L. Maggaard, Indicators on Economic Risk from Global Climate Change, Environmental Science and Technology, 2009, 43 (16), pp 6421-6426
- Köpl, A. und K.W. Steininger (Hrsg.), Reform umweltkontraproduktiver Förderungen in Österreich. Energie und Verkehr. Graz: Leykam, 2004, 204 S.
- Munoz, P, Steininger, K.W., Austria's CO₂ responsibility and the carbon content of its international trade, forthcoming in Ecological Economics, accepted May 26, 2010.
- Steininger, K.W., and H. Voraberger (2003), Exploiting the Medium-term Biomass Energy Potentials in Austria: A Comparison of Costs and Macroeconomic Impact, Environmental and Resource Economics, 24, 359-377.
- Steininger, K.W., Weck-Hannemann, H. (eds.) (2002), Global Environmental Change in Alpine Regions: Recognition, Impact, Adaptation and Mitigation. Cheltenham: Edward Elgar
- Steininger, K.W. (2001), International Trade and Transport. Spatial Structure and Environmental Quality in a Global Economy. Cheltenham: Edward Elgar.
- Trink, T., Schmid, C., Schinko, T., Steininger, K.W., Kettner, C., Loibnegger, T., Pack, A., Töglhofer, C., Regional Economic Impacts of Biomass Based Energy Service Use: A Comparison Across Crops and Technologies for East Styria, Austria, Energy Policy, Volume 38, Issue 10, October 2010, Pages 5912-5926.

(P5) Institute for Urban Processes, University of Kassel

Ulf Hahne, Univ.-Prof. Dr.

Education and professional development: Professor and founding director of the Institute for Urban Processes in the Department of Economy of Urban and Regional Development, University of Kassel, Germany; extensive experience as an executive consultant for regional business development and tourism; Doctorate in Economics, Braunschweig and Kiel with an emphasis on Regional Science.

Main research areas: Sustainability, Regional Development, Demographic Transition, Rural Renewal, Tourism

Selected Publications

Ulf Hahne (Hrsg.): Globale Krise – Regionale Nachhaltigkeit. Handlungsoptionen zukunftsorientierter Stadt- und Regionalentwicklung. 220 pages. ISBN 978-3-939486-54-1. Detmold 2010: Dorothea Rohn

Ulf Hahne, Christine Adams, Simone von Kampen: Tourismusdestination Nordhessen im Klimawandel: Betroffenheit und Chancen durch den Klimawandel.

- Arbeitspapiere „Klimawandel und Anpassung des Tourismus“, 1. Kassel 2009.
urn:nbn:de:hebis: 34-2009121131469
- Ulf Hahne, Christine Adams, Simone von Kampen: Nordhessen – Tourismus – Klimawandel: Nachfrageanalyse Sommersaison 2009.
Arbeitspapiere „Klimawandel und Anpassung des Tourismus“, 2. Kassel 2010. rn:nbn:de:hebis: 34-2010021131981
- Ulf Hahne, Christine Adams, Simone von Kampen: Gesundheitstourismus in Nordhessen: Aktuelle Herausforderungen im Kontext der Klimaanpassung.
Arbeitspapiere „Klimawandel und Anpassung des Tourismus“, 3. Kassel 2010.
urn:nbn:de:hebis: 34-2010050332741
- Ulf Hahne, Martin Hoppe-Kilpper, Cord Hoppenbrock, Clemens Mostert, Matthias Wangelin, Michael Stöhr, Ludwig Karg, Sabine Conrad, Fanziska Lehmann, Michael Glatthaar: Nordhessen 2020: Dezentrale Energie und Arbeit. Strategie zur Schaffung von 20.000 Arbeitsplätzen durch den Ausbau technologischer Kompetenz und die Anwendung dezentraler Energie- und Effizienztechnologien. Hrsg.: Kompetenznetzwerk Dezentrale Energietechnologien deENet e.V. Kassel 2009
- Ulf Hahne: Wertschöpfungsk Kooperationen – systemischer Hebel der Regionalentwicklung. In: RKW (Hrsg.) 2009: Innovative regionale Wertschöpfungsk Kooperationen im ländlichen Raum. Erfolgsgeschichten – nicht nur in der Milchwirtschaft. Eschborn, S. 9-13
- Heidi Sinning, Rebecca Eizenhöfer, Jessica Fischer, Katrin Füllsack, Katharina Günther, Martin Günther, Ulf Hahne: Kommunikation zur Kostenwahrheit bei der Wohnstandortwahl. Strategien zur Kosten-Nutzen-Transparenz für nachhaltige Wohnstandortentscheidungen in Mittelthüringen. ISP-Schriftenreihe – Band 1. Erfurt: Institut für Stadtforschung, Planung und Kommunikation der Fachhochschule Erfurt 2009
- Ulf Hahne: Wertschöpfungsk Kooperationen – systemischer Hebel der Regionalentwicklung. In: RKW (Hrsg.) 2009: Innovative regionale Wertschöpfungsk Kooperationen im ländlichen Raum. Erfolgsgeschichten – nicht nur in der Milchwirtschaft. Eschborn, S. 9-13
- Ulf Hahne, Martin Klement, Dorle Gothe: Wertschöpfungsstrategien und zukünftige Energieversorgung der Region – am Beispiel des Clusters Holzenergie. In: Grüne Liga Thüringen (Hrsg.): Mit Energie zur nachhaltigen Regionalentwicklung. Weimar 2007, S. 18-31
- Ulf Hahne, Lorenz Blume; Holger Brörkens, Michael Engelmohr, Stefan Itter: Vision 2030 Schwalm-Eder-West: Grundlagen der Zukunftsentwicklung. FEH Report Nr. 662, Wiesbaden: Forschungs- und Entwicklungsgesellschaft Hessen, Wiesbaden 2004

