

## Publishable Report

# Solar Lakes Conference – Promoting Renewable Energy Technology in European Lake Regions



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## 1. Summary

The use of “Renewable Energy Technology in Harmony with Nature” was the topic of the first Solar Lakes Conference organised by the Global Nature Fund (GNF) which took place from 24 to 27 September 2006 in Friedrichshafen, Germany, on the shores of Lake Constance. The event took place within the frame of the international fair INTERBOOT. The conference was geared towards tourism managers and energy experts, representatives of communities and the business sector as well as experts from the environmental and nature protection sector. About 80 participants took part in this conference. They exchanged views and experiences on how the expansion of renewable energy can be realised in harmony with nature protection aspects. In sensitive lake regions in Germany and other European countries a balance between climate protection, renewable energies and nature protection is of highest importance.

During the conference, GNF presented a position paper on renewable energies and nature protection in European lake regions. This paper outlines the goals for a sustainable development in lake regions in Europe under consideration of the application of renewable energy systems. It also reflects the position of the GNF on nuclear power and the expansion of alternative energy sources. The position paper presents types of renewable energy and associated fields of conflict.

Tanja Gönner, Minister for Environment of the State of Baden-Württemberg, and Josef Büchelmeier, Lord Mayor of the City of Friedrichshafen, opened the Solar Lakes Conference. The conference was divided in three main topics: "Towards the Sun: Renewable Energy in Lake Regions", "Sustainable Tourism and Solar Mobility at European Lakes" and "Instruments for Financing and Increasing the Acceptance of Renewable Energy Technologies". Each topic was subdivided in sessions with a specific focus. The presentation of outstanding examples for the promotion and adoption of renewable energies completed the programme.

Partners of the conference were the German Environmental Aid (Deutsche Umwelthilfe), the Lake Constance Foundation (Bodensee-Stiftung), the City of Friedrichshafen and the company Kärcher GmbH and Co KG.

## **2. Background and Objectives of the Event**

The importance of topics like climate change and energy supply has increased greatly over the last months. The increase of extreme weather conditions, the security of energy supply and the ambition for independent energy imports are ever-present in the media. It is deemed that our energy resources are going to run short in the next decades. As a result energy imports will increase. For example, Germany is covering its energy requirement through 75 % imports; the EU average is 50 percent. This goes hand in hand with an increase of energy prices with equal effects to both the economy and to individual consumers.

According to experts, energy consumption will increase further over next years and the dependency on energy imports will also persist in the near future. The problems will be increased through the limitedness of fossil resources. Fossil resources have a 95 percent contribution to our primary energy supply. The problem of availability is accompanied by environmental impacts. The emissions from combustion of fossil resources have an influence on our climate.

Renewable energies will help to reduce the dependence of energy imports and contribute towards climate protection efforts. Therefore, the European Union strives for the promotion of renewable energy use and an improvement of existing technologies. According to the White Paper "Energy for the future: Renewable sources of energy" renewable sources of energy are currently unevenly and insufficiently exploited in the European Union. They make a small contribution of less than six percent to the Union's overall gross inland energy consumption. In opposition to the minimal consumption the amount of available renewable energy sources is enormous. From this follows that there also exists a huge economic potential in the energy sector.

For this reason the European Union aims to achieve a significant increased proportion of renewable energy sources for the energy supply. Until 2010 the European Union aims to reach of twelve percent contribution by renewable sources to the European Union's gross inland energy consumption.

But the development of alternative energies will also result in conflicts with nature protection efforts and biodiversity. To achieve the development targets nature protection requirements with regard to energy generation and energy use must be respected by each energy source. In view of the urgently necessary expansion of renewable energy sources worldwide, nature conservation aspects have to take into consideration from the very beginning. Renewable energies can not be seen as an isolated issue but must be consistent with the call for sustainable development.

Both, climate protection and bio-diversity become more and more apparent issues. They are of great importance for lake regions. An open dialogue between experts from all sectors is necessary. Also, economic interests must be involved more. Enterprises should have a strong interest to reduce their dependency on fossil energy sources and oil producing countries.

