

**Renewable energy and liberalisation in electricity markets:
Lessons and recommendations for policy**

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Green Power: The role of the consumers

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Ladies and Gentlemen,

Thank you for the invitation and the option to represent the view of the consumers.

Let me first say some words about our organisation. The Federation of German Consumer Organisations - vzbv - is a non-governmental organisation acting as an umbrella for 40 German consumer associations. We represent the interests of consumers in public and vis-à-vis legislators, the private sector and civil society. Our

goal is to protect and empower the consumer. We do this by lobbying and campaigning at national and European levels, by taking collective legal action on behalf of consumers and by ensuring that our message receives broad media coverage.

Yesterday evening I had the opportunity to see Al Gore's movie about climate change. For experts like us, it's perhaps not ambitious enough. But I hope many "normal" consumers will have this opportunity, too. There is no doubt, that the development and impact of energy consumption worldwide highlights the need for a dramatic change in energy usage. Renewable energies provide alternative methods for ensuring sustainable energy production and the equitable distribution of energy in the future. **Consumers are an essential part of this turnaround.** Not only do they consume energy; they also consume technology, which in turn makes them individual producers of renewable energy. Local energy production enabled a bigger independence of conventional energy sources as well as of the traditional electricity supplier, sometimes called for national champions, who earn a lot of money by misusing their market power. Beside the extension of renewable energies is the promotion of energy efficiency an important part of a sustainable energy policy.

1. The current situation

It may seem unnecessary in this context to point out the impact of current energy consumption and resource management. Nevertheless, I would like to briefly outline the current situation.

Today no one seriously contests the fact that the use of fossil energy sources and the associated emissions into the atmosphere have lead to a global change in the world's

climate. We see the occurrence of extreme weather conditions in certain regions, flood catastrophes and the melting of our glaciers and polar caps.

But the general conditions of the energy and economic policy get worse.

With this scenario in mind, it is important to recognize that global energy needs will continue to increase due to mechanization in industrial countries and economic growth in developing countries. Without a significant turnaround the global impact of energy consumption will continue to become more acute.

Increasing energy demands will be accompanied by a growing shortage of conventional energy sources and higher extraction costs. The most recent price hikes on the crude oil market have caused petroleum prices to hit record highs. Energy poorness gets a more and more relevant problem also in industrial countries. Is energy going to become a luxury item? Or are we going to achieve the necessary turnaround in time?

The so called Stern-Report on behalf of the British government underlined the need of a fundamental change in energy policy. There is not much time left.

And as I mentioned earlier, there is another problem, which hinders a fundamental change in energy production: The current situation of the energy market provides no competition. High prices and a lot of obstacles for network-access close the market and make the entrance of new energy suppliers difficult, also for renewables.

Nevertheless ownership unbundling which divides the energy supply side from the networks is more and more in sight. Neutral networks will be a central issue for establishing a new, sustainable energy system which satisfied ecologic and consumer challenges.

2. Potentials of renewable energy: Options and problems

We already possess the knowledge necessary to generate renewable energy on a decentralized basis precisely in the areas where the energy is used. In industrial countries the technology is available to produce household electricity through photovoltaic devices or the conversion of biogas into electricity. Current technologies with great potential include the use of heat exchange by tapping geothermal energy or solar thermal processes. Modern technology can also be incorporated into the development of new products. Renewable energy can be integrated into product-specific energy production. Nowadays we already have solar-powered calculators, computer keyboards and electric bicycles.

But there are some limitations of use of renewable energy.

In spite of the huge possibilities to use renewable resources, the current situation shows structural defects with the consequence that profitability is not always given in local energy production and the potential of green energy is not depleted. For

Example:

- In the area of **wind power** we find suboptimal allocation in Europe. Instead of establishing expensive national off shore wind parks in the North Sea, there are a lot of windy locations on shore in many European countries, where the production of electricity can be realised at lower costs and with proved technology. National frontiers have to overcome in sense of cost effective energy production. A transborder leveling is necessary.
- Otherwise does the production of green power by **biomass** lead to a rivalry of use: transport versus heat or electricity production. Increasing prices will be a consequence. Beside of that we are confronted with a new problem: The import for example of biofuels from Brazil can lead to new dependence and sets also a

question mark on the security of supply by using imported renewables from other continents.

- Green energy by **hydro power** shows also unwished effects: The imports of hydro power from Austria for example lead to the effect that Austria has to buy “grey” electricity from nuclear power plants to cover its own demand.
- Despite of many incentives of the market **solar power** is not yet economically feasible. Prices have rose up to now. One reason for that was the strong promotion which effected a great demand and lead to a bottle neck at the beginning of the production chain. The promotion subsidized the enormous profits of the producers of the raw material. Thus a more balanced proportion of promotion and research is essential. Strengthened research is also important because the reserve of raw material for solar cells like indium and tellurium is limited. Beside of the solar industry the raw material is asked for the mobile and flat screen production. As well increasing prices are the consequence. Recycling, improved process engineering and substitute material have to be developed.