(P6) Austrian Institute for Regional Studies and Spatial Planning (ÖIR)

Bernd Schuh, MBA

Education and professional development: Member of the Board (ÖIR); ÖIR Researcher; Expert in the European Network for Rural Development; previously lecturer in the Department of Environmental Economics and Management, Vienna University of Economics and Business Administration; Master of Economics and Business Administration from the Vienna University of Economics and Business.

Main research areas: Regional and environmental economics; rural development; evaluation of policy measures; multi-criteria analysis; agricultural economics and policy

Sebastian Beiglböck, MSc

Education and professional development: ÖIR Researcher; Freelancer for the Institute for Transport Studies, University of Natural Resources and Life Sciences, Vienna; Master of Science in Urban and Regional Planning, Vienna University of Technology and University of Technology Madrid.

Main research areas: Spatial planning and regional development; urban networks and polycentrism; strategies for rural and disadvantaged areas; environmental impact assessment; cost-benefit analysis; agricultural economics and policy.

Tobias Panwinkler, MSc

Education and professional development: ÖIR Junior Expert; Master of Sciences in Spatial Research and Spatial Planning, Department of Geography and Regional Research, University of Vienna.

Main research areas: Spatial research; transport planning; cartography; migration research; geo statistics; data analysis and prognosis.

Selected Publications

Schuh, B., et al. (2006): ESPON project 4.1.3 - Feasibility study on monitoring territorial development based on ESPON key indicators. Luxemburg.

Schuh, B., et al. (2005): ESPON 1.4.2. Preparatory Study on Social Aspects of EU Territorial Development. Luxemburg.

Schuh, B., Schubert, U. (2005): Die Evaluierung von Projekten im Rahmen des Ziels der nachhaltigen Entwicklung – ein Methodenvergleich; in Priewasser R. (ed.): Dimensionen der Umweltwirtschaft; Univ.-verlag Rudolf Trauner, Linz

Schuh, B., Schubert, U. (2004): Sustainable Development and Evaluation – An Introduction; in Hacker, R.S., Johansson, B. and Karlsson, C. (eds): Emerging Market Economies and European Integration, Cheltenham, UK and Northampton, MA, USA: Edward Elgar

Beiglböck, S. et al. (2009): TERESA – Types of interaction between economy, rural society, environment and agricultural activities in European regions.

Schuh, B., Beiglböck, S. (2007): Integrative Regionalentwicklung mit Schwerpunkt auf den Bereichen Land- und Forstwirtschaft in der Gemeinde Suhareka/Kosovo.

Umweltverträglichkeitserklärung Flussbauliches Gesamtprojekt Donau östlich von Wien (Bundesministerium für Verkehr, Innovation und Technologie, via donau – Österreichische Wasserstraßen-Gesellschaft m. b. H. 2007).

Potential for business setups along the Austrian Danube: Elaboration of development options for suitable locations along the Austrian Danube section – local level (Workpackage II). Client: via donau (2010)

Study on Employment, Growth and Innovation in Rural Areas. Client: EC/DG Agri (2010)

Regional Challenges in the Perspective of 2020 – phase 2: Deepening and broadening the analysis. Client: EC/DG Regio (2010)

(P7) BOKU Institute for Safety and Risk Sciences (ISRW)

Wolfgang Kromp, Ao.Univ.Prof.i.R. Dr.

Education and professional development: Associate Professor and Head of the Institute for Safety and Risk Sciences (ISRW) in the Department of Civil Engineering and Natural Hazards, University of Natural Resources and Life Sciences, Vienna; former Head of the Institute of Risk Research, University of Vienna; former Visiting Professor, Carnegie Mellon University; former Research Fellow,

Max Planck Institute, Powder Metallurgical Laboratory; Habilitation in Material Science, University of Vienna; Ph.D. in Physics, University of Vienna.

Main research areas: Research in the area of material related problems, using ultrasonic techniques for material testing and composition; nuclear safety; safety assessments of several nuclear power plants and spent fuel interim storages; societal factors in nuclear accidents; radioactive contamination - risk perception; socio-economic research on fusion (SERF); foresight scenario assessment and development; feasibility and risk studies on sustainable energy production from biomass. Quantifying risk of ice shedding from wind turbine blades on the basis of simulation experiments. Study on security of food production in oil reduced agriculture.