The Solar Lakes Conference aimed to start a constructive dialogue and to contribute to the creation of a helpful balance of nature protection, renewable energies and climate protection in lake regions. The event offered a discussion forum for European experts, presentations of successful projects and concepts for the application of renewable energies in communities, companies and in the tourism sector.

The conference is integrated in the Solar Lakes campaign, which has been successfully implemented by the Global Nature Fund for many years. Projects of the campaign are the establishment of a Solar Ship Network as well as the support of the Ecocamping initiative that strives for the implementation of solar technologies at camp grounds. With its projects the international foundation GNF aims to raise awareness, to build capacity and to implement concrete projects in lake regions. GNF, in cooperation with regional environmental organisations, is coordinating the world wide network Living Lakes with the aim of developing these lake regions in conformity with Agenda 21 targets.

#### **Background Information on the Living Lakes Network:**

GNF has started the Living Lakes network, a partnership of NGOs and public organisations working for environmental protection. Aim of the membership network is to further and promote sustainable development objectives at international level.

Worldwide, the Living Lakes network comprises more than 55 NGOs representing 45 lakes. In Europe the Living Lakes network comprises 15 members (institutions) from 9 European countries.

The overall intent of the membership network is to prepare the ground for an on-going and sustainable international dialogue and co-operation between environmental NGOs, administrations, scientific institutions and private economic stakeholders involved in water issues. Objectives are to further the exchange of know-how and technologies (i.e. solar technologies for boat engines) and experiences between environmental NGOs and other stakeholders of lake regions bringing Agenda 21 objectives from paper into practice.

Bridge building to overcome the geographic and the stakeholder co-operation gaps is the underlying idea of the Living Lakes network. Up to now, the protection of lakes is almost exclusively left to regional or national initiatives. The overall intent of the international lake network is to moderate a sustainable international discussion and collaboration between all private and public stakeholders involved in water issues.

The Solar Lakes Conference presented outstanding examples of climate protection in lake regions and the almost unlimited possibilities for the use of renewable energy. These examples have to be transferred to achieve the following overall targets for European lake regions:

- Promotion of regenerative energies.
- Reduction of air and water pollution in lake regions.
- World wide protection of the climate and atmosphere.
- Co-operation with the private renewable energy sector.

Climate change will have an increasing influence on lake regions all over the world. It is predicted that lakes will be heavily affected by changes in water levels and water quality. Changes in global temperatures will have impacts on the rich biodiversity of lakes and wetlands and hence on fisheries. People might face severe reductions in drinking water supplies and food. According to a study by the renowned Tyndall Centre for Climate Change Research, which was addressed to the 8th international Living Lakes Conference in Norwich, England, by the year 2080 the world's lakes will experience a temperature rise of up to 5.7 °C caused by greenhouse gas emissions.

Main objectives of the conference were:

- To present best practice examples of renewable energy technology (RET) and to promote the use of RET (e.g. financing systems and awareness campaigns) that are transferable from one lake region to another.
- To bring together all the different stakeholders to discuss opportunities and obstacles for the wide use of RET in lake regions.
- To raise awareness among decision makers, the private sector and the public for the opportunities provided by introducing RET in lake regions, environmental education for stakeholders in sensitive lake regions to promote sustainable tourism and traffic development according to European Community provisions.
- To promote a valuable know-how transfer and information exchange about RET between stakeholders from lake regions in the EU with a specific focus on the Eastern European countries.

### **3. Conference Topics**

#### ***3.1. Arrival and Introductory Presentations***

The welcome ceremony was held by Josef Büchelmeier, Lord Mayor of the City of Friedrichshafen and Udo Gattenlöhner, Executive Director of the Global Nature Fund. Tanja Gönner, Minister of the Environment Baden-Württemberg emphasised in her presentation how renewable energy technologies are a way to combat climate change

and explained the commitment of the Government of Baden-Württemberg for the development of renewable energy technologies. At the same time she also highlighted the necessity for the further use of coal power stations with higher efficiency factors as well as the use of existing nuclear power plants to reach a well-balance mix of energy sources and to gain time for the investigation and commercial launch of renewable energies.



