



**WWW.SERI.AT**

# **2002 SERI ANNUAL REPORT**

## **projects and publications**

### **Contents**

<b>I. PROJECTS .....</b>	<b>2</b>
<b>II. OTHER ACTIVITIES .....</b>	<b>11</b>
<b>III. EVENTS .....</b>	<b>15</b>
<b>IV. BOOKS .....</b>	<b>17</b>
<b>V. ARTICLES .....</b>	<b>18</b>

# I. Projects

## 1. AIRP- SD: EU project on sustainability research in Europe

The EU Commission has awarded SERI as a project coordinator in its first EU project on sustainability research in Europe. Its duration is 18 months and is called: "*Adaptive Integration of Research and Policy for Sustainable Development - Prospect for the European Research Agenda*" (AIRP- SD).

Together with five partners from five different countries we will link in a mutual learning process several European research programmes aimed at sustainability-related technology development and evaluate them according to a jointly developed set of quantitative and qualitative evidence-based indicators. From these indicators a uniform methodological approach will be developed to evaluate RTD programmes across Europe, and the findings will support recommendations for the creation of pan-European programmes that more effectively integrate scientists, policy makers and stakeholders in the development of more sustainable production and consumption processes.

During the first phase, sustainability science was defined, a methodological framework was developed and candidate programmes for evaluations were identified.

We are now half way through the second phase during which we are testing the evaluation methodology on a number of research programs. Two milestone reports and the executive summaries for the first three workproducts are available on our AIRP website.

Additionally, we have established a board of stakeholders, comprising members from following categories: science, SME, industry, government, international, organisations, trade unions, NGOs, European Parliament, agriculture and consumer groups.

In the next and last period of this project (until mid 2003) the researchers will evaluate good and bad practices and come up with recommendations for European research policies.

Website: [www.air-sd.net](http://www.air-sd.net)

Contact: [gisela.bosh@seri.at](mailto:gisela.bosh@seri.at)

## 2. National Research Activities on Sustainable Development

The study on **Identifying and Assessing National Research Activities on Sustainable Development** (SD) was set up through the ESTO (European Science and Technology Observatory) network. The report aims to identify the national, publicly funded research programmes and assess the way in which each research programme addresses SD, namely by answering the following questions:

- ? *What can be considered best practice in the organisation of programmes targeted towards SD on the national level?*
- ? *What can be learned from experiences in other countries, and what practices can be transferred from one national context to another?*
- ? *How can national research programmes contribute to supporting SD strategies on*

*the national and on the EU level?*

The study mapped the key national actors involved in SD and identified and assessed the national research programmes in support of SD in selected thematic areas in seven European countries: Austria, Belgium, Germany, the Netherlands, Portugal, Sweden and the UK.

Seri produced the report for Austria.

The project concluded that there are a number of key issues that influence the thematic and the organisational set-up of the national programmes, which include:

- ? *the national research context and the barriers to implementing SD research*
- ? *the existence of a national SD strategy and its relationship to other policy areas, including research policy, and*
- ? *the existence of umbrella or framework programmes and strategies.*

These issues affect the ability of national programmes to address multi- and trans-disciplinary research that form the basis of research programmes in support of SD.

Co-operation between research programmes on EU level could follow through an exchange of experience, or along thematic lines identified in the *targeted programmes*. This could include programmes that focus on areas such as sustainable consumption, sustainable technologies, sustainable food production, sustainable transport or sustainable regional development. It is also possible to look at ways of learning from best practice examples in organisational terms. This includes concepts and mechanisms that address the organisation of trans- and multi-disciplinary research programmes. There is also scope for learning from national integrated *targeted programmes* for developing programmes on the EU level.

Website: [www.seri.at/esto](http://www.seri.at/esto)

Contact: [gisela.bosh@seri.at](mailto:gisela.bosh@seri.at)

### 3. Study on the ecological effects of immigration into Luxembourg

Philipp Schepelmann and Stephan Moll presented a study for the Environmental Ministry of Luxembourg to evaluate the effects of migration on the environmental pressure to the country. While Luxembourg has currently a population of around 440.000 the national statistical office is expecting an increase to about 700.000 inhabitants by the year 2050. In a recent poll by Friends of the Earth Luxembourg almost 40% of Luxembourg's population is against any further immigration into Luxembourg. There is a risk that further population growth could have negative consequences on Luxembourg's consumption of resources and quality of life.

In this context SERI has assessed the impact of a population growth on:

1. Energy consumption;
2. Traffic;
3. Built-up area;
4. Waste.

Website: <http://www.seri.at/projects/>

Contact: [philipp.schepelmann@seri.de](mailto:philipp.schepelmann@seri.de)

## 4. Website on EU enlargement and sustainable development

Within the last years, the European Union has been challenged by two main issues, which will be just as high on the agenda for the coming years: EU- Enlargement and realisation of the concept of Sustainable Development.

Not least due to its geographical position, Austria is strongly involved in the EU- enlargement process. Therefore, the [Austrian Federal Chancellery](#) has initiated a process, whereby existing doubts of the Austrian population concerning accession of new candidate countries shall be dissipated. This website being part of this process, the [Sustainable Europe Institute \(SERI\)](#), in cooperation with [Sustainability.TV](#) has recorded and documented a series of speeches that all related to the issue of EU-enlargement. Although questions of employment and economic prosperity are being related to frequently in the media, this is not the case with environmental issues, notwithstanding the fact that the environment presents the 3rd pillar of the European Sustainable Development Strategy. However, environmental issues are especially important in connection with the enlargement process. That is why this website has a special focus on environmental issues. In addition, you can find further information and links to the subject of EU-enlargement.

Website:

<http://www.sustainableeurope.net/enlargement/en/index.htm>

<http://www.sustainableeurope.net/enlargement/de/index.htm>

(English and German pages, respectively).

Contact: [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 5. [www.nachhaltigkeit.at](http://www.nachhaltigkeit.at)

The Austrian website of [www.nachhaltigkeit.at](http://www.nachhaltigkeit.at) is prolonged. Every month a new "theme of the month" is prepared by one of the participating institutions, ÖIN, IUW and SERI (in german language).

Themes prepared by SERI:

### **March 2002 - European Indicators for Sustainable Development**

To measure sustainability and to make evaluations is an important prerequisite for a successful Sustainable Development. The topic of March describes the principles of measurement and evaluation and its importance for the development of sustainability indicators.

### **June 2002 - Eco-efficient Services**

In order to reach the goal of Sustainable Development, the industrialised countries should focus in a decrease of material- and energy flows, leading to a pollution reduction. Such a decrease can be obtained by dematerialisation of goods and services, which is partly accomplished by the concept of „Eco-efficient Services“. The topic gives an overview of the challenges, benefits and problems of this concept.

### **September 2002 - Beyond Johannesburg**

In September 2002 the UN World Summit on Sustainable Development has been taking place in Johannesburg. In this topic of the month SERI gives an overview about the history of the concept of sustainable development in a global context, and the changes of this concept during the last decade. The topic then focuses the results of the conference and the different positions of important participating stakeholders.

