



power  
expo+

VI Feria Internacional  
de la Energía Eficiente  
y Sostenible

VI International  
Exhibition on Efficient  
and Sustainable  
Energy

24-26  
septiembre/  
september  
2008

Organised by:



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## Editorial

In the last week of September, Saragossa will host the 6<sup>th</sup> PowerEXPO, International Fair on Sustainable and Efficient Energy. Starting this year, this prestigious exhibition adds a "plus" to its name, to become PowerEXPO+, to reflect the fact that the pillars of its success have been built on. Those pillars are:

**+ Experience.** The 2008 edition will be the sixth in a string of successes that have made PowerEXPO the largest trade fair in the Sustainable and Efficient

Energy sector in Spain, and one of the most important in Europe.

**+ Exhibitors.** In 2006, PowerEXPO brought together 458 exhibitors from 24 countries, filling three halls and a large space outside of the magnificent Saragossa Trade Fair Centre. And everything indicates that the 2008 edition will be far bigger.

**+ Professional visitors.** The visitor headcount at the last edition (over 10,500) will in all probability be

surpassed by a large margin in 2008, while the event's exclusively professional focus will be kept intact.

**+ Innovation.** Technological innovation has been a constant at all the past editions of PowerExpo; this feature will be even more spectacular at the coming show.

**+ Business.** PowerEXPO has proven to provide an exceptional setting for finding and exploring important business opportunities.

**+ International projection.** PowerEXPO brings to the Spanish market the most advanced international developments and gives Spanish companies a unique opportunity to expand their international projection.

**+ Specialization.** PowerEXPO encompasses efficient and sustainable energy of all types, but grouped into specific sectors to assist exhibitors and visitors to optimise their time and efforts.

## Regulations

### The photovoltaic industry looks to the future

The solar photovoltaic industry, the sector that grew the most from the 2004 to the 2006 editions of PowerEXPO, is currently in contact with the Spanish energy authorities concerning the regulatory framework that will govern its development in the future. As part of this process, at the end of November, the Photovoltaic Industry Association (ASIF) and the Association of Renewable Energy Producers (APPA) presented their proposals for the conditions that they consider will allow pv energy to grow at a stable, sustainable, and sustained pace of 20% a year, and thus to contribute significantly to the renewable-energy targets for 2020. According to ASIF and APPA, meeting the established targets and an expected 20% growth in the electricity demand by that time, requires installing 400 to 500 MW early in the process and increasing to approximately 20,000 MW by the end of the next decade.



To maintain a sustained annual growth of 20%, the German System has been proposed. This model applies an annual rate reduction with periodic revisions to account for the evolution of technology; but it does not set limits in terms of installed power.

## Evolution

### PowerEXPO: big leaps from one edition to the next

While PowerEXPO 2006 was spectacularly larger than PowerEXPO 2004, judging from the space bookings received to date, PowerEXPO+ 2008 will not only be far bigger still, but it will be more international in scope, with clearly differentiated zones, including sectors that will be present for the first time.

PowerEXPO 2006 occupied three exhibition halls for a total area of 22,000 m<sup>2</sup>, plus an outdoor area containing some of the most spectacular pieces of equipment at the show. A total of 10,506 professionals visited the event, 44.3% more than in 2004; and 458 exhibitors took part, an astounding 118% hike over the previous edition. The undeniable international appeal of PowerEXPO was demonstrated by a substantial percentage of foreign exhibitors, and visitors, from 26 different countries.



## Hydrogen

### Advances in hydrogen technology

Hydrogen technology has now moved beyond the R&D phase into the industrial phase, with some projects already on the market. The sector calls for an event to propitiate the interchange of knowledge and experience.

The Aragon Foundation for the Development of New Hydrogen Technologies plays an important role for the companies involved in this activity in the Region of Aragon. For the upcoming edition of PowerEXPO, the Saragossa Trade Fair Centre has reached an agreement with the Foundation, by which the leading firms in the sector will be exhibitors at PowerEXPO+ 2008.