*Tanja Gönner, Minister of the Environment Baden-Württemberg, opened the Solar Lakes Conference.*

The minister also highlighted Germany's most successful instrument for the promotion of renewable energies: the Renewable Energy Resource Act (EEG). Finally, she pointed out the focal points of Baden-Württemberg for the development of renewable energies which will result in an 11.5% contribution to power generation and 4.8% to total primary energy supply by 2010. This would mean a doubling of renewable energies compared with the year 1997.

The keynote presentation of Dr. Dietmar Straile from the University of Constance summarised the results of the CLIME project (Climate and Lake Impacts in Europe). The central aim of CLIME was to develop methods and models that can be used to manage lakes and catchments under future and current climatic conditions. The project showed that a warming climate will affect lake ecosystems in a large number of ways, whereby the type and strength of the effects on lakes are strongly region-specific.

### **3.2. Towards the Sun: Renewable Energy in Lake Regions**

#### **Session 1: Intelligent Energy Use against the Background of Nature Conservation**

The aim of this session was, besides an introduction to the Intelligent Energy Programme, to point out central questions of the conference, e.g. the potential of the renewable energy market, the consideration of nature protection in the debate on renewable energies and the economic value of energy sustainability.

A representative of the Intelligent Energy Executive Agency, Anette Jahn gave an overview of the European Union's Instrument Intelligent Energy Europe. Björn Klusmann from the German Renewable Energy Federation pointed out the situation of the renewable energy market in Germany. As a very positive signal from governmental level he highlighted the Renewable Energy Resource Act (EEG) which enables a broad investigation of promising alternative technologies. With implementation of the EEG, the political framework for the development of renewable energies was established in Germany.

The German Federal Agency for Nature Conservation was represented by Kathrin Ammermann. In her speech she put the question "Expansion of renewable energy at



*Anette Jahn from the Intelligent Energy Executive Agency gave an overview of the European Union's Instrument Intelligent Energy Europe*

any price?" up for discussion. It must be implemented without compromising the ecosystem, the biodiversity as well as the recreational value of the landscape, e.g. finding the right location for wind power. In each case a compromise between the different interests must be found. Preconditions for this to succeed are knowledge of the effects of the energy generation and its use, as well as compliance with corresponding regulations. Tomi Engel from the International Solar Energy Society/German Section gave a lecture on the economic value of sustainability with a focus on solar technologies in the mobility sector.

→ **Potential for dissemination:** The introduction in the Intelligent Energy Europe programme may be interesting for other organisations, institutions or companies to participate in the programme. The possibilities given by the Renewable Energy Sources Act (EEG) are important for future operators of renewable energy plants especially in Germany. The balance between nature protection and expansion of renewable energy has to be taken into account in the run-up of each project planning. Therefore the comments of the German Federal Agency for Nature Conservation can be very useful to avoid conflicts between both land use forms in other countries.

## **Session 2: Energy Efficiency in Communities as Contribution to Climate Protection**

Communal climate protection becomes more and more important. Through their engagement for climate protection communities set standards for residents and local companies. The development of climate friendly energy supply, saving and efficiency measures as well as the consideration of climate protection aspects in traffic and urban management are taken as an example. Exchanges of experiences and public relations are important to transfer the best-practice examples to other regions in Europe. The session aimed to present examples for communal climate protection measures.

Ilaria de Altin from the ICLEI European Secretary presented the European Cities for Climate Protection (CCP) Campaign. CCP is a network which aims to reduce the release of harmful emissions caused by our day-to-day activities. The campaign addresses local authorities and promotes the sharing of experiences with climate protection projects on a local level in Europe. A strategic plan for increasing the renewable energy use in the Lakes Balaton regions in the new EU accession country Hungary was presented by Dr. Gábor Molnar, Managing Director of the Lake Balaton Development Coordination Agency. A strategic plan is under implementation to increase the share of renewable energy to at least 6 % in the next few years. Lake Balaton

Development Coordination Agency launched the “Balaton Partnership Program” that includes educational courses with practical aspects for increasing the awareness of the regional governments, environmental authorities, companies and individuals for renewable energies.

