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Press Information

Energy Globe World Award 2013

**4 February 2014
8.00 p.m.**

Austrian Broadcasting Corporation
Studio Salzburg/Austria
Nonntaler Hauptstraße 49d

THE WORLD AWARD FOR SUSTAINABILITY

ENERGY



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I. Statements Partners



Statement Wilfried Haslauer, Regional governor Salzburg



The future of energy lies in the economical and sustainable use of energy and in its renewable sources. The state Salzburg has made a firm commitment to the energy turnaround. We want to cover half of the energy needs from renewable domestic sources as early as 2020, while simultaneously contributing to energy savings. In implementing these ambitious goals, the state of Salzburg has to rely on strong and responsible partners, but also on awareness education and information.

The selection of winners of the Energy Globe World Award 2013 in the state of Salzburg is a good sign in this regard and will help to promote and strengthen awareness for sustainability. Only together we can hope to achieve our ambitious climate and energy targets.

Yours sincerely,

A handwritten signature in blue ink that reads 'Wilfried Haslauer'. The signature is written in a cursive, slightly slanted style.

Wilfried Haslauer

Regional governor Salzburg

**ENERGY GLOBE Award**

The ENERGY GLOBE Award could also be called Oscar for sustainability. The concept of sustainability is on everyone's lips and is used in many different contexts - sustainable economic growth, sustainable energy production, sustainable use of resources, sustainable living and sustainable mobility, etc. This trend is path-breaking and shows the increased awareness in society for this topic. Some states have established sustainability as a political state objective even in the Constitution.

The economic and social developments of the past and the present simply require this change of thinking towards a more gentle and careful management of our environment and our resources. The importance and the need for a sustainable action solidifies more and more in people's minds. Certainly, the ENERGY GLOBE Award has made its contribution to this matter, by setting the goal to reward innovative and sustainable projects and to present them to a wider public. Annually this prestigious and valuable award will be given in the categories earth, fire, water, air and youth. The importance of this event is - especially with regard to the global scattering effect - quite enormous and contributes to positive environmental awareness.

In the city of Salzburg numerous innovative projects, such as an energy management system for urban objects or the implementation of good passive house residential projects, are a proof for a consistent energy and climate policy. In the current "Master Plan Smart City Salzburg" strategic priorities have been set for 2025.

For me as Mayor of Salzburg, it is therefore a great honor and pleasure that this world-renowned environmental prize is awarded in the state capital this year. I wish the organizers a successful and exciting event and all participating countries and submitted projects good luck and success!

Yours sincerely,

Heinz Schaden
Mayor of Salzburg

Smart City Salzburg – Historic Centre with Innovations

The 1990s saw the rise of an awareness for more sustainable urban development in the city of Salzburg.

The Urban Development Concept of 2008 was already based on national and European climate protection guidelines and requirements. It includes competitive standards, mandatory stipulations for urban planning instruments, as well as the reduction of fossil-fuel consumption in favour of renewable fuels.

Numerous innovative projects like the Energy Control System (a power management system for municipal buildings and facilities), advanced residential housing projects (such as the Samer Mösl passive-house estate), and so on, demonstrate that Salzburg is already a leader in many areas of energy awareness and savings.

The current Master Plan Smart City Salzburg defines the strategic focus until 2025:

Salzburg is a pioneer among the cities of Europe with its rigorous energy and climate protection policies. The urban energy planning framework optimizes energy supply (incorporating local and regional potential) and makes implementation mandatory. Wide ranging redevelopment measures, to be undertaken by the city of Salzburg and property developers, will reduce heating requirements and is the key to a largely CO₂-neutral power supply for the city.

Salzburg's municipal building projects play a lead role in setting an example. By implementing pilot projects such as an energy-plus building, or by stipulating minimum requirements (LCC analyses, power consumption, etc.), or with campaigns ("lighting-offensive" etc.) the vision of "public buildings become energy suppliers" will be achieved step by step. By rapidly developing smart buildings and smart-grid producers and consumers, the individual players in the city's energy supply and distribution system are intelligently interconnected and the preconditions are created for utilizing local potential in terms of renewable power resources.

PROJECTS OVERVIEW:

EKS – Salzburg city power management system 1 800 energy meters online 2000-2005

Smart City Salzburg – Master plan 2025 energy solutions for the future 2011 – 2012

Smart District Gnigl – From the vision smart city to a showcase 2012 – 2014

District project Stadtwerk:Lehen – Model housing in construction and renovation 2008 – 2013

Smart City Salzburg – Electrical power efficiency in public buildings 2013 – 2014

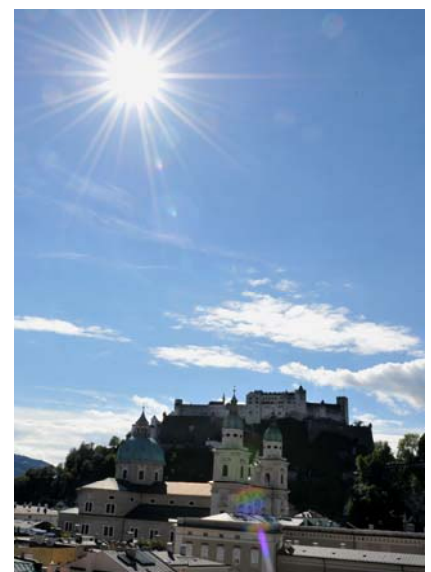
StadtLicht 2020 – Energy efficiency in street lighting and traffic control signals 2012 – 2016

D-A-CH – tri-national experience-sharing with Karlsruhe and Winterthur 2013 – 2014

Smart Grids – Model region with the Rosa Zukunft lighthouse project 2009 – 2014

Stadt der Zukunft (City of the Future) and Smart Cities Demo 4.AS – various projects currently being tendered.

