



EUROPEAN SOLAR PRIZE 2016

AWARD CEREMONY AND SYMPOSIUM

Friday 18th November 2016
Sant Pau Art Nouveau Site, Barcelona

Host partner



Ajuntament de
Barcelona



EUROSOLAR
The European Association
for Renewable Energy

EUROPEAN SOLAR PRIZE 2016



Friday 18th November 2016
Sant Pau Art Nouveau Site, Barcelona

12.00 Arrival, registration

12.30 Welcome

- Prof. Peter Droege, President of EUROSOLAR
- Janet Sanz, Deputy Mayor, Barcelona City Council

13.00 Policy and vision for an energy transition

- Dr. Dörte Fouquet, Director of EREF, bbh
- Dr. Harry Lehmann, Chairman of WCRE, UBA
- Fernando Ferrando Vitales, Vice President of Fundación Renovables

13.45 Lunch break

14.45 Moving towards energy democracy

The case of Barcelona

- Cristina Castells, Director of Barcelona Energy Agency
- Francesc Pujol, Member of the Board, Som Energia

Further experiences

- Dirk Vansintjan, President of REScoop.eu
- Dr. Josep Puig, Vice President of EUROSOLAR, EUROSOLAR Spain
- Stephan Grüger, Member of the Hessian Parliament, Vice President of EUROSOLAR

16.00 Break

16.30

Presentation of Spanish and European Award Winners

18.00 – 19.00 Get together



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Welcome Note

The world in 2016 is more in need of a rapid and world-wide move to renewable energy than ever before. The solutions are lived everywhere: some of their very finest innovations and practices are being celebrated by us today by the central vehicle for recognition: EUROSOLAR's European Solar Prize. We are honored to be hosted here in Barcelona, home of the first functioning Solar Thermal Ordinance of 2000, introduced by our own Dr. Josep Puig and his colleagues.

The 22nd Conference of the Parties of the United Nations Framework Convention on Climate Change (COP 22 UNFCCC) closes today in Marrakesh. The 2015 Paris Accord of COP 21 has not only been ratified by more than 100 countries but also demonstrates that the world has abandoned the illusion of globally unified targets. Agreeing on more stringent goals but also endorsing an open accord of collective yet individual action – on a platform akin to what Dr. Hermann Scheer and we all at EUROSOLAR have long advocated. The UNFCCC vision is still blurry, the action tardy, the agenda messy – and all are far too open to carbon emissions manipulations, 'low carbon' illusions and all sorts of expensive impractical schemes including CCS and nuclear power – but in terms of the basic principle of individual renewable energy mobilization and proliferation, the fundamental push is correct. Every country, region and city has to move as fast and bold as possible away from non-renewable sources, and embrace the beautiful simplicity of solar, wind, water and bio-energy – and the marvelous economic transformation they introduce. And this is precisely what our prize winners have committed themselves to so successfully – in all sectors of society, companies, organizations and institutions, communities, cities and citizens.

We live in a beautiful world full of potential for all - but also one that is deeply conflicted. It is made more violent and dangerous through our fossil fuel addictions and the stubborn resistance and global militarization by yesterday's leaders and interests perpetuating this intolerable status quo. For us Europeans sharing economic and political goals and a paramount desire to maintain peace also in other parts of the world to which we are deeply connected, the transformation to a renewable energy world is a matter of sovereign nations – but also a common and existential project of all countries and people of Europe. A common political and economic framework, a European Renewable Energy Market Order is the central vision and platform for our Renewable Energy Union, taking into account the different regional and local needs and systematically directing European energy policy towards an energy future founded on value creating, community owned and decentralized renewable energy supply, storage and distribution systems. Ambitious renewable targets without production ceilings, supported by feed-in tariffs and other suitable instruments are as indispensable as the abolition of subsidies for conventional and nuclear energy production, the taxation of pollution and the integration of this open and market policy frameworks in international and national law.

I am delighted by this year's award winners and thrilled to see what has not only been put into practice, but carried out in ways that lend themselves to widespread proliferation, from the bottom up, and nurtured by healthy and supportive governance and policy frameworks. We can and must be inspired by them, learn and promote the successes widely. We deeply congratulate the winners of this year's European Solar Prize and thank all of them for their great engagement and their contribution for a sustainable future in Europe and worldwide.