Dr. Stefan Köhler, Director of the Regionalverband Bodensee-Oberschwaben, represented the responsible body for regional planning on rural district level in the Lake Constance area. In the Lake Constance region the population is still growing and the energy consumption has to keep up with the increasing energy demand. The future energy generation has to take into consideration the natural and cultural landscape in the region. Spain also developed a strategy for energy saving and efficiency measures, that was presented by Dr. José Pablo Delgado Marin from the working committee ARGEM (Agencia de Gestión de Energía de la Región de Murcia). ARGEM is involved in the local protection efforts in the region of Murcia and contributes with its activities to the realisation of Spain’s Action Plan for renewable energies.

→ **Potential for dissemination:** The networking activities of ICLEI exemplify the possibilities for local authorities to establish an information exchange, knowledge transfer and capacity building for sustainable development on local level. Strategic plans for increasing the renewable energy use can be of great interest for regions with similar aims. The gained experiences from Lake Balaton could be helpful especially for new EU accession countries with similar natural and political conditions. The regional planning on rural district level is an important instrument for the extension of renewable energy use as it defines suitable locations e.g. for wind power stations. Therefore the responsible authorities have to be sensitised for positive aspects of renewable energies and the potential conflicts with nature protection aspects. The example of the region of Murcia shows how a strategic plan for energy efficiency and energy saving can be put into action. This is of great interest for all institutions that are responsible to bring theory from paper into practice.

### Session 3: Renewable Energy Technology in Companies – Examples from Europe



*The conference geared towards tourism managers, energy experts, representatives of communities and the business sector as well as experts from the environmental and nature protection sector.*

Small and medium sized companies in the renewable energy sector are job motors in Europe and have the potential to develop highly efficient technologies. Some best practice examples were presented in the company session.

Jörg Dürr-Pucher is Executive Director of CLEAN ENERGY, a company specialised in the realisation of renewable energy projects. He pointed out the chances for biogas and solar energy in companies in Europe and Germany. He highlighted a considerable increase of biogas stations in the agricultural sector and the boom of photovoltaic systems due to the



Renewable Energy Resource Act in Germany. The conference partner Kärcher GmbH and Co KG presented its environmental management systems and pointed out successful internal measures like use of photovoltaic and geothermal energy systems, heat supply from wood fired heating stations, heat insulation etc. Kärcher also offers its employees courses on petrol saving driving methods and organises energy saving competitions. The development of energy and climate friendly products is crucial for the company.

The province of Perugia in Italy is developing a concept for sustainable tourism in the Lake Trasimeno area. In cooperation with local companies an alternative mobility system in tourism areas is planned. The already established sustainable management scheme of Polvese was presented during the speech of Lucio Gervasi from the Province of Perugia. The Mainau GmbH, one of the biggest tourist companies in the Lake Constance region has also already established a successful energy concept which resulted in the reduction of CO<sub>2</sub> emissions through the implementation of wood pellet heating.

→ **Potential for dissemination:** The company session presented examples with high dissemination potential. The use of biogas and solar energy is of interest for small and medium sized companies. The examples for the implementation of an environmental management system and the involvement of the employees in saving activities can simply be transferred to other companies. The cooperation of local authorities and companies can be used for a successful development of sustainable tourism offers as the example of Lago Trasimeno in Italy shows. Tourist companies can act as a role model by improving their environmental activities and at the same time boost the local economy. Activities as presented from the Mainau GmbH give credibility in a holistic environmental management concept and can be easily adapted for other tourist companies or attractions.

### ***3.3. Sustainable Tourism and Solar Mobility at European Lakes***

#### **Session 4: Renewable Energy in the Tourism Sector & Intelligent Traffic Systems**

Especially in regions where tourism is still under development it is essential to promulgate the advantages of renewable energy for environment and climate. In these countries the potential for efficient application of renewable energy forms in the traffic and recreation sector is extremely high. Increasing consumer needs for individual and flexible mobility and a resulting increased volume of traffic are a challenge especially for lake regions. The regulation of tourism development at an early stage is a necessary precondition for sustainable mobility, navigation and energy use in lake regions. This will contribute to the reduction of greenhouse gases. In order to achieve this aim, selected positive examples were presented in this session.