### **January 2003 - Global Discussion on Sustainable Development**

From 23rd to 28th of January two very important events about the global discussion on sustainable development are taking place: The World Social Forum, where the opponents of globalisation meet, and the World Economic Forum, the meeting of the world economic leaders of this planet. In this topic, SERI contributes to the discussion in the field of different aims and concepts of opponents and supporters of globalisation, and focuses on international trade and its impacts on social, ecologic and economic aspects.

Website: [www.nachhaltigkeit.at/reportagen.php3?o=1](http://www.nachhaltigkeit.at/reportagen.php3?o=1)

Contact: [doris.schnepf@seri.at](mailto:doris.schnepf@seri.at)

## **6. Feasibility study on "employment and environment" in Austria**

Pilot study for an eco-social reform strategy for Austria.

The final report of our feasibility study on "employment and environment" for Austria - developed jointly with iff Social Ecology - has been published by the Austrian Ministry for Agriculture and Forestry (in German with English Summary). It contains an overview of earlier studies, a review of the data situation as well as first statements on the policy relevance of the topic as well as possible instruments for policies for employment and environment. Besides a desk study, 7 extensive interviews have been conducted with stakeholders from administration as well as NGOs.

This pilot study for an eco-social reform strategy treats two aspects of the relationship between societal and environmental aspects of EU policies. Firstly, the theoretical basis and, secondly, societal interest for further research on the topic "labour and ecology" is examined. The theoretical part of the work focused on the relationship between work and ecology by investigating earlier studies in Austria. Knowledge on public interest in this area was obtained through interviews with political representatives. Interviewees were asked to elaborate on problem areas encountered in their work, especially on the co-existence of environmental and labour concerns.

The study also presents a variety of instruments to reduce detrimental environmental effects in a manner that is economically feasible and ensures employment. These are summarised as follows:

- *Guidelines for work and ecology*
- *Integrated statistics*
- *Reform of subsidies*
- *Taxes on material and energy*
- *Reduction of working time*
- *Revaluation and support of informal labour*

The results of the study show that the preconditions for a fundamental treatment of labour and ecology are already established in Austria and, moreover, that discussion on the problematic does not fall on deaf ears. Current research in this subject area shows that a theoretical well-founded basis can provide adequate input for economic, political and administrative decision makers to deal with the issues in a target oriented way. The step for integration between the policy areas however still needs to be made. Further progress in this area rests on cooperation between political actors.

Website: [www.seri.at/a-und-oe](http://www.seri.at/a-und-oe)

Contact: [fritz.hinterberger@seri.at](mailto:fritz.hinterberger@seri.at)

## 7. Product Service Systems for SME's

SERI participates in a new project on "Development of new possibilities for companies by using a methodology of initialisation, creation and implementation of eco efficient Product Service Systems"

This project plans to contribute to the development of new, innovative product service systems and will take special interest in the realisation of such concepts together with companies, involved in the project. The resulting new products and services will be evaluated, so that the criterias of a sustainable development are implemented. SERI developed a Excel tool that makes it possible, to judge the sustainability of newly developed PSS in comparison to the existing product. The intention of the tool is, to give the company in wich aspects their decisions influence the product and service development.

This project is funded by the programme of the Austrian BMVIT (Federal Ministry of Transport, Innovation and Technology): "Fabrik der Zukunft" ("factory of tomorrow").

Websites: [www.serviceinnovation.at](http://www.serviceinnovation.at)

<http://www.seri.at/pss/>

Contact: [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 8. Free Trade – Fair Trade

Under commission of the Heinrich Böll Stiftung (Berlin) SERI wrote the background paper "Freier Handel – nachhaltiger Handel. Ein Widerspruch? Hintergrundpapier für die Debatte um Handel und nachhaltige Entwicklung nach Johannesburg" (Free Trade – Fair Trade). Contents of the paper are the relationships of globalisation processes – especially trade – and sustainable development with a focus on different positions and policy perspectives.

This background paper deals with the ongoing debate on free trade versus sustainable trade. The objective of this paper is to reveal contradictions between these two concepts and provide suggestions, how to reform the current system of „free trade“ towards a sustainable development. The results of this discussion are summarized in the form of 10 theses at the end of this paper.

The deepening and acceleration of the international division of labour, termed globalisation, has both positive and negative economic, ecological and social consequences. The ideologised demand for "free trade" neither fulfils the multidimensional goal of sustainable development, as it solely focuses on economic aspects, nor does it specify the conditions of positive and negative effects. Therefore a discussion on framework conditions is urgently needed, as well as a discussion in which economic sectors a liberalisation is appropriate and in which other measures promise better results. A world of inequality and injustice is incompatible with sustainability. However, inequality in ecological (resource use), economic (competitiveness, technology) and social (income, working conditions) terms is one central characteristic of current globalisation processes. These trends are underlined by case studies presented in this paper. Sustainable trade in the 21st century is possible, but requires a fundamental reorientation of trade policy towards the goal of a socio-economic and ecological development. On the one hand, this development has to increase welfare especially of the

marginalized parts of world population, on the other hand it has to safeguard living conditions of future generations.

Website: <http://www.boell.de/downloads/rio+10/wsp21.pdf>

Contact: [mark@seri.at](mailto:mark@seri.at)

## 9. Concerted Action on Trade and Environment (CAT&E)

This project was initiated in December 2002 and will end on November 2005, and consists on a European-wide network of scientists working on inter-linkages between trade, environment and sustainable development..

CAT&E brings together researchers from more than 20 institutions all over Europe, who are focusing their work on international trade and environment. The project puts its primary focus on the environmental dimension of trade policy, but will also consider the interactions between trade and social policy concerns that can impact on consideration of trade and environment linkages. Thus also trade and sustainable development issues are addressed. CAT&E responds to the need to develop dialogue between European researchers in this field in order to identify emerging results, consider research hypotheses and strategies and foster productive dialogue with policy makers. CAT&E, and its projected events, is structured around a series of substantive questions. While this agenda may evolve over the course of the Concerted Action, it considers the issues:

- *Trade and agriculture*
- *Trade in services*
- *Subsidies*
- *Investment*
- *Intellectual property rights (TRIPS)*
- *Trade and development*
- *Trade and Multilateral Environmental Agreements (MEAs)*
- *Trade, environment and labour/human rights/public health*
- *Institutional issues (dispute settlement, transparency and participation)*
- *Sustainability impact assessments (SIAs)*

Six international meetings within the three-year running time of the project provide a unique forum for exchanging results and opinions between the members of the consortium as well as with invited stakeholders (policy makers, business representatives etc.).

CAT&E is funded by the 5th Framework Programme of the European Commission and coordinated by IVM Amsterdam, Ecologic Berlin and IDDRI Paris.