Links: www.stadt-salzburg.at; www.smartcitysalzburg.at; www.salzburg-ag.at/innovation/smart-grids/





The protection of our environment, the sustainable use of our resources, the efficient use of energy and to embrace all possibilities to employ renewable energy sources – is today of utmost importance. We are currently facing many challenges and have to deal with the question of how we can overcome this at the best, and what solutions are available.

Therefore, I am particularly pleased that this year's Energy Globe World Awards are presented in the Studio of the Austrian Broadcasting Corporation (ORF Salzburg) in Salzburg. This environmental award, established in 1999 is today a worldwide recognized prize, and distinguishes sustainable beacon projects from all over the world - they all are models for environmental solutions that can be implemented anywhere in the world.

On 4 February 15 nations meet at the ORF Studio in Salzburg and are provided a stage to present their commitment to a livable planet, and to motivate people to become active themselves in this sense. To present to the public the achievements of these people and to reward them is to me personally, but also with regard to the public educational mandate of the ORF, a particular concern.

In this sense I wish all the nominees and the founder of the Energy Globe, Mr. Wolfgang Neumann, all the best and continued success!

Roland Brunhofer
Regional Director Austrian Broadcasting Corporation, Salzburg



ENERGY GLOBE Award brings outstanding performance of the enterprises for sustainable development in the spotlight

Economy and the environment are inextricably linked. With eco-friendly ideas and innovation you can do good and at the same time can be economically successful: That is for me the central message of the Energy Globe Award.

The combination of economic and environmental protection holds great opportunities not only in ecological terms but also in terms of growth and employment. As Europeans, we can be proud that our companies are taking a leading role in the field of environmental technologies and energy efficiency in a global comparison.

The Energy Globe Award, which is now the world's most important environmental prize, provides the business a global platform to showcase their innovations for a better environment to a wide audience. This is especially true for the Austrian economy, which is internationally among the best. In addition, the Energy Globe Award is a great motivation for further innovation in the service of sustainable development.

Yours sincerely,

Christoph Leitl

President

Austrian Federal Chamber of Commerce



Wolfgang Neumann
Founder Energy Globe



I am very pleased that this year the world-famous cultural city of Salzburg is the venue for the ceremony of the International Energy Globe Awards. Salzburg is not only a hot spot for culture it has also a lot to offer in terms of sustainability - and - with the ambitious goal of achieving the energy transition by 2020, has become an important model.

Today we live in a time in which our resources are scarce, in which one part of the world must find a model for energy efficiency, the other part, however, has no energy at all. Serious environmental problems around the world are major challenges for us, but especially for future generations - because they have to bear the consequences of our actions.

Yet there are many excellent solutions for the careful use of our resources, to conserve energy or the enlargement of renewable energies worldwide. The over 1000 annually submitted Energy Globe projects are an impressive evidence that there are many committed people in our world who become active in this sense. In Salzburg Energy Globe presents such model projects of a total of 15 nations and honors them. They range from high-tech innovations to clever but effective measures.

As the world's largest platform for sustainability – with 161 participating countries - Energy Globe makes in this way an important contribution to global awareness building in terms of sustainable development every year. The message of the Energy Globe is now globally acknowledged and heard. The Energy Globe winners will be presented worldwide - with international TV stations reporting around 1,000 hours of broadcasting worldwide, via live stream on the Energy Globe website www.energyglobe.info and through our international networks, which include Energy Globe Ambassadors in 90 countries.

This year's Energy Globe Awards will be held jointly with the regional government and the city of Salzburg, the Austrian Broadcasting Corporation Salzburg (ORF Salzburg) and the Austrian Federal Chamber of Commerce - for which I would like to express my special thanks here.

Wolfgang Neumann

Founder
ENERGY GLOBE Foundation

II. Press text

Grand Energy Globe Award Ceremony for Sustainable Projects from 15 Nations 4 February 2014 at the Austrian Broadcasting Studio in Salzburg

They were selected from over 1,000 submissions by the international Energy Globe Jury - on 4 February 2014 the nominees for the international Energy Globe Awards are in the international spotlight: 16 sustainable projects from 15 countries in 5 categories made it to the finals.

The invitation to Salzburg is the culmination of many years of efforts for a sustainable future for the promoters. Who will be the winner of the international Energy Globe in the 5 categories Earth, Fire, Water, Air and Youth and who will take home the World Award - a 15 kg bronze statue – remains well under the wraps until the ceremony. With 160 countries participating and more than 1.000 submissions annually the Energy Globe Award is today the world's most important environmental prize.

The award ceremony will take place in cooperation with the Regional Government and the City of Salzburg, the Austrian Broadcasting Corporation Salzburg (ORF Salzburg) and the Austrian Federal Economic Chamber. Star presenter Arabella Kiesbauer will moderate the ceremony.

Energy Globe founder Wolfgang Neumann is pleased with the outstanding sustainable solutions that "his Award" introduces every year to the world: "These are projects that give hope in difficult times like today - where we are facing an uphill struggle over distribution of resources and energy", he says.

The award ceremony can be seen via live stream on 4 February, starting at 8.00 p.m. on www.energyglobe.info. The ceremony will also be broadcast worldwide via international TV broadcast stations. The nominated projects are exciting and wide-ranging. Details and photos are available on www.energyglobe.info.

Category Earth: In the northwest of **Uzbekistan**, the Bonn Center for Development Research has improved people's lives significantly with a large-scale land and water management project. In **China** the Beijing Chyau Fwu Properties Co. Ltd. realized in Beijing with a shopping and cultural center for thousands of visitors per day a prime example of energy efficiency and sustainable resource use. The Vermigold Ecotech Pvt Ltd from **India** converts organic waste into valuable soil with worms. The **U.S. company** Ecovative Design LLC uses mushrooms for energy-saving production of 100 % compostable packaging.