Marco Walter from the Ecocamping initiative presented a concept of success for the use of renewable energy sources in the tourism sector with a focus on campgrounds. The adoption of renewable energies improves the internal climate balance which partially reduces energy expenses. On the other hand the tourism company can demonstrate its engagement for environmentally oriented management methods. Ecocamping supports and advises campground managers in the implementation of environmental and quality management systems. In the Baltic country Estonia the adoption of renewable energies

is still at the beginning. Veli Palge from the Estonian University of Life Science in Tartu presented the governmental targets of 5,1 % of electricity production based on renewable energy by 2010. The development of renewable energy technologies will also have positive effects on the tourism sector in the country.

The policy and practice on renewable energy initiatives in protected areas in the Netherlands was presented by Hans Schiphorst from the Werrribben National Park. The use of biomass is a growing interest in the Netherlands. Biomass production in an environmentally friendly way is therefore a challenge for companies, nature protection groups and the agricultural sector. For wetlands and national parks alternative mobility forms are also of great interest.

In Germany there are several examples of successful solar power boat use. Melanie Reimer from the German Environmental Aid presented the project Solar Ship Network. The network is aimed at improving the cooperation between solar boat operators in Germany and at establishing a common information platform with all relevant information regarding alternative boat operators. Andreas Kindlimann from the Swiss company MW-line SA reflected the necessity of professional projects to promote the use of solar energy for the propulsion of boats. In his speech he presented some well implemented projects all over Europe and gave some background information on the technical aspects of this innovative mobility form.

→ **Potential for dissemination:** Camping is popular in Europe and an integrated environmental management system, the use of alternative energy systems as well as energy saving and energy efficiency have a high potential to be transferred to regions with a large number of camping tourists. National parks have the natural conditions e.g. for the use of biomass and need concepts for an environmentally friendly use in harmony with nature protection aspects. Also sustainable mobility concepts are interesting for national parks. Emission free mobility systems can be transferred in other (protected) areas in Europe. The Solar Ship Network combined operators for solar powered boat cruises and established an information platform for the interested public. Such platforms can also be adopted for other stakeholder groups and allow exchange of experiences, useful cooperation and a wide spread of information. Innovative ideas always need a professional marketing as the example of the Swiss company MW-line SA shows. The example of solar powered boats shows that new technologies need well implemented projects to reach market penetration.

## **Session 5: Workshop Session and Excursion**

### **Workshop 1: “Inventive Buildings – Intelligent Energy Systems in the Public Sector”**

The workshop followed the questions “What are the opportunities and most promising approaches in terms of the introduction of renewable energy in buildings?” and “What are the obstacles and barriers/problems?” With a share of 30 % to the gross energy consumption, buildings are the biggest energy consumer in Germany. Energy-saving modernisation and efficient heat and hot water generation provide an enormous energy saving potential. The participants of the workshop reflected on national regulations regarding energy efficiency in houses and buildings and exchanged innovative ideas like the “Energiepass” (energy label for buildings) in Germany. The construction and the renovation of energy efficient buildings contribute to saving energy and costs in the

long-run. Especially in times of rising energy costs investment in an energy saving construction is financially rewarding. Energy aspects already have to be included in the planning stage for buildings. The optimised adjustment of windows and the adoption of climate friendly energy sources are examples for energy saving measures in building construction.

### **Workshop 2: “Raising Awareness – New Ideas to promote Renewable Energies”**

Climate protection measures have to be understood and accepted by the public and therefore an effective way of communication is necessary. In this workshop the participants collected ideas for the promotion of renewable energies and discussed the chances for realisation, e.g.:

- Establishment of local energy centres → advises on energy saving measures in private households, information about allocation of finances, information about energy saving domestic alliance (purchase and operation)
- Development of school lessons and information kits for school kids on this topic → compatibility with curricular is necessary
- Organisation of local “Renewable Energy Days” → tie in with national activities in the respective countries
- Expert advice for house owners regarding energy saving measures and adoption of renewable energies in building construction
- Development of information material addressed to different target groups: kids, teachers, individuals, small and medium sized companies, hotels and restaurants in the tourism sector etc. → complex topic causes time-consuming activity
- Organisation of “renewable energy trips” for interested citizens presenting local activities in the renewable energy sectors

### ***Excursion – Practical examples of Renewable Energy Use in the Lake Constance Region***

The demonstration of efficient energy supply, implementation of alternative energy sources in managing concepts of campgrounds as well as the demonstration of solar energy for the propulsion of boats was presented during the field trips:

- Mauenheim, the first bio-energy village of Baden-Württemberg including the biogas station and wood pellet heating system,
- Ecocamping site in Horn to inform about solar energy use



*The solar powered boat Helio is used for passenger transportation and the environmental education project Swimming Classroom at Lake Constance*

in the tourism sector, e.g. for heating water and supplement conventional heating,

- Boat Cruise on the solar power boat “Helio”, the biggest solar powered boat at Lake Constance, including explanations of solar technology in navigation.