Website: [www.seri.at/SERI\\_next/projects/cate/catemain.htm](http://www.seri.at/SERI_next/projects/cate/catemain.htm)

Contact: [stefan.giljum@seri.at](mailto:stefan.giljum@seri.at)

## 10. Environmental self-assessment of consumptive behaviour

SERI supported the Forum Umweltbildung ([www.umweltbildung.at](http://www.umweltbildung.at)) in creating a questionnaire on direct and indirect resource consumption based on material flow analysis (MFA) and material intensity per unit of service (MIPS). The questionnaire allows interested persons to

spot the material flow their consumptive behaviour in selected areas is causing and therewith to inspire them to rethink their behaviour. Areas of interest are living, mobility, leisure, and others, where it is of special interest only to ask questions about consumption patterns that can in fact (and relatively simple) be changed.

Website:

<http://www.seri.at/projects/>

[www.umweltoekonomie.at/mfa/](http://www.umweltoekonomie.at/mfa/)

Contact: [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 11. Ways to a Sustainability in the EU beyond the Spring European Summit 2003

SERI Vienna started a new project for the Austrian environment ministry on the further development of (and link between) the European Sustainability strategy, Lisbon (structural indicator reporting) and Cardiff (environmental integration) processes with a special look at the role of structural and sustainability indicators.

This study - funded by the Austrian Ministry of Environment - explores possible strategies for the Austrian position at the next EU-Environmental Council meeting. One aim is to improve the integration process of sustainability into all sectoral policies. Emphasis is given to the energy and transport sector.

This project shall be completed in January 2003.

Website: [www.seri.at/europe](http://www.seri.at/europe)

Contact: [fritz.hinterberger@seri.at](mailto:fritz.hinterberger@seri.at)

## 12. Sustainable Development between Throughput and Symbolism – Nachhaltige Entwicklung zwischen Durchsatz und Symbolik (NEDS)

The project is funded by the program “socio-ecological research” of the German Federal Ministry for Education and Research which supports transdisciplinary social-scientific research with the explicit vision of contributing to changes toward sustainability in society and economy.

Since the direction of the program is partly explicitly following a social constructivist and discourse analytic direction, the projects under this program could contribute to a better understanding of the symbolic aspects of ecological-economic change. Bringing together post-normal aspects of ecological economics (high stakes, uncertain scientific inputs, role peer communities, problem orientation), environmental accounting (such as MFA) and discourse analysis and constructivist approaches offers a chance to explicitly take into account the complex relationship between science and policy. NEDS is trying to achieve exactly this on the regional level by analysing “natural”, economic, discursive, and spatial aspects of sustainable development as discourse.

Project partners in the project are: Hochschule für Wirtschaft und Politik (HWP, Hamburg, Germany; co-ordinator), University Hamburg, Wuppertal Institute for Climate, Environment, Energy.

Website: [www.neds-projekt.de](http://www.neds-projekt.de)

Contact: mark@seri.at

## 13. e-Community

SERI is partner in the e-Community project (funded by the LIFE programme of the EU) - e-System for Real Time Democratic Land-Use Planning of Urban Environment - Pilot Action in Narva Community (Estland) - that aims to apply innovative web-based software solutions, which will promote the concept of e-democracy by enabling exchange of opinions and information, and that will help raising public awareness. A further aim is to produce results that can be reproduced in spatial planning and policymaking processes at a local level. The final goal of the project is to demonstrate a system as a tool for urban planning in the EU.

SERI Tasks in the project:

- *monitor the project deliverables in respect to sustainability issues,*
- *evaluate interim results of the project and*
- *act as an advisor providing guidelines and background information so that the project can actively contribute to a sustainable development of the region.*

This Project has started on September 2002 and will end on August 2005.

Website: [www.seri.at/ecomunity](http://www.seri.at/ecomunity)

Contact: [doris.schnepf@seri.at](mailto:doris.schnepf@seri.at); [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 14. Sustainability Strategy

The Sustainability Strategy Network started on December 1st, in the Free University of Berlin and SERI Vienna will co-ordinate a European network analysing the meaning of sustainability strategies from a wide range of scientific and cultural backgrounds. Meetings, workshops and conferences as well as project publications will be announced through the SERI infomail, amongst other outlets.

As a first step, a parallel meeting within the framework of ESEE's Frontiers 2 conference in Mid-February is held in Tenerife. Results of both meetings are to be published and will be accessible via the SERI homepage.

Website: [www.sustainability-strategy.net](http://www.sustainability-strategy.net)

Contact: [joachim.spangenberg@seri.de](mailto:joachim.spangenberg@seri.de); [doris.schnepf@seri.at](mailto:doris.schnepf@seri.at)

## 15. Health and Environment

The German Federal state of North Rhine-Westphalia is preparing a "Health and Environment" programme. SERI was called upon to contribute a comprehensive overview of the global trends regarding environmental degradation of all kinds. As a background document, Joachim Spangenberg produced a literature review, which can be downloaded from our website.

Website: [www.seri.at/projects/health-environment/health-environmentmain.htm](http://www.seri.at/projects/health-environment/health-environmentmain.htm)

Contact: [joachim.spangenberg@seri.de](mailto:joachim.spangenberg@seri.de)

## 16. MIPS Academy

This virtual academy created by the Factor 10 Institute Austria (formerly: “Society Factor 4+”) in cooperation with SERI introduces the world of environmental protection from a dematerialisation point of view. The main purpose of the concept of dematerialisation is to create products and services with a reduced use of natural resources. This saves the environment, helps to reduce costs and leads to innovations and new market opportunities. "MIPS Academy" was developed by the society Factor 10 Institute and SERI in the framework of an EU-project. It provides an internet based learning platform on the MIPS-principle and dematerialisation. The project aims at small and medium sized firms.

Website: <http://www.seri.at/MIPSAcademy/>  
<http://www.faktor10.at/mipsacademy/>

Contact: [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 17. Outlook: MOSUS

Modelling Opportunities and limits for restructuring Europe towards Sustainability (MOSUS) applies a global ecological-economic simulation model to quantify the interrelations between socio-economic driving forces and the state of the environment and to evaluate the economic and social impacts of key environmental policy measures in the EU.

The model used in MOSUS will be the first such tool to directly integrate comprehensive biophysical data (materials, energy, land use data, and greenhouse gas emissions) in a multi-country, multi-sectoral macroeconomic framework, including trade flows within Europe and between Europe and all other world regions. The model will be used to perform simulations to the year 2020, putting them in relation to indicators of social and economic development.

MOSUS will formulate EU development scenarios and evaluate the economic and social impacts of key environmental policy measures in order to present quantified policy recommendations for responding to environmental challenges and changes.

The 4 key targets of MOSUS are:

- *Assess and quantify the European use of resources (scale), including “ ecological rucksacks” induced by international trade.*
- *Formulating and evaluating sustainability scenarios, linking economic performance with resource use and environmental deterioration.*
- *Refine environmental indicators to assess resource productivities, material and energy intensities and labour intensities of resource use for the EU.*
- *Elaborating policy strategies and actions that reconcile long-term economic development, international trade and environmental protection.*

MOSUS is a project funded by the 5th framework programme of the EU (Sub programme “Environment and Sustainable Development”).