Yours sincerely,

Professor Peter Droege
President of EUROSOLAR



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This Year's European Solar Prize goes to:

Solar architecture and urban planning

Renovation Johann Böhm, Austria

Medal: Renovation Anliker, Switzerland

Industrial and commercial companies or farmers

Bodegas Torres, Spain

Interfloat Corporation, Principality of Liechtenstein

Local or regional associations / organizations

Repowering London, United Kingdom

Owners and operators of renewable energy installations

Zusamme Solar! Colmar, Germany / France

Transport and Mobility

Weisse Arena Gruppe, Switzerland

One World Cooperation

nph deutschland e.V., Germany

Towns, municipalities, council districts, public utilities

Energy self-sufficient community of Kieselice, Poland

Members of the jury:

Prof. Peter Droege, President of EUROSOLAR, Chairman of the jury

Dr. Axel Berg, EUROSOLAR Germany

Gallus Cadonau, Swiss Solar Agency

Prof. Eliana Cangelli, EUROSOLAR Italy

Stephan Grüger, MdL, Vice-president of EUROSOLAR

Wolfgang Hein, EUROSOLAR Austria

Andre Langwost, EUROSOLAR France

Dr. Josep Puig, EUROSOLAR Spain

Irm Scheer-Pontenagel, EUROSOLAR

Maryke van Staden, ICLEI - Local Governments for Sustainability



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Renovation Johann Böhm *Austria* Solar Architecture and urban planning

Innovative and transferable concept of transforming a charitable apartment building from the sixties into a plus-energy-building

Transforming an apartment building from the sixties into a modern plus-energy-building is not the easiest mission. However, Nussmüller architects together with AEE-INTEC, SG Ennstal, TBH Engineers and Stadtwerke Kapfenberg faced this task to realize the first plus-energy refurbishment in Austria.

An innovative concept for a pre-fabricated wooden facade has been developed, which allows the components, such as windows, doors, building technologies and PV modules to fit perfectly into their elements. This fitting accuracy results in better heat insulation, which leads to more energy efficiency. The use of renewable energy is given through a 620 m² photo-

voltaic unit and a solar sail for solar heat. Together the facilities, with a total capacity of 50 kWp, cover the auxiliary energy, lighting and household electricity requirement and as well compensate the heating energy demand.

Additionally half of each building is equipped with a ventilation system with heat recovery, or an exhaust air unit with a thermal pump. The energy generated thereby provides the stratified storage tank and then supplies each apartment via a two-wire network and an apartment storage tank. In this way, energy requirements and building technologies can be coordinated optimally.

The innovative and transferable house front concept in combination with integrated modern technologies and the use of renewable energy, show impressively that building refurbishments can have a big contribution to a sustainable future.



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Medal: **Renovation Anliker** *Switzerland*

Solar Architecture and urban planning

Innovative and highly efficient concept for a sustainable refurbishment of a heritage-protected building

This artisan house in the north of Affoltern in Emmental was built in 1765 for a master glazier who had a spacious, light-flooded workshop on the ground floor. In 1825, his grandson added the characteristic round arch with a roof triangle on the southern facade.

Until its refurbishment in 2015 the house almost decayed and now this valuable object has appeared in new splendour. The most important renovation measure was a full-length cross stabilization on the hillside area by a concrete hollow body. Today, it also serves as an engineering room for all technical installations including a geothermal heat pump based on two drillings to a depth of 190 m for hot water and heating. During summer, it works as a

cooling system by withdrawing the heat via floor heating and returning it to the subsoil.

Thanks to the Minergy-P-insulation, the building's former energy need was reduced by 90 percent to 26.000 kWh/a. On the 251 year old historical building, an ideally integrated full-surface PV installation with a performance of 89 kW is producing approximately 90.500 kWh/a leading to an energy self-supply of 345 percent.

The comprehensive renovation has been realized in close cooperation with the Monuments Preservation Department, with local companies and experts from the Canton of Berne. It demonstrates how tradition, modernity, sustainability and aesthetics can be complementary combined. The plus-energy-building, with a historical background, takes an active role for the realization of the energy transition and for a sustainable future.



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Bodegas Torres *Spain*

Industrial and commercial companies or farmers

Overall concept for the sustainable use of energy and natural resources in the fabrication of wine

Founded in 1870 Bodegas Torres is a traditional Spanish winery run by the fifth generation of the Torres family. The company with its head office located close to Vilafranca del Penedès, has more than 1.300 hectares of its own vineyards and exports its wine to more than 150 countries. With the combination of tradition and innovation Bodegas Torres has become a benchmark company in the quality wine sector.

Following the motto that 'wine is the fruit of the earth', Miguel A. Torres decided to intensify the company's environmental actions in 2007 and implemented the 'Torres & Earth' project. The project aims to reduce CO₂ emissions per bottle by 30 percent in 2020 compared to 2008. Therefore the company installed more than

12.000 m² of photovoltaic panels in its winery in Pacs del Penedès, which covers approximately 10 percent of its energy needs. Furthermore a biomass heating system was installed transforming waste from the vineyard into heat.