Category Fire: Globally unique is the algae growing process of production ecoduna GmbH in Lower **Austria** in photovoltaic-powered reactors. From the algae valuable oils and biofuels are obtained. In a combined project of Energy Ministry in **Indonesia** in volcanic areas biogenic gas is optimally used from the earth for cooking and electricity as well as the heat of hot springs for drying of agricultural products. Giant underwater turbines from a 10 MW tidal power plant of the company Iberdrola on the **Scottish island of Islay** provide 5.000 households to clean energy.

Category Water: At the initiative of Water Missions International and SolarWorld AG in a village in **Malawi** 700 people are supplied with clean drinking water by a solar fountain. In **Mali**, within the framework of a joint project of UN-Habitat and the local NGO Crepa / ESC a mobile, solar-powered water Destilliator of the Swedish company Solvatten provides drinking water to 260 families in rural areas. The **British** designer Francesca Mancini developed a prototype of a simple construction, for households to use gray water from shower and sink straight to the toilet flush.

Category Air: The WWF scores in **Finland** with a "green office" to reduce the ecological footprint of office buildings. The organization Multytouch International in **Kenya** launched a massive reforestation project to plant 125 million trees by the year 2017. 700 women build as part of the Solar Project Foundation for **Nicaraguan** Woman solar ovens and pass on their knowledge about possible applications.

Category Youth: The **Swiss** NGO "Eco-Center" sends out young people to raise awareness in street conversations with consumers for sustainable shopping. The youth organization "Cans for Kids" in **Cyprus** collects aluminium cans and donates the proceeds from the recycling to improve the medical situation of children. Waste separation, use of solar energy and organic gardening are the focal points of the training of students at St. Paul College in **Costa Rica** in terms of a sustainable future.

III. List ENERGY GLOBE World Award 2013 Finalists



Category Earth

- Applicant:** ZEF – Zentrum für Entwicklungsforschung, University of Bonn, Uzbekistan
Project: Land and Water Management for a more hospitable Region
- Applicant:** Beijing Chyau Fwu Properties Co. Ltd, China
Project: Arts of Wonderland: The green Oasis of Beijing
- Applicant:** Vermigold Ecotech Pvt Ltd, India
Project: Soil, Not Waste – Converting Organic Waste with the Help of Worms in India
- Applicant:** Ecovative Design LLC, USA
Project: Mushrooms instead of Styrofoam



Category Fire

- Applicant:** ecoduna productions GmbH, Austria
Project: Unique in the World: Energy from Algae
- Applicant:** Marine Geological Institute (MGI), Agency of Research and Development for Energy and Mineral Resources, Ministry of Energy and Mineral Resources, Republic of Indonesia
Project: Clean Energy from the Earth for Indonesian Villages
- Applicant:** Iberdrola, United Kingdom
Project: Underwater Turbines Generate Electricity



Category Water

- Applicant:** Water Missions International and SolarWorld AG, Malawi
Project: Clean Water for an entire Village
- Applicant:** Solvatten AB, Mali
Project: Sunlight turns dirty water into clean, healthy Drinking Water
- Applicant:** FMD Design Studio, United Kingdom
Project: K2 ECO TANK



Category Air

- Applicant:** WWF Finland
Project: Green Offices with an Environmental Management System
- Applicant:** Multy Touch International, Kenya
Project: Giant-Scale Afforestation in Kenya – Protecting the Environment and creating Jobs
- Applicant:** Solar Projects Foundation for Nicaraguan Women (FUPROSOMUNIC), Nicaragua
Project: “Solar Women” for Central America



Category Youth

- Applicant:** Ökozentrum (Centre of Appropriate technology and Social Ecology), Switzerland
Project: Learning about the effects of everyday consumption
- Applicant:** Cans for Kids, Cyprus
Project: Old Aluminium Cans help improve medical care for children
- Applicant:** Saint Paul College, Costa Rica
Project: Saint Paul goes Green

IV. Project descriptions of all finalists per category



Category Earth - Finalist

Applicant: ZEF – Zentrum für Entwicklungsforschung, University of Bonn
Country: Uzbekistan

Land and Water Management for a more hospitable Region

The project for the “Economic and Ecological Restructuring in the Region Khorezm” was launched in 2001 in North-Western Uzbekistan, a region dominated by agriculture. Those involved developed concepts for reconciling in the best possible manner economic efficiency and environmental sustainability in Uzbekistan’s Aral Sea region. The goal of this interdisciplinary research and education project was to use the natural resources in ways that maximised market benefits but were at the same time ecologically sustainable. Prof. Dr. Paul Vlek has more than 35 years of international professional experience as a researcher, lecturer and government advisor. He works at the Center for Development Research (ZEF) at the University of Bonn in Germany and as UNESCO professor at the University of Urgench in Uzbekistan.

As the project head, Prof. Vlek seeks to improve the living conditions in the Khorezm region. He recognised that only the reforestation of the depleted woods and the sustainable use of water could solve the region’s problems. He wants to halt the growing poverty of the rural population and the waste of natural resources. Together with ZEF, an improved agricultural policy at the national and international level is developed, new local institutions are created and technological solutions to optimise the management of land and water are explored. Prof. Vlek also helps provide academic education in Khorezm.

This decade-spanning project is making the region hospitable again: it fights soil degradation, reduces greenhouse gas emissions and raises rural incomes. More productive arable land, increased regional autonomy in the allocation of resources, modern technologies and the realignment of Uzbek politics towards environmentally friendly development are for the benefit of the whole population. Prof. Vlek never forgets in everything he does that we live in a world with limited and inequitably distributed resources. Therefore it is important to him that we should never lose sight of the planet’s welfare in our quest for development.