Coordinator:

- *International Institute for Applied Systems Analysis (IIASA)*

Partner institutions:

- *Gesellschaft für wirtschaftliche Strukturforchung mbH, Osnabrück, Germany*
- *Sustainable Europe Research Institute, Vienna, Austria*
- *Charles University, Prague, Czech Republic*
- *London School of Economics, London, UK*
- *Austrian Institute for Economic Research, Vienna, Austria*
- *Institute for Sustainable Development, Warsaw, Poland*
- *National Institute for Engineering and Industrial Technology, Lisbon, Portugal*
- *University of Lodz, Poland*
- *Centre for International Climate and Environmental Research, University of Oslo, Norway*

Website: [www.mosus.net](http://www.mosus.net)

Contact: [stefan.giljum@seri.at](mailto:stefan.giljum@seri.at)

## **II. Other activities**

### **1. MEPPS**

The project outcome will offer companies the tools to successfully implement new product-services that will be in line with their business goals, offer optimal quality for their individual customers and minimise negative impacts on the environment, thus resulting in sustainable growth.

The toolkit will be developed by researchers in the field of Product Service Systems (PSS) methodology, in close co-operation with industry participants who will provide up-to-date input of business cases and participate in testing and refinement of the developed methodologies and tools. MEPPS Consortium partners include: CIRIS Polit. di Milan, Pré, INSEAD, Ecobilan, PwC, GrAT, Econcept, Dalt, UNILEVER, Motorola GmbH and many others.

The presentation will include the selected project results in the following fields:

- *Consumer acceptance of PSS innovations;*
- *Life Cycle Assessment / Life Cycle Costing of ecological and economic impacts of PSS innovations;*
- *Assessment of macroeconomic and societal impacts of PSS' s*
- *Cultural background and ethics related to functionalities of PSS*
- *Consequences of PSS innovations on the design and R&D process*

Technical achievements include: combining and upgrading state-of-the-art theories for the use in PSS, bridging the theoretical world of 'products' and 'services', development of new additional theory and building of PSS business modelling.

Website: [www.seri.at/pss](http://www.seri.at/pss)

Contact: [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 2. INTELCITY

This project is funded by the [IST programme of the European Union](#), it has started on August 2002, and it will end on July 2005.

SERI is a member of the think tank of the INTELCITY project funded by the E.U. Information Society Technologies (IST) Programme. It aims to explore new opportunities for sustainable development of cities through the intelligent use of Information and Communication Technologies (ICTs). It will integrate the knowledge of experts in sustainable urban development (SUD) and ICTs to deliver a roadmap that relates the range of potential ICT development options to planning and urban re/development processes.

**Aims:** to explore the role of Information and Communication Technologies (ICTs):

1. in creating an integrated city information infrastructure for the future founded on the four pillars of sustainability – social, economic, environmental and institutional, as well as cultural heritage, participation in governance and quality of life essential to the well-being of citizens
2. to help deliver more sustainable urban decision making through: ‘virtual’ urban spaces as practical + cost effective planning tools simulation of innovative physical forms and infrastructures that communicate complex social, economic and environmental issues to citizens interactive decision support systems that enhance urban design, provide better built form and mobility and maximise social inclusion especially for the aged and disabled.

Website: [www.seri.at/intelcity](http://www.seri.at/intelcity)

Contact: [roman.mesicek@seri.at](mailto:roman.mesicek@seri.at)

## 3. ESEE research network

SERI helps to organize a process to include Ecological Economics research themes in the 6th Framework Program of the EU.

The main task is to make sure, that the research themes of Ecological Economics are included in the 6th Framework Program of the EU and to position Ecological Economics as an important scientific community in Europe.

The next step will be to build up an Internet forum, where all members of the ESEE can post their Eols, their interests and ideas for integrated projects or networks of excellence, search for partners or offer their willingness to participate in activities of others. The idea of the forum and more detailed information will be announced at the Frontiers conference in Tenerife, March 2003 and in the next ESEE newsletter.

Website: [www.seri.at/esee-m/](http://www.seri.at/esee-m/)

Contact: [ines.omann@seri.at](mailto:ines.omann@seri.at)

## 4. SERI's preparations for the 6th EU framework programme

In preparation of the 6th framework programme of the European Union, SERI participated in several expressions of interest for Integrated Projects/Networks of Excellence, including:

### 4.1. GoSD: Governance for Sustainable Development

GoSD wants to explore the development of a resource-optimised knowledge-based service society in relation to all dimensions of sustainability by way of applying a back casting

methodology to identify (1) gaps between desired futures and current trends, and (2) policy requirements.

In the draft version of the Work Programme of Priority 7, Governance for Sustainable Development is explicitly mentioned as one possible research topic for the Second Call (page 9 in the Work Programme). A GoSD (Opening) Workshop was held at the Catalonia Forum Art Hotel in Brussels on Sunday, the 10th of November 2002.

Representatives of 9 institutions met in Brussels on the eve of the FP6 launch conference in Brussels to discuss how to proceed with the issue to prepare an Integrated Project (IP) for the 2nd call to be launched in 2004. The group decided to use the time between now and the probable deadline in 2005 or 2006 to lobby for our theme and organize the „critical mass “ needed to make a successful proposal.

A series of workshops is being planned for the preparation of the proposal. A first workshop will deal with targets and indicators, a second one on institutions and governance (maybe including the social dimension of SD).

The Club of Rome will host two meetings on the same issue to review our ideas and give them public attention. The aim will be to confront our ideas with those of European decision makers and set up a „bouncing board“ of stakeholders/researchers incl. Central European representatives. A „high level conference“ in 2005 should be the public event to widely disseminate our readiness to set up such a project.

Website: [www.gosd.net](http://www.gosd.net)

Contact: [fritz.hinterberger@seri.at](mailto:fritz.hinterberger@seri.at)

## 4.2. SDSD.net: Research Network on the Social Dimension of Sustainable Development

The aim of this project is to mobilise cutting edge European scientific expertise to elaborate the social dimension of sustainable development, providing the scientific community with integrated concepts, and decision makers with criteria and indicators of social sustainability. They will be assessed and applied in a series of workshops integrating key European policy areas covered by the Lisbon process.

The approach is transboundary, integrating so far unlinked experience in the member states into a European model. It is transdisciplinary, involving social sciences plus economics and ecology to permit integration of the results into the broader context set out by the EU sustainable development strategy. It is relevant and timely, referring to policy integration and new models of governance.

Website: [www.seri.at/SDSDnet.htm](http://www.seri.at/SDSDnet.htm)

Contact: [joachim.spangenberg@seri.at](mailto:joachim.spangenberg@seri.at)

## 4.3. ENVPACT: Instruments and policies for a new environmental compact between the EU and the South

The goal of this network is to unite top research institutions, thus not only contributing to the establishment of the European Research Area but also creating a global research network of the highest profile on the following issues. In the first stage, the research will focus on a diagnosis of the environmental relations between the EU and (different regions of) the South, building on work already done in environmental accounting. Then, the second stage will focus

on new instruments and policies which are attractive to the South, conducive to sustainability, and beneficial also for the EU in the long run, in the specific areas of Trade, Climate Change, Agriculture and Forestry, Fisheries, and Corporate Environmental Management, drawing on the knowledge available in the proposed Network and also on new research by its members.