Beside the use of renewable energy, the company follows even more strategies like the reduction of energy consumption, the sustainable construction of buildings and the energetic optimization. For example Miguel Torres is the first in Europe to use a solar-electric train for wine tourism visits to reduce CO₂ emissions or new stainless steel tanks to reduce the energy needed to maintain the optimum temperature.

In the industrial sector the overall concept for the sustainable use of energy and other natural resources makes Bodegas Torres a best-practice example for an adaptation of the production methods in times of climate change.



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Interfloat Corporation *Principality of Liechtenstein*

Industrial and commercial companies or farmers

Best-practice example of an economic transformation in a declining coal region, by fulfilling a corporate structural change in Lusatia

Lusatia is a large European region along the German-Polish border in the state of Brandenburg surrounding the German capital, Berlin. It has been the focus of intensive brown coal mining for more than two generations. Some of Europe's dirtiest coal fired power plants sit in Lusatia and yet, the region is also home to some of Europe's most hopeful examples of economic change based on - and driving - the renewable energy revolution.

One of these forward looking examples is Glasmanufaktur Brandenburg (GMB). It is a large European manufacturer of solar glass, whose parent company Interfloat Corporation was founded in 1982 by Josef Weikinger. As the first European importer of solar glass from the USA, the company invested in the research and development of innovative solar glass and has evolved from a long-term trading partner for

the solar industry to a producer and reliable investor in Brandenburg. In 2008 Interfloat built its own solar glass factory (GMB) in Lusatia, establishing, defending and advancing an important bridgehead for the European solar industry – holding a 40 percent market share.

The energy transition has mostly winners, but there are also losers. In the transformation away from fossil fuels and nuclear power, strategies are needed to replace the energy infrastructure and move from centralized to distributed power. Developing a new economy, building new supply regions and founding nurture local, regional and global communities based on renewable energy are the main tasks in the social and economical changing process.

With successfully establishing a large production facility and with employing hundreds of skilled workers, Interfloat is a most significant player in pioneering an European regional energy and economic transformation in Lusatia – from the ground up. While governments sleep, industry can act!



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Repowering London *United Kingdom*

Local or regional associations / organizations

Establishment of a grassroots organized community-power development in London's Brixton neighborhood

The non-profit organization Repowering London is specialized in facilitating the co-production of community owned renewable energy projects. The aim is to create resilient, empowered communities that control and own the generation and usage of renewable energy by building solar panels on London's social housing blocks and community buildings with investments from local residents.

To reach this goal the organization provides community groups technical, financial, legal and administrative expertise and access to a network of potential investors. Residents have the possibility to invest in a community solar project and generate an annual return of their investments from the sale of electricity to the grid. The community also benefits from intern-

ship opportunities for young people in different fields of activities. Additionally 20 percent of the profit goes to energy efficiency initiatives which help local people to reduce their energy bills. A collaborative approach ensures that the interests of the community are included in every step of the way.

Supported by Repowering London, Britain's first inner-city community-owned solar power stations has been launched in Brixton neighborhood in 2012. As part of the Brixton Energy Project, six local young people were benefited from paid work experience and 25 locals were engaged in a paid internship programme.

So far, the organization has installed 132 kWp of community owned renewable energy plants, saving almost 60 tons CO₂ per year. With this, Repowering London illustrates impressively how a bottom-up energy transition can take place and generate social, environmental and economic benefits.



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Zusamme Solar! Colmar *France / Germany*

Owners and operators of renewable energy installations

Role model and inspiration for common European renewable energy projects across national borders and juridical frontiers

The renewable energy transition is not just a matter of sovereign nations. Due to its availability, production and consumption do not stop at national borders and juridical frontiers. It is a common project of all European countries leading to a 'Renewable European Energy Union'.

A pioneering example of a cross border cooperative is the solar project of fesa Energie Geno eG and Énergies Partagées in Colmar. In 2014 they realized a French-German joint venture, building four grid-connected solar plants with 100 kWp each, three different feed-in tariffs, and two grid operators. The process, leading to the first known renewable cross border project, was not easy: financing, bureaucracies,

misunderstandings and many other problems had to be solved. German banks did not want to finance a project in France. It was too small to be considered for an international project. French banks did not know how to deal with a German energy cooperative. In the end, after a lot of work and patience, a French cooperative bank and also the region of Alsace funded the idea.

Beyond all these burdens and against all odds the project Zusamme Solar! is a vision shared by people on both sides of the Rhine. It is reflected in the name 'Zusamme', which is a word from the regional dialect shared across the Rhine and means 'together'. If we stand together for renewables, we can turn that vision into reality! Joint ventures like Zusamme Solar! inspire the idea of sharing renewable energy, concepts and ideas. They carry us step by step towards a vision of Europe, powered by 100 percent of its own renewable resources.