Nevertheless an increase of the demand is necessary.

For example, the supply of local power generation is not implemented in such an extension as it could be. In the building industry solar architecture is not yet widespread. For example public buildings should use solar power systems in sense of a role model. On the other hand up to ten million family houses just in Germany could provide with ten million micro **heat and power plants** on base of bio gas or **vegetable oil**, if the houses are built in an energy efficient manner – otherwise this will lead to the mentioned rivalry of use. This is a big challenge and should be target. For the implementation of this efficient heat generation an adequate infrastructure has to be built up.

One hurdle, among others, is the lack of consumer information. **Consumers need information and advice** about specific product solutions. In addition, there is a need for qualified engineers, architects and craftsmen, who are familiar with the technical possibilities of renewable energy and can put them to use on a regular basis. In 2005 for instance the energy saving consultants of the German consumer associations advised 75.000 households in the field of energy efficiency and renewable energies like solar heating, heat pumps and reduction of CO²-emissions.

3. Making the turnaround happen

In brief: The availability of energy is of fundamental importance for public welfare and the well-being of consumers worldwide, and there is a particular need in developing countries. The before mentioned advantages of renewable energy must be recognised and put to use now, in order to improve quality of life and preserve the environment for future generations. We have to convince the consumers that a sustainable turnaround in energy usage is an absolute necessity and possible, too. We must pursue the goal of preserving resources, reducing greenhouse gases, reducing risks to people and the environment and guaranteeing a supply of energy – at the most reasonable cost possible. Renewable resources must get a high priority in the daily choice of the consumers – whether using solar, wind or water power, geothermal or atmospheric heat – that do not put a strain on the environment. Increased energy efficiency is an additional essential prerequisite for bringing about a turnaround in the way energy is used. The consumers must and can utilize untapped potential to increase the efficient use of energy.

4. A new role for consumers

This energy turnaround requires that renewable energy technologies gain a foothold in the market. An increasing output of energy and the creation of new applications through technological development are also important contributing factors, along with sufficient financial resources. Ultimately, it is only possible to affect a turnaround with the help of consumers. Until now political strategies have not fully recognized the role of consumers, and instead the products on the market have been the main objects of attention. In the end, renewable energies must find acceptance among consumers - in demand and in use. An increase in demand is an impetus for setting the right course for innovation and implementing it successfully on the market. Consumer demand can make a beneficial innovation an economic success.

A sustainable technology based energy system is asked in which the consumer of energy is investor of energy technology. For that capital is required for the development of efficiency technology and the implementation of renewable energies. This includes also advanced accumulator technology – as a long term alternative to the grid based supply system.

Consumers are currently stuck in a passive role within traditional energy supply processes. A new attitude must be developed. The increased use of renewable energy requires active consumers. The potential of renewable energy and its various applications must be actively integrated into the daily life of consumers. Neighbourly cooperation will be required in order to provide a region with decentralized heat and electricity by using biomass or solar energy.

This automatically changes the position of the consumer. Consumers then become energy producers, which in turn creates new opportunities for the realization of profits.

5. Requirements

In conclusion, I would like to formulate some requirements from the consumer standpoint:

- Administrative barriers for the use of renewable energies must be prevented. At the same time, the scope for legal regulations, e.g. for the use of solar technologies in construction, should be taken advantage of.
- Demanding goals (e.g. quotas) for the use of renewable energies need to be set at national and European level. As well competition in energy market and in future for renewable energies is necessary on national and on European level.
- Joint ventures between researchers and businesses are required in order to implement the existing possibilities of renewable energy usage and in order to further advance development. The focus in this case must be on user-friendliness and cost-cutting.
- Political strategies should enable the consumer to demand renewable energies. An active consumer policy is required. Information deficits have to be reduced by the provision of free information and advice by a neutral party. A stronger awareness of the possibilities and advantages of renewable energies has to be created.

- In the implementation of proper policies, attention needs to be paid to the lowest sustainable energy prices and to universal access to energy supplies. There needs to be an equitable distribution of costs between domestic and industrial consumers and special measures to protect the energy-poor.
- Many small solutions are required in order to ensure basic power supply. For this purpose, small loans for example for building cooperatives must be made available to facilitate the acquisition of technology for the decentralized generation of renewable energies.
- To support the consumers purchase decisions **product information and advice** is important.
- The increasing energy demand of developing and emerging nations offer a unique chance for green power. These options have to use by the political framework.
- To achieve a sustainable energy system no more billiards via monopoly profits as consequence of a closed market should flow in the old energy system. It's also the consumers' choice to choose the right, the green(er) supplier.

Thank you for your attention!