Website: [www.seri.at/ENVPACT.htm](http://www.seri.at/ENVPACT.htm)

Contact: [stefan.giljum@seri.at](mailto:stefan.giljum@seri.at)

## 5. Seri statement on Barcelona indicators

On the occasion of the Spring Meeting of the European Council in Barcelona (15. - 16. March 2002), where the publication of structural- and sustainability indicators was a highlight, SERI also produced a statement concerning this process. On one hand, the paper "Post Barcelona - beyond Barcelona" (Spangenberg, J. H., Hinterberger, Friedrich (2002). Post Barcelona - Beyond Barcelona: Recommendations for the integration of sustainability indicators, SERI Sustainable Europe Research Institute. 2002) appreciates the coordination of the various dimensions of sustainability as a positive step towards the right direction. On the other hand, however, the environmental chapter has merely been added to the existing list of structural indicators. There is neither evidence for examination of interaction of individual objectives nor have mutual reinforcements been identified.

SERI therefore urges for important technical improvements within the existing structure in a "Post Barcelona Process".

Improvements in the medium- and long term, however, can only be achieved through the replacement of the classification of structural indicators by a systematic structure, derived from the concept of sustainability.

Such systematic set of indicators would consider an additional institutional dimension next to the economic, environmental and social dimension, which would consider the essential "rules of the game" of political decisions and their origins.

## 6. Seminar on sustainability and indicators

The Green Group in the EU parliament prepares for the next EU Spring Summit, when the sustainability strategy and the structural indicators will be reported about again. To focus efforts, and to make policy integration more tangible, a seminar was held in Brussels on December 3rd, where qualified speakers define the new challenge of policy integration. SERI provided a draft seminar program, found suitable speakers and provided the scientific and the policy relevant information needed to make the effort a full success. Joachim Spangenberg produced a background paper, which can be downloaded from our website.

Website: [www.seri.at/sustainability-indicators](http://www.seri.at/sustainability-indicators)

Contact: [joachim.spangenberg@seri.de](mailto:joachim.spangenberg@seri.de)

## 7. Scientific Network on Sustainable Consumption

Linked to the Laxenburg conference on "Lifecycle Approaches to Sustainable Consumption" (see infomail 7'02) SERI organised an evening session to exchange ideas about future sustainable consumption projects. In the follow up of this two meeting participants agreed on

a scientific network on sustainable consumption. SERI took the responsibility for setting up a homepage for this network.

Website: [www.sustainable-consumption.net](http://www.sustainable-consumption.net)

Contact [sylvia.lorek@seri.de](mailto:sylvia.lorek@seri.de)

## 8. "Memorandum für einen Politikwechsel" (Memorandum for a policy change)

Spangenberg collaborated in the "Memorandum für einen Politikwechsel" (Memorandum for a policy change), published by VSA Publ., 46 p., December 2001.

Environmentalists, trade unionists, citizens rights activists, the peace and the solidarity movement have joined forces in Germany to call for a change of the predominant neoliberal policy pattern, shared by the governing Social Democrats and Greens on the one hand and the opposition of liberals and conservatives on the other. In six projects it outlines a policy for social justice, full employment, peace, international solidarity and environment protection.

## III. Events

### 1. SERI at ISEE 2002

A considerable number of SERI Members attended the ISEE 2002 Conference in Sousse/Tunisia early March and gave presentations, chaired sessions and renewed, expanded contacts of the network. The members attending were Sigrid Stagl, Joachim H. Spangenberg, Ines Omann, Stefan Giljum, Roman Mesicek, Mark Hammer and Reinhard Madlener.

SERI had organised two sessions on "Global (in)equality in social and material terms". The first of the two sessions, entitled "Environmental Space, Economic Development and Material Flows: Metaeconomic Reflections and Empirical Observations" attracted a large number of conference participants and gave insights to SERIs empirical work in the field of Material Flow Analysis (MFA) as well as SERIs ongoing research on social sustainability issues. Presentations were given by Stefan Giljum, Mark Hammer, Joachim H. Spangenberg and Ines Omann.

The second session was entitled "Rebound Effects, Global Development and the Digital Divide" and gave room for discussion on Rebound Effects in respect to time and material resources. It was chaired by Mathias Binswanger (EMPA) Switzerland, and included presentations by himself, Fabio Musmeci (ENEA) and Roman Mesicek (SERI).

Website: <http://www.seri.at/isee2002>

Contact: [ines.omann@seri.at](mailto:ines.omann@seri.at)

## 2. JO`BURG - Free Trade- sustainable Trade. A contradiction?

SERI was organising a discussion evening about Free Trade/Sustainable Trade, in cooperation with the Austrian Business Council for Sustainable Developments (ABCSD) and Industriellenvereinigung (IV) on the 3<sup>rd</sup> of September 2002 in Vienna.

This event was held parallel to the "UN- World Summit on Sustainable Development". Part of the event was a LIVE connection to Johannesburg, including an interview with the Austria Foreign Minister Benita Ferrero- Waldner, as well as to other Austrian delegates. Participants had the opportunity to ask questions or give some suggestions to the Austrian delegates.

Website: [www.seri.at/joburg2002](http://www.seri.at/joburg2002)

Contact: [doris.schnepf@seri.at](mailto:doris.schnepf@seri.at)

## 3. Student Seminars

All members of the SERI student section meet regularly to discuss the progress of their research and clarify open questions.

Website: [www.seri.at/students](http://www.seri.at/students)

Contact: [johannes.hacker@seri.at](mailto:johannes.hacker@seri.at)

## 4. SERI Brownbag Seminar

In 2002 continued the SERI brownbag seminar.

In a loose series of lectures, we want to discuss our own work and that of our colleagues.

Location: SERI's office in Vienna, Schwarzschanerstr. 4/8

*January 2002* - "Sustainable technologies: low and/or high tech? "

We discussed the question of sustainable technologies/technologies for SD. Are they high tech or low tech. Impulse talks by Roman Mesicek and Patrizia Nessmann.

*May 2002*

Fred Luks presented his new major research project NEDS and Felix Rauschmeyer from UFZ in Leipzig talked about "MCDA und Naturschutz"

*July 2002*

Francois Schneider on Global "dematerialisation" and "dewaterisation" of regional and national economies, considerations and perspectives (in English).

Joachim Spangenberg on Quality of Life, Consumption and the Environment (in German).