→ **Potential for dissemination:** All presented practical examples have the potential to be transferred in other European Lake regions. The bio-energy village Mauenheim demonstrates the use of alternative energy sources in rural areas. The biogas station and the wood pellet heating system can also be adopted for other villages in Europe. Environmental management systems for camp sites and emission free mobility are also interesting for other countries in Europe, especially in areas where tourism is still under development.

### ***3.4. Instruments for Financing and Increasing the Acceptance of Renewable Energy Technologies***

#### **Session 6: Financing Instruments for the Promotion of Renewable Energy Technologies**

This session aimed to present possibilities for financing renewable energy projects. Often, communities, environmental organisations, tourism facilities etc. have problems to find financing options for their projects. Therefore, the session outlined European and German financing options on different levels.

Julita Klink from the Center for Solar Energy and Hydrogen Research Baden-Württemberg gave an overview on the most important financing instruments for the promotion of renewable energies in Germany and Europe, such as the Renewable Energy Incentive Programme in Germany. Volker Krauth from forseo GmbH (German Office of Basel Agency for Sustainable Energy, BASE) pointed out financing options for renewable energy projects through the cooperation of companies, financial service providers and private and public institutions.

An example for financing solar energy projects on community level was given by Christian Moll from Solarcomplex. The company concludes contracts with owners of large roof areas which are suitable for photovoltaic use. Citizens and companies finance the technical equipment, the generated power is then fed into the public power supply and the profit distribution is income for the investors – guaranteed for 20 years through the Renewable Energy Resource Act.

→ **Potential for dissemination:** Renewable energy projects need a substantive financing basis. The presented financing options can be helpful for institutions which are planning to implement innovative renewable energy projects Europe wide. The example of Solarcomplex shows how citizens can be involved in the financing system and even benefit from their financial engagement. This system is interesting for institutions or companies all over Europe.

## Session 7: Outstanding examples for the Promotion and Adoption of Renewable Energies

Examples were given to complement some of the theoretical aspects of the conference and to present the feasibility of innovative ideas in the renewable energy sector.

The international Solar Energy Society was represented by Walter Danner. He presented examples for high performance biogas plants in Germany and highlighted the possibility of Public Private Partnerships for project financing. Carla Vollmer from German Environmental Aid explained the concepts of success for the projects Solar League (Solarbundesliga) and SolarLokal. The Solar League is a competition to enable cities and towns to compare what they have achieved concerning the extension of the supply of solar energy. SolarLokal is an image campaign addressing and motivating municipalities for the promotion of solar energy for power generation. SolarLokal was also launched in Tenerife in January 2006.

Richard Lloyd from the Cotswold Conservation Board in England informed the audience about the use of sustainable energy sources in national parks and protected areas in Great Britain. He also reflected the UK government's policy on renewable energy and the response of protected areas. The last speech of the conference was held by Matthias Mörk of the Lake Constance Foundation on the environmental education project Swimming Classroom. Since 2002 school classes are given lessons aboard the solar ferry Helio at Lake Constance. They are informed about photovoltaic systems, water pollution control and environment-friendly tourism in the Lake Constance region. The solar ferry is most suitable for nature and adventure pedagogy as well as experimental instruction.

→ **Potential for dissemination:** Public Private Partnerships are transferable to other renewable energy projects. The interesting aspect of the cooperation is the merger of capital and know-how for realisation and financing of innovative projects. "Solar League" and "SolarLokal" are outstanding examples for the involvement and enthusiasm of citizens for renewable energies in their hometowns. Competitions and image campaigns may help to convince of new technologies and demonstrate their reliability. Only through active participation of citizens will expedite the energy transformation. The information of visitors of national park and protected areas as well as environmental education for school kids are only some examples for information campaigns and can easily be adopted to other areas.