#### Fuel cells

Private companies and energy authorities are carrying out groundbreaking projects in Saragossa using fuel cells, which transform fuel and the hydrogen in air into electricity, heat, and water through an electro-chemical process. This technology and bio-fuels represent the non-polluting alternatives for the transportation sector. Several leading vehicle manufacturers have prototypes, and according to the European Hydrogen Platform, by 2020, there could be more than 6 million automobiles running on hydrogen.

The Spanish Fuel Cell Association (APPICE) has made significant efforts to further the development of this technology.



Through its collaboration, significant recent advances in this field will be seen at PowerEXPO+ 2008.

## Wind power

### Wind power, a leading role at PowerEXPO+ 2008

From the first edition of PowerEXPO, wind power has played a key role, and it will continue to do so in 2008, mirroring its importance in the Spanish energy mix. The sector has new challenges to face but its prospects are still great, as was made clear at the 2<sup>nd</sup> General Meeting of the Spanish Technological Network of the Wind Sector – REOLTEC held last September. In his keynote speech, Ignasi Nieto, Spain's Secretary-General of Energy emphasized the important contribution of wind power in this country in terms of generation and cost reduction, "the route that other renewable technologies should follow". He also underlined the importance of maintaining the current growth rate in order to reach the Government's goal of 35,000 MW by 2020, and, potentially, 44,000 MW by 2030.

The Wind-Power Business Association (AEE) sees the importance of coordinating programs and projects to optimize resources and Spain's technological potential. The AEE expressed its disagreement with some of the points in Royal Decree 661/2007, but did recognize improvements with respect to the first draft that the government sent to the CNE (National Energy Commission). The association also confirmed its intention to continue working toward the established goals.



## Offshore wind power

Offshore wind power will be an outstanding sector of PowerEXPO+ 2008. This promising technology is of special interest to countries with a high population density and a shortage of adequate sites for land wind farms. According to a Government forecast, by 2030, offshore wind power could account for 8,000 of the 44,000 MW contemplated in the plan.

There are clear disadvantages to the offshore wind alternative, such as the costs of subsea construction, but these are offset by its large energy production capacity and the long life of the wind turbines employed. Additionally, it has the approval of environmental organizations such as Greenpeace, which see no threat to the environment in this type of wind farm. It is important to note that not all coastal areas meet the requirements of this technology. Wind turbines must be located at least 2 km from the coast, in shallow water, far from sea trade routes, military facilities and protected natural spaces.

## Offshore energy in Spain

There are Spanish companies with sufficient expertise and capital to become the market leaders in offshore wind farm development abroad. The Spanish Institute of Foreign Trade (ICEX) takes advantage of PowerEXPO to help promote the national wind-power sector by organising trade missions that bring potential costumers and partners in contact with Spanish firms, with PowerEXPO as the meeting ground.

Spain itself has also become a market for this business, as several potential sites for offshore wind farms have been identified off its coast.

## Meeting

### PowerEXPO+ 2008 Steering Committee, a reflection of the energy industry

The first meeting of the PowerEXPO+ 2008 Steering Committee was held at the Institute of Energy Efficiency and Diversification (IDAE) in Madrid on 23 October. The meeting was attended by representatives from the key organizations and companies in Spain's energy industry, who expressed their intention to contribute to creating one of the most important encounters of the supply and demand sides of this market in Europe this year.

The Steering Committee is co-chaired by the Department of Energy, Trade and Tourism and the Directorate-General of

Energy of the regional Government of Aragon. The Institute for Energy Efficiency and Diversification (IDAE) represents the Ministry of Industry of the central Spanish Government. Associations and institutions such as AEE, APPA, ASIT, ASIF, PROTERMOSOLAR, CIRCE, ACOGEN, and COGEN España sit on the Committee as well. The Spanish Institute of Foreign Trade (ICEX) plays a role in the international promotion of the event. Expo Saragossa 2008 also forms part of the Committee, as do representatives of the leading companies in the fields of sustainable and efficient energy.