Website: [www.seri.at/SERI\\_next/seri/events/brownbag/](http://www.seri.at/SERI_next/seri/events/brownbag/)

Contact: [johannes.hacker@seri.at](mailto:johannes.hacker@seri.at)

## 5. Outlook: Frontiers

The FRONTIERS 2 Conference - European Application in Ecological Economics - took place in Tenerife, Canary Islands, Spain, 12- 15 February 2003 and focused on state-of-the-art applications of ecological economics for environmental planning and management, in education and for testing the robustness of research tools. Friedrich Hinterberger, President of the Sustainable Europe Research Institute (SERI) ---, was part of the Scientific Advisory

Committee of the conference. Furthermore a respectable amount of SERI members - nine Members of SERI and two interns of the Vienna office - participated in the conference. They were chairing sessions or presenting papers at the conference.

All abstracts, papers and presentations can furthermore be downloaded from our website: [www.seri.at/frontiers2](http://www.seri.at/frontiers2)

## **IV. Books**

Hinterberger, F., Schnabl, H. (2002). Eds. *Arbeit- Umwelt- Wachstum (work- environment- growth)*. ISBN 3- 8311 - 3556- 8

The book has been printed by Book-On-Demand. It presents two main aspects of sustainable development: empirical analysis of developments into the direction or away from sustainability, analysis of the interrelation of economy and environment disaggregated by economic branches.

The book includes methodological and empirical contributions to questions of economy-environment-interrelations by considering economic variables and such of employment and environmental impact. Resource use as an indicator for the impact of societies to the environment is put into relation to social and micro and macroeconomic indicators.

Luks, F. (2002). *Nachhaltigkeit*. Hamburg; Europäische Verlagsanstalt.

Based on the idea of intra - and intergenerational justice, the book shows the relevance of sustainable development for different areas such as ecology, public finance, social policy and globalization.

Luks shows how the idea of sustainable development evolved and how it affects ideas of social and economic progress. The book is a brief and easy-to-read introduction that includes accessible information on the history, philosophy, ecology, economics and politics of sustainable development.

This book presents an abundance of current, scientific, economic, philosophic, and self-contained cogitations on the overall concept of sustainability. There can be found relevant keywords on the debate such as “environmental Kutznets curve”, “ecological management rules” or “new models of wealth”. Sustainability is more than ecology, it includes environment, finances, social politics and globalisation. It shows how the life will be organized in the rich industrial society.

Fred Luks describes the evolution of sustainability and its idea and points out its urgency.

Ministerium für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz NRW; Landesumweltamt NRW; TAUW GmbH, Moers; sid GmbH, Wuppertal; Kit - Kech Informationstechnologien,

Schwätzingen and WDL- EDL Dr. Michael Fröhlich, Köln.

*Entsorgungsatlas NRW - Statusbericht der Entsorgungsanlagen.*

This book gives an overview over the North Rhine-Westphalian disposal infrastructure (except of landfill, described in a second publication), the different ways of waste management and the first all including account of all waste categories of a German federal state after the revision of the German "Umweltstatistikgesetz".

Get your free copy at:

Ministerium für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz NRW, D-40190 Düsseldorf, phone: +211 - 4566 - 0

Web: [www.munlv.nrw.de](http://www.munlv.nrw.de)

## V. Articles

Hinterberger, F. (2002). *Ökologie und Ökonomie. Koevolution als Erklärungsprinzip und normative Idee. Studien zur Evolutorischen Ökonomik V.* Berlin, Marco Lehmann Waffenschmidt. 195: 235-262.

The article of this book enters into the question of what to learn about a co evolutionary perspective of economy and ecology in a sense of deriving strategies and measures for the solution of our environmental problems. First the ecological problem is outlined from the perspective of evolutionary economics, then a coevolutionary perspective to analyze the interrelations between this phenomena is given.

Hinterberger, F., Omann, I., et al. (2002). *Employment and Environment in a Sustainable Europe.* Empirica 29: 113- 130.

Environmental policy faces major challenges in Europe. The European Treaties require an integration of environmental, economic and social policies in order to allow for a Sustainable Development. This is of special importance for the link between environmental and employment policy. This paper starts with a definition of the three pillars of sustainable development, the viability (resilience) of environmental, economic and social systems. With regard to economic development and the social field, these objectives are relatively easy to operationalise: GDP and employment are a generally used headline indicator of sustainable development. The total material input into an economy can be seen as an indicator showing the environmental impact.

This view brings about major challenges for economic theory: We include the total material input along with resource productivities to describe, explain and evaluate possible developments of economic and environmental variables.

With the help of the results from a German research project we show the relationships between the indicators, the productivities and how they can be influenced by policy measures. The simulation results indicate the possibility of win-win situations concerning the environment and employment.

Additionally we investigate whether the developed minimum conditions of sustainable development are valid for Austria.

Keywords: Minimum conditions for sustainability, employment and environment, indicators, sustainability strategies, integration of environmental concerns.

**Luks, F. (2002). *Was ist postmoderne Umweltpolitik? Grenzen der Naturnutzung und ökologischer Vorsichtsstrategien.* Natur und Kultur 2(2): 23- 44.**

The reduction of the matter-energy-throughput (scale) of industrial metabolism of the OECD-countries is a precondition for global sustainable development. The following text scrutinizes the meaning of "natural" limits to growth and the plausibility of the call for a scale-reduction by a factor 10 in this context. It is argued that since our knowledge of limits to growth is necessarily fragment and constructed, decisions have to be made about the reduction of scale. The economic construction of ecological reality is an important factor for such decisions and its implementation. Not using nature efficiently is incompatible with mainstream economic rationality.

**Mittler, D. (2002). *Globale Regeln für Global Players.* Politische Ökologie. Heft 76.**

This article summarises the argument for a global convention on corporate accountability, one of Friends of the Earth International's main demands for the World Summit on Sustainable Development. It argues that since Rio corporations have been given many rights under international law and that their time has come to balance these rights with responsibilities. For a longer English paper on the same topic see [www.foei.org/wssd](http://www.foei.org/wssd).

**Mittler, D. (2002). *So lasst uns denn ein Rettungsboot bauen.* Forschungsjournal, Neue Soziale Bewegungen **Jahrgang 15**(Heft 1), p. 57- 61.**

This article explores the Lifeboat action that BUND and Friends of the Earth International organised at the climate talks ([www.dasrettungsboot.de](http://www.dasrettungsboot.de)) and argues that it shows that peaceful protest can make itself heard in today's media-driven world. It also explores to what extent the action was a typical action of the so called "anti globalisation movement"

**Schneider, F., Nordmann, A., Hinterberger, F., et al. (2002). *Road traffic congestion: The extent of the problem.* World Transport Policy & Practice 8 (World Transport) Number 1, pp. 34- 41.**

Considering the problem on a larger scale and dealing with the dynamics of road use, congestion appears to be less costly than it was thought previously and its impact is relatively negligible when compared with other transport consequences. The paper concludes with two options:

Traffic growth is the priority – congestion should be solved, not for the problem itself creates, but because it prevents this growth. Traffic impacts will likely increase. Are we

ready to accept the consequences as they appear to disregard what seemed not admissible as congestion impacts?