Category Earth - Finalist

Applicant: Beijing Chyau Fwu Properties Co. Ltd
Country: China

Arts of Wonderland: The green Oasis of Beijing

Parkview Green FangCaoDi is a new „green“ neighbourhood in central Beijing. It is a felicitous, sustainably built combination of offices, shops, hotels and exhibition areas with excellent service and offers high quality services for customers. The architecture is unique: the pyramid shaped glass structure prevents shading adjacent buildings (right of light), the 236-meter-long suspension bridge traversing through the block of buildings, which is open to the public, creates a connection to the neighborhood. A unique natural ventilation system provides fresh air. Parkview Green FangCaoDi also is a hub for events and exhibitions and presents a formidable collection of modern Chinese artists and rare Dali sculptures. Building administrator is the recognized family-Hong Kong Parkview Group Ltd. with Will and Bessie Tseng Li as committed leaders.

A highly efficient energy and water supply system reduces the operating costs of the building tremendously. The remains from the demolition of the old building material were recycled – amongst other things bricks, steel, wood, etc. The building has a rainwater collection for use in toilets and irrigation of green areas. Instead of conventional air-conditioning a modern ceiling - and under floor cooling system is in use, saving between spring and fall up to 60% in winter to 70% and in summer up to 20% energy. In gardens and green areas only native plants are grown, which in turn allows for efficient irrigation. The glass body of the building provides plenty of light, which also saves lighting costs. The four-layer glazing provides optimal insulation. Passive systems provide natural air circulation in the buildings and in the atrium, which in turn saves energy.

The main objective of the project team was to find a balance between commercial and environmental aspects. The concept became a challenge, since it went far beyond conventional ideas and rules. Therefore, the negotiations with the city administration took longer than usual. Parkview Green FangCaoDi makes an important contribution to raising awareness: in the daily encounter with a sustainable infrastructure people experience the positive synergy between ecology and economy first hand. In addition it is made clear that green concepts do not mean backwardness and loss of comfort but quite the opposite - modernity, progress and environmental protection. The Parkview Group wants to set an example - with sustainable urban planning to achieve a green, urban lifestyle.





Category Earth - Finalist

Applicant: Vermigold Ecotech Pvt Ltd
Country: India

Soil, Not Waste – Converting Organic Waste with the help of Worms in India

The organic waste management system of the Indian company Vermigold offers solutions to the growing problem of organic waste. It was conceived as an on-site, continuous processing system to convert organic waste to soil and fertiliser with the help of earth worms. The system reduces the volume of the waste by 90% and has received multiple awards. It is also the only Indian waste management system to have obtained international certification. The automated in-vessel compost system converts biological waste into eco-friendly solid and liquid organic fertilisers that can be used in gardens. The composting process can be described as follows: sorted organic waste is collected, then shredded and mixed according to a special recipe in the organic waste processor. Then it is converted by the earthworms in the composter. Advantages of the system include its compactness, meaning it occupies only a small area, its reliability and its low operating costs. The company's overall environmental approach is also reflected in its use of solar energy.

Throughout the world, more than half of the waste in landfills is organic waste, usually packed in plastic bags. This contributes directly to the pollution of the soil (plastic waste) and global warming. This state of affairs motivated Jaideep Saptarshi to implement the project. His goal was to develop a visually appealing and uncomplicated solution for the disposal of organic waste that would benefit consumers and the environment. One challenge he had to overcome was the popular belief that waste cannot be treated locally without it being an eyesore. So he first needed to work on correcting these widespread reservations.

Vermigold systems cost only a third of comparable systems and only occupy one third of the surface area. The system reduces the amount of waste disposed as landfill, eliminates the need for transportation to the landfill site and instead turns the waste into a valuable resource. All this helps to protect the soil and to reduce carbon dioxide emissions. This is just the start of the project – there are plans to expand the system in all of India and abroad.





Category Earth – Finalist

Applicant: Ecovative Design LLC
Country: USA

Mushrooms instead of Styrofoam

Eben Bayer, Gavin McIntyre and their staff at Ecovative Design, a company established in 2007, have developed a novel packaging material called EcoCradle, which has similar properties to Styrofoam but is made from 100% biological source materials and fully compostable. Composting does not require industrial facilities and large amounts of energy – people’s gardens are sufficient; conventional Styrofoam, by contrast, can only be disposed of as toxic waste. Moreover, this mushroom material is even more sturdy and heat and flame resistant than Styrofoam and can consequently be used in buildings. Material properties like density, strength or surface structure can be modified by using different vegetable source materials. The shape as such is determined by the mould in which the growth process takes place.

Ecovative Design has 35 fulltime employees in Green Island in the US state of New York and uses a special type of mushroom, an elongated thread-like mycelium, and a specialised process to grow foams in a natural way. Organic waste like husks from grain or rice becomes closely enmeshed by microscopically small threads until the matter turns into a rigid foam after five to ten days. The growth process is started in the dark and needs no energy whatsoever. To end the growth process and kill the mushroom spores the material is dried at a temperature slightly above 43°. This only needs one tenth of the energy consumed by the conventional production of plastic foams.

The revolutionary material is used as packaging for the shipping of goods like wine, in the automotive industry to make door panels or seat shells, and in the construction sector as insulation. Ecovative’s online shop moreover offers a wide selection of products such as candle holders or pin boards. There are also plans to produce low-cost alternatives to wood-based materials such as particle and composite boards. Their bio-composite is an ultra-rapidly renewable eco-material, as Ecovative themselves put it. It is also completely inoffensive and hygienically sound. The material is even suitable for human consumption, although it is not nutritious and does not taste very well.