## Steering Committee Members

The PowerEXPO+ 2008 Steering Committee is made up of representatives from the following leader companies and organizations in sustainable and efficient energy:

### INSTITUTIONS/ASSOCIATIONS

- Government of Aragon:
  - Arturo Aliaga, Department of Industry, Trade and Tourism
  - Pilar Molinero, Director-General of Energy
- IDAE, Enrique Jiménez Larrea, Director-General
- APPA, José María González Vélez, Chairman
- ASIF, Javier Anta, Chairman
- ASIT, Juan Fernández, Chairman
- PROTERMOSOLAR, Valeriano Ruiz, Chairman
- Wind-Power Business Association, Juan Carlos Martínez Amago, President
- Aragon Foundation for the Development of New Hydrogen Technologies, Luis Carlos Correas, Director-General
- CIRCE, Antonio Valero, Director
- ACOGEN, Andrés Seco, Director-General
- COGEN España, José María Roqueta, Chairman
- ICEX, Fernando Nicolás, Head of Technical and Projects Department

### COMPANIES

- Abengoa Solar, Pedro Robles
- Endesa Cogeneración y Renovables, Fernando Ferrando
- ENEL Unión Fenosa Renovables, Rosario Arroyo
- NEO Energía, Enrique López
- Red Eléctrica de España, Alberto Carbajo

### ORGANISERS

- Saragossa Trade Fair Centre:
  - Manuel Teruel, President
  - José Antonio Vicente, Director
- InfoPower:
  - Antonio Alarcón, Publisher

## Saragossa

### Saragossa, in the international spotlight in 2008

Saragossa is now one of the best cities in Spain for holding international events, due to its location and infrastructure. It is an easily accessible destination for visitors due to its convenient transportation network; the airport is just 10 km away, and the city can be reached from anywhere on the Peninsula by train. As of 2005, a high-speed



train (AVE) has reduced travel time between Madrid-Saragossa to just an hour and a half.

On the other hand, Saragossa will be identified with sustainability throughout 2008. The Saragossa Expo will be held from June to September, based on the theme "Water and Sustainable Development". Some 100 countries and international organizations take part in the event. Just a few days after the Saragossa Expo 2008 closes, PowerEXPO+, EcoBuilding, and ExpoRecicla will make their contribution to that all-important goal.

If you would like to receive more information on the coming International Energy Conference and Exhibition PowerEXPO+, in September of 2008, please contact:



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## Cogeneration

### High-efficiency cogeneration stages a comeback

Cogeneration will play a prominent role at the upcoming PowerEXPO. Though the sector has gone through difficulties over recent years, it has recovered much of its past strength. The presence of experts in high-efficiency cogeneration and specialized companies on the Steering Committee is a clear sign that the sector intends to be present at PowerEXPO+ 2008.

COGEN España and ACOGEN represent many of the companies in this field. ACOGEN's presence for the first time on the Steering Committee is significant. Indeed, the sector is aware that PowerEXPO+ will help to consolidate the ground regained by this activity.

On 21 November, ACOGEN held its Annual General Meeting at the Casino of Madrid, where it presented its report the "Current State of Cogeneration in Spain". The report stated that the recently-enacted Royal Decree 661 "has strengthened the confidence of the companies in the sector". The Association estimates an investment in CHP plants in Spain up to 2012 in excess of 450 million euros.



## Thermosolar

### Thermosolar energy, a bright future

PowerEXPO+ 2008 will cover the full spectrum of solar energy systems, including thermal, photovoltaic, and the rapidly growing thermo- or high-temperature solar. Representatives of the leading associations and companies in this sector, which has had a highly successful launching in Spain, sit on the PowerEXPO+ 2008 Steering Committee. The first "World Solar Power 2007" was held in Seville in October, 2007. More than 170 leaders in the thermosolar sector attended this conference, during which, the Institute for Energy Efficiency and Diversification (IDAE), and the Spanish Electricity Distribution Network (REE), pointed out that seven projects are currently underway in Spain, for a total of 350 MW. Due to its potential contribution to the fight against climate change, thermosolar energy is expected to see spectacular growth over the coming years. Here too, Spanish companies, one represented on the PowerEXPO+ 2008 Steering Committee, are poised to play a leading role in the development and application of both high-temperature and photovoltaic technologies.