Reducing traffic 's impacts are the priority – to reduce the problems caused b traffic obliges us to reduce the level of traffic in general.

Keywords: Congestion, costs, externalities, internalities, traffic

Online available at <http://wTransport.org>

**Spangenberg, JH. (2002). *An environmental space based approach to assessing the environmental impact of household consumption*. IIASA International Institute for Applied System Analysis, Laxenburg. IIASA Interim Report IR-02-073 228-240**

**Spangenberg, JH. (2002). *Environmental space and the prism of sustainability: frameworks for indicators measuring sustainable development*. Ecological Indicators, Vol. 2, No. 4, pp. 295-309.**

The notion of Environmental Space refers to external criteria regarding resources available for human consumption. On the one hand, it has been demonstrated that the reduction of energy consumption, material flows and land use would significantly contribute to reducing the main stresses for the European environment. On the other hand, the concept de-fines a socially motivated minimum of resource availability, permitting to lead a dignified life in the respective society.

Environmental space is a tool for exploring sustainable development benchmarks on a sound basis, and it is helpful to derive indicators of sustainable development for different applications on the macro as well as on the micro-level. However, the environmental space concept expresses no preference regarding the structure of the economic system, as long as the environmental and social benchmarks are respected, nor does it suggest specific economic sustainability indicators.

Since in 1995, the CSD formally introduced the institutional dimension as the fourth dimension of sustainable development. Thus, sustainable development can be described by referring to four dimensions and their six interlinkages. Using the Prism of Sustainability, the concept – although rather complex – can easily be communicated and used as a tool for gathering public support for sustainability policies. The prism simplifies matters by structuring them, but avoids the oversimplification inherent to aggregate indices.

At the macro level, the environmental space and the prism of sustainability have been applied to international, regional and national indicator development. At the micro level, systems of indicators for households, companies and local communities have been developed.

The indicators have also been used in dynamic modelling, demonstrating their capacity to assess the sustainability of different policy strategies.

**Spangenberg JH. (2002). *Institutions for sustainable development: indicators for performance assessment*. Governance for Sustainable Development, Catalunya Gd (eds). IIG Institut Internacional de Governabilitat, Barcelona. pp. 133-162**

Spangenberg, JH. (2002). *Institutional Sustainability Indicators: An Analysis of the Institutions and a Draft Set of Indicators for Monitoring Their Effectiveness*. Sustainable Development **10**, pp. 103- 115.

Objectives of sustainable development are defined for the economic, social and environmental dimension, but for effective compliance as well as for sustainability characteristics like justice or participation they must be complemented by core institutional objectives. The CSD's set of sustainability indicators was the first one to explicitly take into account the institutional dimension of sustainability, and other organisations like the World Bank and the OECD have followed. As most pioneers, the indicators suggested offer significant room for improvement. In order to measure the effectiveness of the relevant institutions, Agenda 21 has been analysed regarding its institutional content (organisations, mechanisms, orientations). From this basis, the purposes of the institutions have been determined in a stepwise approach and indicators developed which permit to measure the progress achieved against the purposes of the respective institution.

The methodology developed can be applied to other international agreements, providing the basis for an integrated reporting system.

Spangenberg JH. (2002). *Nachhaltigkeitsstrategien für Deutschland - Ergebnisse aus dem Verbundprojekt Arbeit und Ökologie*. Die Zukunft der Arbeit im Spannungsfeld ökologischer und sozialer Herausforderungen. GEP (eds). GEP Gemeinschaftswerk der Evangelischen Publizistik: Frankfurt; pp. 43- 52

Spangenberg, J. H. (2002). *Nachhaltigkeit für Deutschland*. Forum. Kirchliches Umweltmagazin (64): 29- 32

Spangenberg, J. H. (2002). *Nachhaltiges Wirtschaften und Wachstum*. Utopie kreativ **12**(136): 145- 155

The paper points out the criteria a really sustainable growth must meet: reconciliation with reduced social and environmental pressures. Per capita production and resource productivity are the key elements in assessing the sustainability of a growth pattern. The results for the current development path are negative: we are not (yet) on the long road towards sustainability. Unfortunately only in German so far

Spangenberg JH. (2002). *Soziale Nachhaltigkeit. Eine Integrierte Perspektive für Deutschland*. Politische Strategien für die soziale Nachhaltigkeit, Dally A, Heins, Bernd (eds). Evangelische Akademie: Loccum; pp. 23- 38

Spangenberg JH. (2002). *Sustainability Science: Science must go public for Sustainable Development*. Management of Uncertainty in Science for Sustainability, van der Sluijs J (eds). Copermicus Institute, Utrecht University: Utrecht; pp. 52- 60

Spangenberg, J.H. (2002). *Sustainability Science: Which Science and Technology for Sustainable Development?* INES Newsletter 39: 8- 11.

The promotion of science for sustainable development requires procedures for evaluating science and technology contributions against criteria for sustainability. Neither the advance of science and technology itself nor the current widening of competitive markets can be expected to promote, as if 'naturally', a path of sustainable development. On the contrary, the short-term orientation and the mixtures of commercial, military and other preoccupations that motivate much of the science-based technology development are most often controversial to a sustainability perspective based on peace, justice and environmentally sound development (Funtowicz et al. 1999). There is an undeniable risk of undersupplying public goods essential to sustainable development when too much of the R&D talent is in private hands, and focused on delivering private value.

For all domains of science and engineering, sustainability science requires re-engineering of the fabric of science, its standard methodologies and institutions. However, if successfully implemented, this would significantly increase the value of science for society, enhance its credibility and provide a vast range of new and fascinating research questions. The challenge of sustainability is an opportunity not to be missed.

To find this publication please have a look at [www.inesglobal.org](http://www.inesglobal.org)

Spangenberg, J.H. (2002). *The changing contribution of unpaid work to the total standard of living in sustainable development scenarios*, International Journal for Sustainable Development, Vol. 5, No. 4, pp. 461- 475:

In Europe since the 1950s, the average working hours declined steadily and the time available for unpaid work increased. Nonetheless, its contribution to the total standard of living has not been taken into account so far, although the majority of working hours in Germany and Europe is in unpaid work. The qualitative integration of unpaid work in the new framework concept of 'mixed work' is introduced as an alternative more appropriate for the emerging new patterns of working life than the traditional concept of life-long, full time 'normal work'.

Two quantitative sustainability scenario simulations have been evaluated concerning their impact on unpaid work. Depending on the kind of politics simulated (cost cutting, growth, integrated sustainability), the future contribution of unpaid work to the total standard of living can decline, stagnate, or increase. The implications of different policies on the time budgets are discussed.

