

## World Wind Energy Conference and Exhibition, Berlin, 2-6 July 2002

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It has been a challenge in the preparation of this conference and in the formulation process of the Association that the members from all the continents felt like equal partners in the international wind energy community.

We are trying to bring support and fresh air to the debate in countries where the resource may be good but governments are still reluctant to promote wind energy irrespective of all its benefits to the environment, job creation etc.

However, the primary and most urgent task we have to solve is to help our member associates to develop and at the political level implement appropriate legal instruments that are well designed to obtain measurable shares of clean energy to the consumers. There are no longer technological obstacles to overcome. A number of highly professional manufacturers with decades of experience in the construction and manufacturing of equipment can satisfy all needs and requirements.

Time is over when you could only purchase a small 55 kW windmill with poor documentation.

Through the combined efforts of research laboratories and industry every thinkable product driven by the wind is available. Sizes up to 3-4 MW, land based or off-shore. But also small units for the individual household or for stand alone applications. There are 2 billion people living in un-served areas in the developing countries, for many of them energy supply by wind power may prove to be the ideal solution, bringing the benefits of modern technology without causing imports of scarce fossil fuels.

Even though wind energy has been used for centuries, wind power in its present context is a young energy technology. I still remember the situation with the first oil crisis in the mid-70'ies.

In my country, Denmark, we desperately needed alternatives to fossil oil that covered our energy supply 100%.

There was absolutely no possibility to buy a commercial windmill, no industry anywhere in the world from which you could obtain information. Even a photo of a wind turbine reflecting contemporary industrial design could hardly be found. But out of numerous attempts and

failures the present well-known windmill emerged, now often considered being among the very cheapest and most realistic new sources of energy for the future.

A few countries have been the pioneers within wind energy and paved the way for the implementation at the global level. Well functioning and economical windmills combined with reasonable wind resources are basic prerequisites for wind power application. But not itself sufficient. This is the lesson of the short history of wind power. Energy is everywhere subject to public regulations which in general are highly in favour of the well-established power technologies getting their fuel from fossil coal, oil and uranium. Experience shows that besides good technology and reasonable wind resources, successful and measurable implementation of wind power has three additional conditions:

1. the right for independent power producers to connect to the grid
2. the grid operator is obliged to buy the power
3. the feed-in prices must be guaranteed by government and long-term conditions.

Not all countries and not all continents will obtain their successes by applying exactly the same policies that have opened the market for wind power in the pioneering countries. However, we would be naïve to expect that new, capital intensive power technologies can be developed in markets that for 100 years have under the control monopolies that globally are receiving 300 billion dollars in direct and indirect subsidies every year.

Furthermore, the new decentralized energy farms often have to manifest themselves in markets with excess overcapacity in the power sector.

It is not a coincidence that this conference was an initiative of progressive organisations in Germany. Without having the very best wind resources a combination of legislation, mature technology and high motivation in the population has demonstrated to the rest of the world, that even an industrialized country with high population density it is possible within a short time span to give wind power a measurable role in the supply of electricity. When it is possible in Germany, countries with much better wind resources can do it even better. It requires, however, that the political will and proper legal framework are made available to the population. In such case the German experience can be repeated again and again to the benefit of our common future.

But even if there are clear rationales in favour of the new clean energy solutions, we also see that some small rich countries are seeking back to coal and nuclear power. After 25 years of successful implementation the new right-liberal government in my own country, Denmark, this year decided to cancel all renewable energy programmes. Renewable energy has in the meantime captured 20% of the market from the old coal monopoly, so here we see a reaction to a successful RE policy that gave the country 25,000 new jobs and world leadership in the export market. Denmark can only hope other countries will not follow its example, then the new industry will vanish. But also the neighbouring countries Finland and Sweden are reluctant. Finland has chosen to build its fifth nuclear power reactor irrespective of good wind resources, and Sweden refused the guaranteed price system recently, being the most efficient legal implementation instrument.

Ten years after the first global conference to focus on energy and the environment - the earth summit in Rio - the world is still not on the right path: Fossil fuels and nuclear energy are still causing most of our environmental and climatic problems. The winners in Rio were not the renewable energies; but the promoters of oil, coal, gas and nuclear power were victorious. the USA, the Arab countries and a few others blocked the decision to take the necessary steps to change the direction.

In the meantime there have been several international climate conferences with the Kyoto Protocol as the trademark for the concerted effort of the world community to combat harmful emissions. Five years after Kyoto, however, reluctance and scepticism characterise the follow-up initiatives of the Kyoto Protocol. Which is very understandable: Comprehensive control mechanisms and an enormous world bureaucracy are required to secure fulfilment of the national obligations, which is not in the spirit of the enthusiasm that

is required to make the energy of the sun the driving force of energy supply and consumption.

The fact that the world oil production will peak as soon as around 2010 and decline thereafter, along with measurable climatic changes caused by the combustion of fossil fuels - these should be reason enough to address the urgent need to decide in Johannesburg on efficient strategies and priorities to completely substitute fossil and atomic energy sources. Global dissemination of full range of renewable energy technologies should rely on experience gained from the most successful implementation strategies, based on legal, political and social frameworks considering the decentralized nature of the renewable energies. Local and rural communities and people should play an active role and benefit directly.