Oldenburgische
Industrie- und Handelskammer

Statement

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The title of the current symposium reads: The Wadden Sea Region as an important player in the European energy market? But why the question mark? According to our estimation right now the Wadden Sea region is an important player in the European energy market and will extend this position within the next years. If we take a look into the future, we will find here all energy ressources which according to the experts will contribute essentially to the power supply in Germany up to the year 2020 – presumably even up to 2030.

The share of the renewable energies - and here especially wind power - will rise rapidly within the next years. Nevertheless we cannot do without fossilized energy such as natural gas or hard coal and probably also not without the peaceful utilization of nuclear energy. We need the Wadden Sea area for exploration of natural gas and crude oil also in future. And we have saline formations for the storage of gas and oil. Obviously the Wadden Sea region offers the most advantage of location for all these energy resources. We should make use of this advantage and develop the region to become an important energy market in Europe. This implies that people living and working on the border of the Wadden Sea region have to take care of the other people living in the more central parts of Europe.

As far as windenergy is concerned the positive way is marked: Onshore and offshore enormous rates of increase are expected. In many land based wind parks, old wind power plants will be replaced by new more efficient plants within the next years. However this repowering is limited to suitable areas, where it is possible to erect larger and even taller plants. This problem is unknown to offshoreparks. There 5 MW plants with heights of the rotor blades of more than 150 meters are erected. Up to the year 2020 alone more than 1500 wind power plants with a total power of about 7200 MW are supposed to be erected in the North Sea by Germany. This means 6.8 millions households could be supplied with electricity. Wind power contributes with more than 19% in the total electricity consumption of the North-German provinces . That is more than twice as high as the German national average.

The expansion of wind power means positive effects and large requirements. However problems will rise, too. For example new jobs are created in many economic sectors. The number of subcontractors and suppliers will increase.
New requests have to be mastered when erecting offshore wind parks. The relatively narrow littoral, busy shipping routes, fishery, tourism and even the Wadden Sea pose special demands: Wind parks have to be erected far away from the coast in water depths of 20 – 40 meters. That requires new technologies for the foundation of the plants, the power network, supervision and maintenance. This may lead to numerious start-up enterprises.

I would like to show you just a few examples of surplus value was generated by offshore technology: Foremost the ports of Lower Saxony benefit as logistics locations from the rapid development in the offshore area.

In Cuxhaven, specially for the assembly and shipping of wind turbines the “Offshore-Basis Cuxhaven" was developed. In the past two years more than 180 million euros had been invested. A special showpiece is the heavy platform “Giant 4”, for the transport of complete wind turbines. This transport platform can be loaded with 90 t/m^2.

Special win-win situations can arise when companies and ports work together. This shows the example of Emden-Seaport. Very early the company “BARD Emden Energy” has opted for settling in Emden. The company is planning the construction of 240 wind turbines in the North Sea. To cope with the logistics related tasks, the company chooses Emden as location for the production and mounting of their wind turbines and rotor blades. The reasons for this were readily available and immediately usable building sites and short distances to the wind farms. Up to now the company has invested more than 23 million euros in Emden. Since 2007 BARD produces the rotor blades for wind turbines in Emden itself.

Also Wilhelmshaven could benefit from the offshore boom. The logistics for the first German wind farm "Alpha Ventus" used the infrastructure of Wilhelmshaven-Seaport. Thus Germany's only deep water port has already gained experience with the handling of wind turbines.

One of the largest wind turbine manufacturer - Enercon - has its headquarters in Aurich. The example of Enercon shows how with courage and zest for action, a 1-man operation, could become a global company with more than 12,000 employees and an annual turnover of more than 3.0 billion euros. And this although the company

is up to now only active in producing wind turbines for repowering and not for offshore use.

However there are many problems concerning offshore wind energy. The national grid in Germany is not constructed for the large quantities of power input coming from offshore wind parks. Therefore the grid infrastructure must be expanded. New special submarine cables must be connected to the wind farms to transport the produced current. At the same time the crossing of the Wadden Sea region has to taken care of. The redirection of the electricity across national boundaries must be improved by the building of an European integrated network and by the development of intelligent networks, so-called "Smart Grids". Besides network extension, also other infrastructure measures - e.g. the extension of the ports - must be pushed. The approval procedures for these measures must be accelerated and simplified.

If we want to fulfil the demands of climate protection, we have to replace the old coal power plants by new more environmentally friendly power plants as soon as possible. Modern coal power plants have an efficiency factor of more than 48% and so carbon dioxide emission is less. The ports along the northern German coast offer the best preconditions to build these modern power plants. Hard coal is economically imported by ships. Former abundant power plant plannings were shelved due to the economic crisis. In Germany better general conditions must be created quickly in order to replace old power plants by new ones. As paradoxically as it may sound: We do need the new coal power plants to reach the climate goals.

In order to be able to guarantee a climate-friendly and economical electricity supply, we will not be able to abandon the use of the nuclear energy. Without nuclear power

plants it will be impossible to stabilize the electricity grid. The gap between the electricity generated and the electricity consumption is so large, that you need nuclear power plants witch can switched on and of quickly. Also the new German Federal Government recognized this and is planning an extension of the running times of nuclear power plants under certain conditions. The profits resulting from the extension of running time must be used to force research and development of renewable energies. In any case the price of electricity which energy-intensive companies have to pay, must be reduced to assure the competitiveness of these companies in Europe.

Beside the technical problems already mentioned concerning the extension of the renewable energies the economic aspect is to be considered, too. In Germany renewable energies and therewith operators of wind power plants, too, are subsidised over twenty years. The amount of this subsidy is guaranteed. The electricity companies in Germany are forced to accept this electricity in their grids. Therefore the costs of renewable electricity lie far over the actual electricity price. These costs are handed down from the energy providers to the customers. In 2008 in Germany costumers paid about 8.8 billions Euro due to the renewable-energies-law (EEG). This charging will increase in the next years because of the extension of the plants with renewable energy. A cap of this payment is advised therefore urgently.

The chamber of commerce positioned itself to subjects of the energy supply system in Germany. The basic demand reads: Energy in North Germany must be reasonably priced, environmentally friendly, and long-termed secured.

We have to minimize the dependence on fossil fuels coming from conflict regions to build an independent energy supply system in Germany and I think for the Netherlands and Denmark, too. From our viewpoint that can be guaranteed for a transitional period only by a mix of renewable, fossilized and nuclear energy sources. Therefore much more research is necessary. A special focus should be put on the development of better storage technologies. Only with adequate storage technologies the wind power has the chance to become base load electricity. Let us use the benefits of the nuclear technology to support the research of all renewable energy technologies. Energy production will be more decentralized in future. I think even virtual power plants as a cluster are possible.

The costal area of Germany currently experience an enormous economic dynamic due to the building of offshore wind parks and conventional power plants. As far as I know the same applies for the Netherlands, especially for Eemshaven. The turnover that is generated out of these dynamics is stimulating many other industrial sectors like Google for instance. And this development will not be finished for a long time. Let me say, the Waddensea region is an important player in the European energy market.

Dr. Michael Ahrens

November, 26th, 2009