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Weisse Arena Gruppe *Switzerland*

Transport and Mobility

On the way to the world's first self-sufficient winter sports resort with a PV-powered ski lift, diesel-electric snow groomers and heat recovery units

Ideally integrated PV installations for a sustainable operation of chairlifts in the middle of a large ski resort? Such an innovation can be found in Laax, where the Weisse Arena Gruppe, a pioneer in the field of tourism and leisure, is pushing and supporting several future-oriented projects with the slogan 'Revolution on the mountain'.

Since 2011, the corporation has taken different measures to become the world's first self-sufficient winter sports area. A highlight in the year 2015 was the installation of the fifth aesthetically pleasing chairlift station. This has been built out of sustainable building materials and mainly local wood with a perfectly integrated PV-facade-system, fitting charmingly

into the magnificent mountain scenery. In total, the five PV installations with a performance of 74.6 kW each are producing about 84.200 kWh/a.

The whole masterplan includes an increase in energy-efficiency of the mountain lifts, diesel-electric snow groomers recuperating electricity when driving downhill, heat-recovery units as well as the 'Sinfonia d'aua', a comprehensive water protection and water use system. With its sustainability concept 'Greenstyle', the corporation is furthermore considering every activity and every process from the perspective of ecological sustainability.

The next main project will be a wind farm project on the Vorab glacier region. The wind potential on the Vorab Glacier is estimated to cover the energy demand of the entire resort. This would be one step closer to achieve the main goal of the Weisse Arena Gruppe to be the first self-sufficient alpine resort in the world.



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nph deutschland e.V.
Germany

One World Cooperation

Implementation of a solar smart grid to cover the energy demands of 15 humanitarian programs in Haiti

Tabarre is a district of Port Au Prince, where nph Haiti and foundation St. Luc are running several medical and educational institutions for helping the poor population. The facilities depend on a stable power supply throughout the day and night. As Haiti does not have a reliable electricity grid, diesel generators are used to produce electricity – causing environmental damage, health issues and incurring significant costs.

After the devastating earthquake in 2010, where half a million people lost their lives and more than one million lost their homes, nph deutschland e.V. and Biohaus foundation decided to support the reconstruction of the country and to create a new sustainable and resilience energy infrastructure. Together with other organizations they implemented a solar

smart grid in Tabarre, connecting 15 humanitarian programs to one electrical network, which will be supplied with 650 kWp solar energy and a battery-storage-system.

This way almost 100 percent of the daily energy requirements of the facilities can be covered by renewables. The donated solar panels on the rooftops not only reduce pollutant emissions significantly, they also make the benefitted buildings more independent from the grids and diesel and can save up to 4.000 Euro per month.

In addition to this, a professional training center was developed in the district to train local technicians in installing, maintaining and operating solar systems and plants. This deep approach of a sustainable self-help provides an important contribution to the sustainable and climate-friendly development in Haiti and can be easily transferred to other developing countries.



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Energy self-sufficient community of Kisielice *Poland*

Towns, municipalities, council districts, public utilities

Outstanding commitment and role model of a renewable development in Poland on local scale

Kisielice is a small town in the province of Warmia-Mazury in the North of Poland. Over the last five years, the town has taken steps to abandoning its dependence from coal, reducing emissions, and improving the air quality. Nowadays it is producing 100 percent of its energy demand with renewable energy on local scale.

In corporation with its inhabitants the municipality of Kisielice attracted foreign investors to build wind farms on remote patches of farmland. The farmers, who agreed to install a wind turbine, receive around 5.000 Euro per year, per turbine. Three wind farms including 52 turbines with a capacity of 95 megawatts have already been installed. More are yet to be planned.



With the tax revenue from the foreign companies and grants from the European Regional Development Fund, the town also realized a central heating network connected to a six megawatt biomass boiler plant that runs on cereal straw delivered by local farmers. The network supplies 250 buildings and serves more than 90 percent of the town's population. In 2013 a biogas power plant was built additionally, fueled by silage corn also supplied from local fields. This setup provides additional income to many residents.

The strategy of the community, to become energy self-sufficient, is unique in Poland – a country whose electricity consumption is 90 percent powered by coal. Kisielice is a role model for other small cities in Europe and all over the world. It shows that an energy transition on local scale is possible – even with the presence of difficult country-specific policies and the prevailing reliance on conventional power generation.

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Heliograph

Heliograph is a current term for a device called sunshine autograph, a meteorological instrument that can be used to determine the duration of sunshine of a day. It works on the principle of a burning glass when its glass ball is hit by direct sunlight. Through the changing angle of the sunshine in the course of a day the burning point moves on. With a special paper stripe you receive a burned line from which you can easily conclude the duration of sunshine.

The Solar Prizes sculpture was created by Emil Schult, who had been inspired by this instrument.