Category Fire - Finalist

Applicant: ecoduna productions GmbH

Country: Austria

Unique in the World: Energy from Algae

Today algae are an important renewable resource. They are raw material for valuable substances used in medicine, pharmaceuticals and the cosmetics industry, in food, pet food and even energy production and chemical applications. Ecoduna of Bruck an der Leitha develops ground-breaking world class technologies for the production of Algae. The start was not easy. ecoduna Executive Martin Mohr had to do a lot of persuading to ensure the plant's financing. Today, the modern company has made a breakthrough in the industrial production of microalgae.

World class in Lower Austria! At the 250 m² ecoduna plant algae are grown as a source of high-quality oils, including the production of omega-3 fatty acids (today in particularly high demand due the scarcity of fish stocks) and for bio fuel. 22 reactor elements powered by solar power constantly follow the course of the sun and keep the algae in an ideal light zone permanently. The nutrient medium is not pumped, but transported via pressure equalization over the shortest route - which reduces energy consumption many times. The optimum distribution of CO₂ and other nutrients creates the best conditions for growth and CO₂ fixation. All cells have approximately the same level of development, optimizing energy use when harvesting, as only mature algae are harvested. No agricultural land is claimed. Water is treated and re-used; remains of dissolved nutrients are recycled. The residual biomass is used as fodder for cattle, goats, fish, etc. The exuberant sea-fishing, to obtain omega 3 fatty acids is relieved. Approximately 17 tons of biomass, with an oil content of about 40% are produced annually. 4-5 tons of oil and 2-3 tons of fuel/year are obtained from this.

The concept is inspired by the forest, where the leaves of the trees multiply the surface towards the sun and protect themselves from overheating by changing their orientation angle to the sun - because, as Mohr is convinced: "nothing in nature happens without a reason" The groundbreaking ecoduna technology is in used amongst others by Germany's Vattenfall: algae are used to "store" industrial CO₂, the biomass is used to produce bio plastics or artificial fertilizers. In Denmark, the insulin manufacturer Novo Nordisk utilizes the arising process water as "food" for algae supplying CO₂ using ecoduna technology. Especially in xeric countries such as Saudi Arabia and India or China and Japan and aquaculture enterprises in Northern Europe, who use it to produce food for fish and simultaneously want to purify waste water from nitrates.





Category Fire - Finalist

Applicant: Marine Geological Institute (MGI), Agency of Research and Development for Energy and Mineral Resources, Ministry of Energy and Mineral Resources Republic of Indonesia
Country: Indonesia

Clean Energy from the Earth for Indonesian Villages

Biogenic gasses and hot springs are gushing out of the earth in Indonesia, a volcanic string of islands. Both resources were tapped in two pilot projects for various purposes with a single goal: to use less fossil fuel and to improve the lives of people in the country.

Biogas for rural areas: In Indonesia biogenic gases occur mainly along the coastal zones of the great river deltas. The deposits are not enough for industrial use, however, homes and small businesses can benefit from them. Hananto Kurnio, a graduate geologist at the Marine Geological Institute (MGI) implemented a pilot project in a village in Kakap in West Borneo in 2008. In the front yard of the village elder, a gas source was discovered and simply tapped. A borehole was dug, filled with cement and connected with the system in the house via a PVC tube. Since it takes 1-2 minutes for 1 liter of gas to accumulate, the gas is stored in a plastic tube with a diameter of 3 meters, which is connected to a low pressure gas stove and a 500 watt gas generator to produce electricity. With the system three gas stoves can be operated simultaneously. Total cost: \$ 1,500. Now the money for kerosene can be saved. As the gas is produced in symbiosis with mangrove habitats, protection of mangrove forests is promoted again. The project is to be continued and expanded in the framework of the "Independent Power villages" program.

Hot Springs Enable Rich Harvest

The drying of agricultural products such as cocoa, coffee beans, bananas, cassava and coconut chips is a challenge in Indonesia due to the humid weather and frequent rains. In the village of Bakan in Bolaang Mongondow (North Sulawesi province) Didi Sukaryadi of the Department of Energy started an interesting project: he calls his system, which uses the heat of the hot springs to dry produce "Fin and Tube". The dryer is of simple construction and consisting of frames, heat exchangers and a drying room (approx 110°F) with 10 shelves. In the fan chamber, the heat is "distributed" at a temperature of 140°F around the produce. Thus, the drying runs energy efficiently at low cost and the simple, handcrafted and durable plant can be used anywhere where there are hot springs. In Bakan cocoa beans are thus dried on a large scale now. Farmers can now harvest and dry up to 50% more. Total advantage: completely sustainable, better living conditions, no use of fossil fuel - protection of the environment.





Category Fire - Finalist

Applicant: Iberdrola
Country: United Kingdom

Underwater Turbines generate Electricity

The Scottish island of Islay, just shy of 3,500 inhabitants, is well-known among whisky connoisseurs for its eight renowned distillers and among ornithologists for the large variety of its bird population. But Islay has even more to offer: The Sound of Islay is a straight on the west coast of Scotland, measuring less than one kilometre at its most narrow. And this straight is home to the world's first tidal power station that actually feeds electricity into the public grid. Ten underwater turbines generate enough power to supply 5,000 households. The Sound of Islay was identified as the best location for this demonstration project because it boasts strong tides, a suitable depth, protection from large waves and strong winds, low pollution and sufficient grid capacity.