## 4. Results and Outlook

Energy is for our everyday life, we need it. Up till now, fossil resources have a 95 percent contribution to our primary energy supply. Therefore the share of renewable energy sources has to be expanded and the use of energy has to become more efficient. Both objectives have to be combined and will contribute to climate protection, the reduction of dependency on energy imports and steady energy prices.

The conference worked out the huge demand and interest for projects in the field of energy saving, energy efficiency and the use of renewable energies. The best practice examples presented demonstrate applications in communities and companies resulting

in financial savings contribute to climate protection and emphasise a role model status. The information exchange, knowledge sharing and capacity building for sustainable development on local level may support the expansion of renewable energy systems. For companies even a positive environmental reputation is possible through the adoption of renewable energies and environmental management systems. The bio-energy village Mauenheim can be seen as a pioneering example for the success of the collaboration of the community with local companies with respect to renewable energy generation and use. Also in other regions energy autarkic villages can be established transferring the system of Mauenheim. Renewable energies are also an important economic sector and are becoming ever more important, not only as a job motor in the near future.

In the tourism sector there are also a lot of possibilities for the adoption of alternative energy systems, e.g. for mobility, in protected areas and at campgrounds, such as the Ecocamping site in Horn. Solar boats have a great potential to be used in other lakes or rivers in Europe. Moreover, the guidelines for ECOCAMPING are also of great interest for other European countries. For example in Poland camping is very popular as the last workshop in the framework of the Network Living Lakes Eastern Europe - Germany has shown. The idea of ECOCAMPING has a high potential to be transferred to many other European countries. To avoid conflicts between the fields of nature protection and development of renewable energy, both sides must start an open dialogue at an early stage. Best practice examples have to be transferred to regions with similar problems and conditions. The examples are adopted for the reduction of CO<sub>2</sub> emissions and to achieve an improved environmental situation in the respective countries.



*The speakers were responsible for the presented projects and could answer all questions in a very professional way.*

The conference brought together experts with different background from various European countries. Climate environmental protection combines interdisciplinary issues and therefore an intensive communication between different groups of stakeholders is necessary. Such a successful communication between regional and governmental institutions and local companies let to a successful sustainable management plan at Lake Trasimeno in Italy. From this initial collaboration a concept for sustainable tourism with respect to climate and nature

protection is being developed. The participation of all affected groups of interest at an early stage in project planning is necessary to avoid conflicts e.g. because of different requirements.

In many regions all over Europe very positive experiences with the introduction of renewable energy systems have been made in the last years. The best practice

examples presented during the Solar Lakes Conference support the argument that renewable energies may contribute to reduction of harmful emissions, cost savings and add to the positive reputation of its users. This can be seen at the example of the Kärcher GmbH & Co. KG.

The presentation of best practice examples is a very effective method to convince target groups as the positive feedback from the campaigns Solarbundesliga and SolarLokal showed. That will help to reduce doubts and demonstrate the wide range of possibilities. The provision of professional education material completes the awareness raising among decision makers in the private and public sector. Providing clear and accurate information to the public is essential as well. People need background information, efficient examples and field reports to accept alternatives to existing energy systems. The more people in the European Union recognise the positive aspects of alternative sources and their benefits, the more inhabitants will support the EU's efforts to raise the portion of new or renewable energies.

Climate protection is a transboundary activity just as water protection. The conference contributed with the dissemination of best practice examples to European Union's efforts to reduce climate change. The conference outcomes will lead to raising awareness of decision makers in European countries towards sustainable development in lake regions. Events like the Solar Lakes Conference are first steps for the launch of renewable energy technologies in tourism, energy and traffic sector in European countries.

## 5. Conference Materials

The conference reader "Renewable Energy Technology in European Lake Regions in Harmony with Nature Conservation" contains the strategy paper on renewable energies and nature protection in European lake regions as well as all presentations that were held during the event. The reader is available under [www.globalnature.org/SLC](http://www.globalnature.org/SLC) for free download.

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