The same issue is dealt with in a bit more detail in a new German language publication: Spangenberg, J.H., Lorek, S. (2002) *Lebensstandardmessungen einschließlich nicht-marktlicher Dienstleistungen*, in: Boch, Henricke, Hilbert, Kristof, Scherhorn (Hg.), *Die Zukunft von Dienstleistungen*, Campus Verlag, Frankfurt, S. 455 - 481

**Spangenberg, JH. (2002). *Versprechen machen nicht satt Gentechnik und Welternährung*: 11.**

Die Gentechnik bringt den Staaten des ökonomischen Südens nur wenig von dem versprochenen Nutzen : Sie ist nicht in der Lage, einen wesentlichen Beitrag zur Entwicklung der Dritten Welt und zur Bekämpfung des Welthungers zu leisten. Gentechnik birgt für den Süden massive ökonomische Risiken : die biotechnologisch vermittelte Substitution von Erzeugnissen der Dritten Welt kann langfristig die klimatischen Standortvorteile zunichte machen und so zu einer weiteren Schwächung der Weltmarktposition der Dritten Welt beitragen. Nachwachsende Rohstoffe sind als Einnahmequelle nur sehr begrenzt denkbar.

**Spangenberg, J. H. (2002). *Wir sind nicht allein - Kampagnen zur Zukunftsfähigkeit. Wegweiser für ein zukunftsfähiges Deutschland*. Bund; Misereor (eds.). Riemann Verlag: München; pp. 128- 134**

**Spangenberg, J. H., Lorek, S. (2002). *Environmentally sustainable household consumption: From aggregate environmental pressures to priority fields of action*. Ecological Economics 43, No. 2- 3, pp 127- 140.**

The objective of the paper is to identify those areas of consumption, in which private households can make significant contributions to environmental sustainability, and to present a transparent and comprehensive set of indicators for them. The analysis of the environmental impacts of households focuses on consumption clusters that permit to depict different life spheres of private households. Two criteria guided the investigation of the relevance of these clusters: the environmental significance of the consumption cluster in terms of resource consumption, and the potential influence of households as compared to other actors.

Resource consumption was chosen as simplified, but reliable representation of environmental pressure dynamics. Growing resource consumption goes together with growing environmental pressures and vice versa, although not necessarily proportionally. The key resources analysed are energy and material consumption, and land use. Based on this analysis, three consumption clusters were identified as priority fields for action by households: construction and housing, food/nutrition and transport (in this order). All other consumption clusters can be considered environmentally marginal, providing combined saving potentials of less than 10% of the total resource consumption.

Finally, from description of the respective roles of actors based on anecdotal evidence a semi-quantitative "actor matrix" is presented indicating the relative influence of different actors per consumption cluster.

**Spangenberg, J. H., Lorek, S. (2002). *Lebensstandardmessungen einschließlich nicht- marktlicher Dienstleistungen. In Die Zukunft von Dienstleistungen. Ihre Auswirkung auf Arbeit, Umwelt und***

*Lebensqualität*. Bosch, G., Hennicke, P., Hilbert, J., Kristof, K., Scherhorn, G. (eds). Campus: Frankfurt, New York; pp. 455- 481

Spangenberg, J., R. Mesicek, A. Metzner, F.Luks. (2002). *Sustainability Indicators for the knowledge- based society - Measuring the Sustainability of the Information society*. Futura 2002, 2, pp.86- 96

Information and Communication Technologies (ICT) have been widely discussed from the technological supply side. Societal demand, or more specifically, the current shift to a network knowledge society, will not be possible without ICT. However, that will in turn influence the kind of ICT used, the way it is produced, used and disposed of. The resulting changes in the communication structure and infrastructures will have repercussions for the movement towards a sustainable society; it will be able to positively or negatively influence the worldwide increase of resource use and environmental changes, economic performance and social cohesion. These effects are partly recognised and discussed, but there are no generally accepted means to measure the progress towards a sustainable knowledge society or its lack of development, and in particular the influence of ICT with respect to sustainable development.

This paper outlines some essentials of a knowledge society with respect to sustainable development, and suggests a preliminary set of indicators to monitor this process.

Spangenberg, J. H., Omann, Ines, Hinterberger, Friedrich (2002). *Sustainable growth criteria. Minimum benchmarks and scenarios for employment and the environment*. Ecological Economics 42, 3, pp. 429- 443.

The relationship of economic growth and environmental impact has spurred fierce debates between growth optimists referring to the phenomenon of the environmental Kuznets curve, and pessimists referring to the limits to growth. However, no operational set of simple criteria has been developed so far to assess the sustainability of a given growth pattern. This is all the more true for measures combining environmental and social criteria.

The paper undertakes to sketch out such criteria, and to assess them by applying them to transdisciplinary sustainability scenarios and model simulations with PANTA RHEI, one of the most complex models of the German economy.

Theoretical considerations, as well as the empirical work with the model, demonstrate that there are indeed trade offs between economic growth and environmental impacts, and a positive correlation of growth and employment. Nonetheless, it is still possible to develop carefully orchestrated strategies that combine economic competitiveness, low unemployment rates and an easing of the pressure on the environment.

Social and technical innovation, reduced working time, a modernised social security system, green taxes and salary increases proportional to labour productivity growth are essential parts of any such strategy. The triple effectiveness of such strategies regarding environmental, social and economic sustainability is demonstrated by the model runs.

Spangenberg, J. H., Pfahl, Stefanie, Deller, Kerstin (2002). *Towards Indicators for Institutional Sustainability: lessons from an*

## *analysis of Agenda 21. Ecological Indicators 2, 1-2, pp. 61-77*

In the course of evaluating the progress in implementing Agenda 21 (United Nations 1992) the "Commission on Sustainable Development" began developing a set of indicators of sustainable development. The first version was finalised in 1996 with the suggestion of 134 indicators (UNDP/PCSD 1996) and put to a field test, resulting in a final version published in 2001 (UNDESA 2001). In both versions, the indicators are divided up into four issue areas: economic, environmental, social, and institutional. The further conceptual separation into driving force, state, and response indicators was given up in the final version. Generally, (inter-) governmental organisations are explicitly referred to as institutions, which in the course of decision-making have to take aspects of sustainable development into consideration.

The use of terms related to institutional contexts in Agenda 21 implies that the underlying understanding of institutions is broader, since it refers not only to organisations, but as well to institutional mechanisms like procedures and legal norms (formal or informal, explicit or implicit systems of rules). Applying the even more extended definition of social sciences including institutional orientations like societal norms and *leitbilder* reveals an additional wealth of institutional aspects in Agenda 21, which - as opposed to organisations and mechanisms - obviously has not been considered as institutions by the authors.

We illustrate this with a complete "screening" of all chapters of Agenda 21 according to all three classes of institutions. This analysis uncovers various important institutional aspects of sustainable development that are not yet reflected in the current set of indicators. They are covered by a rather complete list of institutions in Agenda 21 (Spangenberg et al. 2000); some examples from it are provided with this paper.

Furthermore, we present a proposal for how to structure the results of the analysis. For organisations it is obvious that not their very existence (yes/no) can be the basis for indicator development, but their effectiveness has to be the point of reference. While the DSR-scheme provides no suitable analytical basis for indicator development, it offers a convenient classification scheme for results derived otherwise. This applies not only to the CSD indicators, but also for the institutional mechanisms.