Klaus Gufler

Education and professional development: Scientific Project Collaborator at the Institute for Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna; Junior Expert for the Federal Ministry of Agriculture, Forestry, Environment and Water Management; student of Political Science, University of Vienna (anticipated graduation date: 2011).

Select research projects: Deputy Project Manager for "Evaluation of a Hypothetical Nuclear Renaissance" (ISRW); Deputy Project Manager for "Risks and Sustainability of renewable energies in dependency on scale and application conditions" at the Institute for Safety and Risk Sciences, funded by KPC; Project Collaborator for "SERF Foresight Studies" at the Institute for Risk Research for EURATOM funded by EFDA – ÖAW.

Selected Publications

Kromp, W., Lahodynsky, R.: Die Suche nach dem Endlager – „Make things small!“, in: „Wohin mit dem radioaktiven Abfall – Perspektiven für eine sozialwissenschaftliche Endlagerforschung“, Hrsg. v. Peter Hocke u. Armin Grunwald, Berlin, Edition Sigma, 2006. [book contribution]

Kromp, W., Schwerpunkt Kernenergie. In: R. Riedl, E. Gehmacher, W. Hingst (Hrsg) „Regieren gegen den Bürger?“ Frankfurt am Main 2006, Verlag: Peter Lang, Europäischer Verlag der Wissenschaften, ISBN: 3-631-53069-2. [book contribution]

Kastchiev, G., W. Kromp, S. Kurth, D. Lochbaum, E. Lyman, M. Sailer, M. Schneider: Residual Risk: An Account of Events in Nuclear Power Plants Since the Chernobyl Accident in 1986, Commissioned by Rebecca Harms - Member of the European Parliament, May 2007

http://www.greens-efa.org/cms/topics/dokbin/181/181995.residual_risk@en.pdf

[commissioned by R. Harms, MEP]

Kastchiev, G., R. Lahodynsky, N. Müllner, W. Kromp, H. Kromp-Kolb: Nuclear Safety. In: Nuclear Power, Climate Policy and Sustainability: An Assessment by the Austrian Nuclear Advisory Board. Federal Ministry of Agriculture and Forestry, Environment and Watermanagement, Austria. May 2007. [commissioned by the BMLFUW]

Muellner, N. Marco Cherubini, Wolfgang Kromp, Francesco D’Auria, Gianni Petrangeli: A procedure to optimize the timing of operator actions of accident management procedures. Nuclear Eng. Design 237 (22) pg. 2151, 2007.

[Kromp-Kolb, H., Kromp W.](#): Technik und Energie versus Klima und Umwelt. Auswege aus der Sackgasse?. In: Österreichisches Studienzentrum für Frieden und Konfliktlösung (Hrsg.), Dialog. Die Neue Weltordnung in der Krise - Von der uni- zur multipolaren Weltordnung. Friedensbericht 2008 55, 264; Lit-Verlag, Verlag für wissenschaftliche Literatur, Münster-Hamburg-Berlin-Wien-London 2008; ISBN 978-3-8258-1450-2. [book contribution]

- Kromp-Kolb, H. und W. Kromp: Durch Weniger mehr!. In: Attac (Hrsg.): Wir bauen Europa Neu. Wer macht mit? © 2009 Residenzverlag. ISBN 978-3-7017-3129-9. [book contribution]
- Gaszo, A., M. Giersch, K. Gufler, A. Huber, W. Kromp, U. Plachetka, E. Seidelberger: Fusion Foresight Studies. Fusion in Energy Scenarios. Draft Final Report (TW5-TRE-FESO/A). Socio Economic Research on Fusion (SERF), prepared for EFDA. Institute of Risk Research 2009.
- Kromp-Kolb, H. und W. Kromp: Kalte oder heiße Kriege - Lösung des Ressourcenproblems? Österreichisches Studienzentrum für Frieden und Konfliktlösung (Hrsg.), Buchnahme: Auf dem Weg zum Neuen Kalten Krieg? Von der Neuorientierung des Westens und der Wiedererstarkung des Ostens. Friedensbericht 2009. LIT-Verlag GmbH & Co, KG Wien, Verlag für wissenschaftliche Literatur, Münster-Hamburg-Berlin-Wien-London; 2009. ISBN: 978-3-643-50061-8. [book contribution]
- Kromp, Gufler et.al. (2009): Fusion Foresight Study, EFDA-ÖAW, 169

2. Certificates of Registration, annual accounts of the last 3 years (ONLY for enterprises)

Please fill in the table below:

Px /	Certificate of Registration	Annual accounts
------	-----------------------------	-----------------

A		Year: 2009	Year: 2008	Year: 2007
	Enclosure no. xy	Enclosure no. xy If no: Will be filed subsequently on:	Enclosure no. xy If no: Will be filed subsequently on:	Enclosure no. xy If no: Will be filed subsequently on:

Information on Exclusion of Evaluators

Please indicate here if there are any evaluators/enterprises/organizations that you wish to exclude from evaluating your project („blocking note“). Please indicate the name of the evaluator / the enterprise / the organization, including a short justification for excluding them.

I request evaluator / enterprise / organization (title, name, first name, address, institution, if applicable) to be excluded for the following reason:

Enterprise /organization:	Title	Name	First name	Address