Alan Mortimer works for the Spanish power producer Iberdrola, and is a key player in the project. He stresses that this type of electricity generation is a brand new alternative to traditional technologies. With an estimated worldwide potential of more than 1,500 gigawatts it will contribute an important part to the energy mix of the future. The technology used in Scotland, known as Hammerfest design, was successful in overcoming some complex problems and proved to be the most effective option. With an impressive capacity of 10 megawatts, the tidal power station is ecologically sound and its electricity is considered as a new energy source that is clean, abundant, and produces zero greenhouse gas emissions. The water movements of the tides drive ten giant rotors with three blades each, whose structure is reminiscent of wind turbines.

One of the largest challenges for this project was the general lack of know-how on “marine energies”, but Iberdrola and Alan Mortimer gained significant insights in numerous test runs and years of trials. Their knowledge includes a range of different manufacturing and installation techniques, output behaviour, wake downstream, effects on underwater life, and capital and operating costs. The planned construction costs for the Sound of Islay project are GBP 40 million no less.





Category Water - Finalist

Applicant: Water Missions International and Solar World Ltd.
Country: Malawi

Clean Water for an Entire Village

Large lakes and rivers make up one quarter of Malawi's surface area. But although this South-East African country has indeed plenty of water, the availability of drinking water depends not just on quantity but also on quality. The challenge of providing drinking water to the population has been taken up by the organization Water Missions International: the small village of Chisanja is situated in a central region of Malawi, approximately two hours' drive to the north of the capital, Lilongwe. 700 people live here and 600 children attend the local school, and recently they obtained a reliable and affordable source of clean water in the shape of a solar-powered well.

Water Missions International's and SolarWorld Ltd. drinking water supply system consists of a deep well from which water is pumped using solar power, solar water purification, a drinking water reservoir and a pipe system to five distribution stations in the village and to the school. Solar2World The pump for water abstraction and the purification plant are operated by a photovoltaic array with an overall power of 1,440 Watt-peak. The array consists of 16 off-grid solar panels with a power of 90 Watt-peak each and is installed on the roof of the water purification building. In order to foster personal responsibility and education, which are essential for the development of the village as a whole, all aspects of the day-to-day operation are performed by a committee of villagers that was established for this purpose and trained in the provision of drinking water. A system of monthly payments by the households was implemented; this money is used to pay for operating costs and to accumulate investment reserves. However, the project was not completed without a setback: a solar-powered pump was stolen, but the village community used their savings to replace the missing pump.

Andre Mergenthaler project leader of Water Missions International in Chisanja, wants to raise awareness of the fact that there are still more than 780 million people worldwide without access to clean drinking water. With the help of his organization and SolarWorld AG, millions of lives can be saved and their lots improved. Thanks to this project the village of Chisanja and its school now have better water, both in terms of quality and quantity, than most people in Malawi. The Water Missions office in Lilongwe continues to provide support for any problems with water quality or the equipment that the village community cannot solve.





Category Water - Finalist

Applicant: Solvatten AB

Country: Mali

Sunlight turns dirty water into clean, healthy drinking water

More than a third of Mali's population has no reliable access to clean drinking water. The goal of this project – in cooperation with UN Habitat and the local NGO Crepa / WSA – was to help 260 families, and especially their young children, in the poorer parts of the capital Bamako with a new technology that cleans contaminated water biologically with the aid of the sun. Petra Wadström is the inventor of this user-friendly, entirely solar-powered water steriliser and the founder and CEO of Solvatten AB. The name of this Swedish company translates as “sun water”.

The home water purification unit Wadström created is a simple, portable canister that uses solar energy to purify and heat water. The effectiveness of this patented invention is scientifically proven. The container consists of two halves and has an overall capacity of 10 litres; the user fills it with water, folds the halves out for maximum exposure, and places it in the sun for approximately two to six hours. This means that on days with intense sunshine, two to three cycles can be achieved. A colour indicator (from red to green) signals when the water has reached a temperature of 55° and thus – in combination with the UV radiation – has been cleaned and can be safely ingested.

The sterilisers have a useful life of five years and one container costs approximately USD 35. The average savings in health and energy costs per family are around USD 18 per month. The steriliser prevents many cases of diarrhoea in children and reduces dependence on fire wood and fossil fuels. It also reduces energy consumption for cooking, bathing and washing up. A large challenge for the implementation of this project in Mali was the political unrest in the country.





Category Water - Finalist

Applicant: FMD Design Studio
Country: United Kingdom

K2 ECO TANK

Francesca Mancini manages her own Design Studio. Apart from her professional know how as potter and designer she has this practical look on things with the goal to improve it the best way she can. Her manifold experience with materials like ceramic, wood, metal and even jewels, her imagination and sense of form and design as well of practical application is united in a unique showpiece: the K2 Eco Tank – an invention that saves drinking water in an ingenious way. The motivation behind this environment-friendly product was the desire not to consume anymore such a quantity of good water!

So what's behind that marvellous K2 Eco Tank? Basically it is a grey water collection system from the shower and sink, which is then recycled to flush the toilet. This in some circumstances can use up to 20 litres of clean tap water. To compare: one toilet flush is estimated from 6 litres, only for modern-saving cisterns, up to 20 litres. A 3-minute shower will consume 50 litres. Grey water is caught in a water tray equipped with a filter. From here the water enters the tank and with a pump is pushed into the toilet cistern. The pump is connected to a switch located in the cistern. This switch activates the pump when the cistern is empty and turns off the pump when the cistern is full. The tank is equipped with an overflow connection. The cistern must have a manual key to activate the main water where no water is in the tank.

The custom made water tank is manufactured from black polypropylene and is drinking water safe. The major challenges while implementing the project were to keep the project as simple as possible for both realization and future production costs, and for both installation and maintenance. The tank has a capacity of 120 litres. For this project Francesca received important recognitions, many compliments and a lot of interest. Following her philosophy of life "a rough road leads to the stars" she trusts that her product will be in use on a large scale in the future. There are already a number of companies which are interested in putting her invention into production.





