

## Dr. Hans Kronberger

In this interview of the expert interviews series we talked to Hans Kronberger, President of the Federal Association Photovoltaik Austria.

Photovoltaic Austria is the interest representation for the photovoltaic industry in Austria. The association is not geared towards profit and acts as a non-partisan company. The main objective is the improvement of the basic conditions for photovoltaics in Austria.

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### **How would you characterize the domestic PV industry?**

In principle, it can be said that there are about 100 domestic enterprises in Austria, which are mainly active in the PV or PV supplier sector. However, many companies are active in several areas and produce, for example, plug connections or installation systems not only for the PV. The most important importance for domestic PV industry is probably the production of inverters since Fronius is the third-largest inverter manufacturer in the world, a domestic company. The Austrian company Isovoltaic is the technology and market leader in the field of plastic coatings for module backings. We are also well positioned in the supplier industry. This applies to inverters as well as plastic coatings of the module backs, the connection wires of the modules in the string structure and certain plastic components such as plugs and connecting cables. Today, 30 percent of the value added is in the module area, 70 percent in assembly / erection / installation and "bringing to the grid".

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### **What are the advantages and disadvantages of Austria as a location for PV companies?**

As an advantage, I see the qualification of the staff or the skilled workers in Austria. For this reason, Austrian companies will continue to hold their position in Austria in the future. One disadvantage is, in my opinion, that the domestic market is rather small for testing new developments.

What do you think is that Austrian companies are the technology leader or are at the top?

Such companies have recognized trends in time and put them on this expanding industry. Even in the storage technology, which is paired with the PV industry, domestic companies are in the international top field. However, it will not be easy to keep this technology advance in the next 10 to 15 years, since of course research is being carried out world-wide.

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### **In which markets are domestic PV companies predominantly active?**

Currently the Asian region is as interesting as Western Europe - especially in the area of inverters. In the future, the focus will be on the CEE countries. These countries have a strong interest in reducing their own energy import dependency.

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### **Which factors are decisive for the development of the domestic PV industry?**

Developments in Austria are strongly dependent on how quickly a strong market can be built. It is also decisive how well the manufacturers are able to achieve their high quality. Many end users do not distinguish between bulk goods and quality goods. In the future, however, there will be very strong demand for quality products.

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### **Does the Austrian Green Electric Power Act have the potential to develop a good domestic market?**

Basically, with the secondary laws, yes. However, other subsidies, for example for small plants below 5 kWp, are also decisive.

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### **How do you think the PV industry and PV expansion will develop in the coming years?**

Due to the price of oil, the scarcity of fossil raw materials and the forced withdrawal of nuclear energy, the amount of equipment will grow strongly. As far as the international PV industry is concerned, a certain concentration of large international corporations is currently apparent. Currently, 40 companies have 80% of the market share. This will reduce, fewer companies will dominate the market. These companies will be located in the module area in China, Japan and South Korea, India will also gain in importance.

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### **What major technological changes are expected in the PV sector in the coming years?**

I do not believe there will be any serious technological changes. The technology continues to evolve naturally, but is almost fully developed. The largest research area currently is storage technology. Hydrogen storage and use via a fuel cell is already advanced and serious storage will be developed over the next 10 years.

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### **Do you also see a market for expensive innovations, or is it primarily the price to be successful in the market?**

In many cases, the predominant way of thinking is still as cheap as possible. But there will be a lot going on in the coming years, and we will also focus on quality on an international level. If the first quality inferior modules are no longer functional, the rethinking of the industry will take place.

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### **To which regions is the sales market of the main producers of the PV industry moving?**

Everywhere where there are legal requirements similar to the German Renewable Energy Act (EEG). I believe that, in four to five years, grid parity will also be achieved in countries with

average sun exposure such as Austria.

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### **How will the very dynamic international PV industry develop in the coming years?**

This topic is closely linked to grid parity. Saving potential on the part of producers still exists in the electronics sector, for example, in the inverter. Mass production is also to be foreseen in the installation technology price reductions. But there will be no longer such price increases as in the last few years. On the other hand, it is, of course, still crucial how much the price of electricity increases.

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### **Which environmental technology fields do you think are the most promising future potentials for domestic companies in the national and international market?**

In the energy sector, the construction of pipelines is crucial, as there is still a lot to be done. There is great potential for development in water management and waste management / recycling / processing. In these areas, the development of domestic companies is even better than in the PV, as a continuous development took place, and no leaps as in the PV. In the area of waste water disposal, Austrian companies have many products that are in the international top field. We are also an important supplier to the international wind industry, for example in turbines, oil and gaskets.

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### **What international markets are currently playing a priority role for domestic utilities?**

In the area of waste, those are all those countries which are still very lax on the subject. These countries will not be able to sustain this in the long term, as the impact will be too dramatic.

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### **What is necessary for an Austrian company to take a leading position in the environmental technology sector?**

The market is important, it is the market for experimentation and development. Starting out from a good market, an international market entry is much easier.

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### **In which areas of technology do you see niches in which domestic companies can / should become market leaders in the future?**

I see niches in the refining / recycling of waste or in the entire area of the material flow management. One example is the refining of fats / oils for fuel additives or for the production of other useful substances.

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### **What are the obstacles facing domestic environmental technology operators in new product developments / innovations or with established products, and how can these obstacles be countered?**

A main obstacle is when there are no clear political framework conditions for the application of environmental technology, but developments or the application of environmental technology

are based on the goodwill of the user. Contradiction is possible through political guidelines, including sanctions in the event of an infringement. These should be as internationalized as possible, at least at European level. Voluntary considerations are not relevant, especially in the field of energy efficiency. In the long run, these requirements are also an advantage for the domestic industry, as the technology developed on the basis of the strict requirements can then be sold internationally. An example of this is exhaust gas technology in the automotive industry.

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### **What support does the industry need for a continuous development of the respective environmental technology areas?/strong>**

R & D funding is a substantial part of any new technology. In the R & D activities, I am currently seeing Austrian PV companies in the midfield.

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### **Is the domestic environmental technology sector sufficiently networked?**

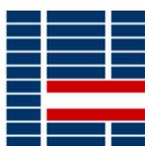
There is certainly a need for optimization in this area. It would make sense to think about cooperations that are not yet there to complement each other so well.

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### **Does the local environmental industry have a "uniform appearance"?**

No, but it would be necessary.

### **Dr. Hans Kronberger ist Journalist und Energieexperte**



PHOTOVOLTAIC  
AUSTRIA  
FEDERAL ASSOCIATION

**1951:** Geboren in Hall bei Admont

**1971–1979:** Studium der Publizistik und Völkerkunde in Wien

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**1996–2004:** Mitglied des Europäischen Parlaments

**2000:** Generalsekretär Eurosolar Austria und Vize Präsident von Eurosolar International

**2005:** Gründung und Vorstandsvorsitzender des NeuStifterKreises (Gesellschaft für Erneuerbare Energie, Energieeffizienz, Friedens-, Sozial- und Wirtschaftspolitik)

**seit April 2008:** Präsident des Bundesverbandes Photovoltaik Austria

**seit Jänner 2011:** 1. Stellvertretender Obmann des Dachverbandes Energie-Klima

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