"Solar thermal has many more uses now"

Werner Weiss of Austria is chair of IEA SHC.
Photo: AEE Intec

Early in June 2012, experts from around the world met in San Francisco at SHC 2012, the first international solar thermal conference. It was held by the International Energy Agency's Solar Heating and Cooling Programme (IEA SHC). In an interview with SUN & WIND ENERGY, SHC Chairman Werner Weiss explains why they opted to stage their own conference.

S&WE: Mr. Weiss, how would you sum up SHC 2012?
Werner Weiss: Quite positively. It was the first international conference that focused on solar heating and cooling as well as solar buildings. There hasn't been this kind of event up to now. It was a promising start for a new conference that will now be held every year.

S&WE: What was the highlight of the conference for you?
Weiss: The conference demonstrated that solar thermal is no longer limited to supplying heat in single-family homes and apartment buildings. It has many more uses now. Industrial applications are on the rise, for example, as is use in utility-scale plants and district heating grids.

S&WE: Are you disappointed that a fairly small number of presentations were from the US?
Weiss: You can always expect more. However, this did not come as a great surprise in view of the market situation in the US. The IEA SHC's executive committee chose San Francisco two years ago, when there was hope that Barack Obama would get things moving in renewable energy. However, this hope did not materialize for solar thermal energy. But I think that the conference also brought our North American colleagues closer together again.

S&WE: Why did the IEA SHC decide to stage its own event in the first place?
Weiss: These days, all of the renewable energy technologies have solid enough footing for their own conferences. So far, however, solar thermal energy has just been one of several topics at international scientific conferences, like those organized by the International Solar Energy Society ISES. We thought that the IEA SHC had great potential for its own event, since it already had twelve very large global projects. If you also invite those who conduct research in solar thermal energy elsewhere, it is well worth its own conference. We had already teamed up with ISES Europe at the EuroSun conferences in Lisbon, Portugal, and Graz, Austria. After those conferences, IEA SHC's non-European members expressed their wish to have an event outside Europe.

S&WE: Although, in 1977, the IEA SHC programme was one of the first international cooperation projects launched by the IEA, the agency has not exactly stood out as a strong advocate of renewable energy since then. To what extent can research on solar thermal energy be conducted in such an environment?
Weiss: The IEA Head Office in Paris did not greatly influence the subject matter of our work. We were able to decide for ourselves what to focus our research on. The decisions only depended on the countries which participate in the programme. This means that we were able to work independently right from the start. However, it must also be noted that the IEA was not particularly interested in our results for decades. In my opinion, this only changed with the creation of the International Renewable Energy Agency IRENA in 2009, which marked a sea change. We suddenly noticed that even the IEA had developed an interest in solar thermal and other types of renewable energy.

S&WE: At SHC 2012, Paolo Frankl, Head of the IEA's Renewable Energy Division, presented a Roadmap for Solar Heating and Cooling that sees great potential in solar thermal energy and calls for a better policy framework. Do you feel that you've had a hand in this success?
Weiss: This illustrates the extent of the change at the IEA and is certainly a reward for our work over the past few years. It should, however, be noted that the G8 countries required the IEA to prepare

roadmaps for essential energy technologies three years ago. Solar thermal technology can sustainably be used in all corners of the world. This was certainly one of the reasons why it was one of the first technologies that the IEA looked at. In any case, it shows that we succeeded in putting solar thermal technology front and centre. I think this is also thanks to the close cooperation between research and industry as part of IEA SHC. I consider this joining of forces to be a particular success in the recent past.

S&WE: What does it consist of, exactly?
Weiss: At IEA SHC, we have regularly organized meetings with solar thermal industry associations for six years. The meetings' first visible success was an agreement on converting square meters of collector area to capacity measured in watts. Moreover, IEA SHC Task 43 A, which works on certification and testing procedures, cooperates very closely with industry associations. SHC 2012 is another result of this cooperation. After all, the idea is to organize the annual conference jointly with industry associations from the continent that is hosting it that particular year. In San Francisco, for instance, we worked with the California Solar Energy Industries Association and the Canadian Solar Industries Association, and next year it will be the European Solar Thermal Industry Federation in Freiburg. For its part, the European association will stop organizing its own conference, Estec. This once more illustrates the joining of forces and shows that we are ready to act jointly and represent the reinforced cooperation between research and industry.

S&WE: What developments make you especially hope that a bright future is in store for solar thermal energy?
Weiss: A key issue in our current projects is storage with high energy density, which we will have to find solutions for within the next few years. I am fairly confident that we will find them, because the industry is strongly committed to these projects. In addition, new medium-temperature collectors are needed to open up new markets. A few things have already been achieved in this area.

The interview was conducted by Joachim Berner.

IEA SHC: the international solar thermal community

Since 1977, scientists from several countries have teamed up to find solutions for solar thermal energy in the IEA SHC's work groups. Today, 13 European countries, the European Commission, Australia, Canada, Mexico, and the US take part in the cooperation. Recently, China, Singapore, and South Africa joined them, extended the organization's international reach. India and Turkey will also most likely join soon, while talks are being held with Brazil and Chile.