Category Air - Finalist

Applicant: WWF Finland

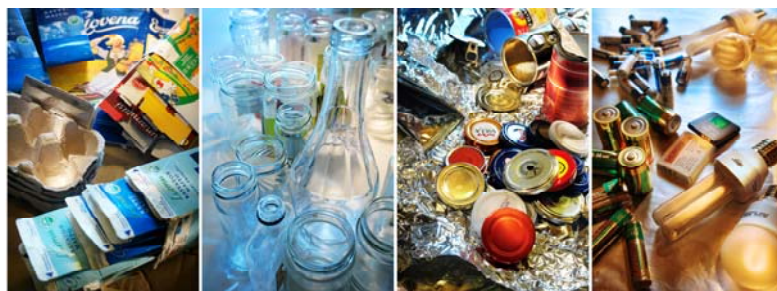
Country: Finland

Green Offices with an Environmental Management System

Half of the energy consumed in Helsinki is used for heating and electricity in buildings. A handful of organizations that wanted to make their offices more eco-friendly approached the World Wildlife Fund (WWF) to get information about procurement, recycling and energy consumption. These inputs led to the idea of a tool that would make offices “greener” – the “Green Office Programme”. Its aims are to mitigate climate change, reduce natural resource use and promote a sustainable lifestyle.

All Green Offices follow the environmental guidelines of the programme, which include for example the adherence to criteria established by WWF Finland, targets and evaluation, implementation of environmental programmes, employee communication, election of a Green Office coordinator and his team, annual reporting to the WWF and an audit by the WWF every three years. After a pilot project in the year 2002, there were five participating organizations, today there are already 196. In 2012, these organizations had almost 70,000 employees. WWF Finland agreed to manage the programme, develop it further and let it grow. The WWF Green Office now helps organizations to minimise their impact on the environment and their ecological footprint, to conserve energy and to mitigate climate change.

The programme is suitable for small and large offices, for private companies, the public sector and other organizations. Helka Julkunen is an environmental officer and holds a master’s degree in environment and business. She is the head of the Green Office programme. Green Office had to be developed with a zero budget and was meant to become a fundraising tool; now the project is up, well running and the network keeps growing.





Applicant: Multy Touch International
Country: Kenya

Giant-Scale Afforestation in Kenya – Protecting the Environment and creating Jobs

The non-profit organization Multi Touch International carries out environmental protection schemes in Kenya. One of its current project is to afforest a huge land along 53 rivers that have their origin in the Aberdare Range and Mount Kenya. 77% of Kenyan river banks suffer from the consequences of deforestation and non-sustainable cultivation. Only 20% of the land in Kenya is arable, the rest is classified as arid or semi-arid. This means Kenya is one of the driest countries in the world. The growth in urban population and increasing droughts make matters even worse.

Multi Touch International wants to mitigate this trend by planting about 125 million high-value trees along basins, river banks and drainage points with the help of the local population by the year 2017. Sound river eco-systems are necessary for irrigation and energy generation and essential for industry, wildlife and the 25 million affected inhabitants. With afforesting sustainable tree species, the project wants to help the poorer sections of the population, so that they can satisfy their need for firewood, fodder plants, timber, medicines, food and mineral nutrients.

The project aims to train 1,000 young people in treemanagement, and for them in turn to teach other young people, so that they can ultimately manage 10,000 tree nurseries. In these, seven million students will each grow 300 saplings per year in order to make the project “mega tree nursery” become a reality. The outcome is the annual creation of 100,000 jobs for young people for the duration of the project. Altogether, planting and looking after the trees, harvesting and the sale of charcoal will create 500,000 direct and another 500,000 indirect jobs by 2017. The members of the project team have the necessary agricultural, management and social know-how and the support of the local governments. The project follows a cooperative approach to ensure that life in the local communities has no negative effects on the environment. It uses a sustainable approach to create a healthy, productive and wealthy society.





Applicant: Solar Projects Foundation for Nicaraguan Women (FUPROSOMUNIC)
Country: Nicaragua

“Solar Women” for Central America

Most women in the rural parts of Nicaragua do their cooking over open fireplaces, and thus need large quantities of firewood and are exposed to harmful smoke every day. In 2004, Maria Mercedes Alvarez Valle established the non-profit foundation FUPROSOMUNIC (**Fundación Proyecto Solar de Mujeres Nicaragüenses**) to tackle these environmental and health issues. Maria Mercedes trained as a chemical engineer and has been the main coordinator at FUPROSOMUNIC for over eight years now, promoting the use of solar-powered ovens and food dehydrators and the use of solar technology in the treatment of drinking water. So far, the initiative has achieved that more than 700 “solar women” in the four towns of Rivas, Masaya, Granada and León have built their own solar ovens; they have also come to understand the benefits of solar technologies more generally. They use their ovens – whenever the sun permits it – independently, i.e. without the need for continued support.

The solar ovens are really simple to build and to operate, says Maria Mercedes, and they need neither wood, nor gas or electricity to run on. Perhaps the best thing about them is that the food cooks by itself in the sun, giving the women more time for other chores around the household, to look after their children or simply to take a break sometimes. The solar dehydrators are used to dry for example hibiscus flowers for herbal teas, or fruit like pineapples, bananas and papayas. Selling dried fruit and herbs is moreover a source of income for the women. FUPROSOMUNIC holds workshops where environmental conservation, gender equality and nutrition are discussed. The project staff also attends solar industry fairs, meetings to share their experiences, and various training events on how solar energy can be used, where they also discuss problems and exchange recipes.

Maria Mercedes Alvarez Valle’s latest plan is to set up a “demo centre”, where the solar women can discuss their experiences, teach other women how to build and operate solar ovens and dehydrators, and produce dried fruit and teas – that is, to create an organization that can sustain itself. After all, Nicaragua is the second-poorest country in the Western hemisphere and this project is at least a modest starting point for raising the income of its poor and protecting the environment at the same time.





Categorie Youth - Finalist

Applicant: Ökozentrum (Centre of Appropriate Technology and Social Ecology)
Country: Switzerland

Learning about the Effects of everyday consumption

The aim of the Swiss project “konsumGLOBAL” organised by the Langenbruck Centre of Appropriate Technology and Social Ecology is to increase people’s awareness of their consumption behaviour. The project covers subjects like globalisation, sustainability and resource conservation. An important target audience are young people, because consumption plays an important role in their everyday lives. The Centre is a financially, politically and ideologically independent non-profit organization and has supported sustainability projects since 1979. The project manager, Nathalie Gaullier, has a degree in environmental consulting and coordinates action days for children. The project is simple and highly effective:

Volunteers aged 18 to 25 organise walks across town, for example for secondary school pupils. The idea is to give a 90-minute “peer-to-peer” tour through the town: jeans from Taiwan, chocolate from Ghana and smart phones from China – examples like these are used to demonstrate the ecological, social and economic consequences of consumption behaviour. A range of tools such as games, photographs, quizzes and role plays teach the pupils about the effects of purchasing everyday products. Youngsters acquire the competence to understand and assess links between consumption behaviour and globalisation. They are told about the global effects of local consumption, are given food for thought and inspired to evaluate their own consumption habits critically. Moreover, they experience the subject in their habitual everyday environment, which is a good addition to classroom learning.

Thus young consumers are inspired to change their behaviour because they realise that they actually have choices. This increased consumption consciousness can motivate them furthermore to become involved in sustainable shopping. Changing consumption patterns contribute to better resource stewardship, which in turn helps the development of a more sustainable economy. City tours have been organised in Basle since 2008, and almost 1000 pupils have already participated. In 2012 the tours were also started in Berne, and there have been so many enquiries for tours that the regional group is struggling to keep up. A new regional group was launched in Aargau in 2013 and will offer guided tours in three towns. There are also plans to expand the scheme to other cities like Zurich and Lucerne and to the French-speaking parts of Switzerland.





Categorie Youth - Finalist

Applicant: Cans For Kids
Country: Cyprus

Old Aluminum Cans help improve medical care for children

Rosie Charalambous works as a journalist for the Cyprus Mail newspaper and Cypriot radio. She studied sociology and psychology. Motivated by a sad experience, Rosie organised the Cans for Kids project: When one of her three children got seriously ill, she became painfully aware that medical care in Cyprus was lagging behind other countries. So she decided to raise funds for the Makarios Children's Hospital in order to help sick children in Cyprus. But how would she raise donations?

Rosie literally found the answer lying in the street and among the waste: Aluminium cans. Collecting cans not only provided donations, the environment benefitted as well. When Rosie Charalambous founded Cans for Kids 22 years ago, environmental protection was not yet an issue, let alone recycling. She had a long path ahead of her. So she repeated her message all over the country: Protect the environment! Consume less! Live more sustainably! And this is how Cans for Kids came into being – a classic example of “young people helping young people”. Because today, Rosie collaborates closely with schools, youth groups and other organizations, gives speeches and illustrates the subject with audiovisual presentations, and organises teaching visits to the Cans For Kids recycling centre.

What once began as a small project in Nicosia is now a household name all over Cyprus. Countless volunteers collect and sort the cans that are then crushed and sold. Today, Cans for Kids collects and processes 10% of all used aluminum cans in Cyprus. Up to now, 260,000 Euros have been generated and donated towards better medical care for children. However, Rosie Charalambous would like to expand Cans for Kids to places where recycling is not yet a business, because ever since Cyprus joined the EU she has to compete with government financed recycling projects. She would also like to work even more closely with schools. As every child, that can be reached, will go home as a messenger for Cans for Kids. Today, recycling is completely normal in Cyprus. Charalambous has certainly made a significant contribution to the current self-understanding of recycling in Cyprus.





Categorie Youth - Finalist

Applicant: Saint Paul College
Country: Costa Rica

Saint Paul goes Green

The Saint Paul community launched five years ago, a "green project" with students, parents and employees. Objective was to raise awareness of pupils and to teach them in practical lesson. A group of high school students shows the students of primary and pre-schools, how to separate garbage properly, which works very well today with the new knowledge of students and parents. There was a great potential also in saving ink and paper. The students also know now that the sun is a great energy and heat supplier - as the water in the swimming pool of the school is heated by a solar system. Swimming lessons now can take place at any time. Particularly exciting for the pupils was the construction of solar cookers with a battery – these cookers now warm up the lunch of the students.

All stoves were fitted with wheels so they can be stowed away in the afternoon and wheeled out again in the morning. They are also used as learning tools for cooking in the classroom or to teach about food preservation methods. In the school yard, a vegetable, herb and spice garden has been established. Considerable time is spent on teaching the children about the importance of soil, seeds and the proper care of a garden. They have learned how to harvest and look after the plants. All these projects are ongoing and there are constant efforts to improve them. Latest project is a greenhouse without soil.

Also the school owner, Ramírez Sneeringer, is teaching the children. His goal is to train the children in critical thinking and to show them ways to protect the natural resources of the planet. Most difficult target group were the parents with regard to rethinking and changing certain habits. The environmental professionals among the students increase every year, they take the newcomers under their wing. So the project keeps running and trains future generations.



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