

THE PRODUCTION SECTOR

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1. IMMENSE CHALLENGES TO THE WORLD COMMUNITY

Excellencies, Ladies and Gentlemen,

It is a great pleasure and honour for me to speak to you at the Pontifical Academy of Social Sciences. His Holiness Pope Benedict XVI has expressed it clearly: 'We must recognize our duty to hand the earth on to future generations in such a condition that they can live on it worthily'.

In his encyclical letter *Caritas in Veritate* he writes: 'On this earth there is room for everyone: here the entire human family must find the resources to live with dignity, through the help of nature itself – God's gift to his children – and through hard work and creativity'.

I fully agree with the Pope. It must go without saying that we handle the existing resources sustainably and with the greatest possible efficiency. Pope Benedict says that a just society can only be achieved through a change of heart. I say: that can be done. We are in the process of learning to satisfy our hunger for energy without destroying the finite raw materials.

We are about to experience a change in energy policy. That opens up opportunities. But it also involves conflicts of objectives. The global community must face the issues of the future: how are we to react to climate change? How are we to ensure a reliable energy supply? And how, at the same time, are we to feed the world's population?

These are the immense challenges the global community faces. They worry me too. As a human being and as a politician.

2. MAKING SCHLESWIG-HOLSTEIN A LAND OF WIND ENERGY

Excellencies, Ladies and Gentlemen,

I am speaking to you as the Minister-President of a very small *Land*, a German state situated between Hamburg and Denmark: *Schleswig-Hol-*

stein. If you are wondering what is special about Schleswig-Holstein I can tell you quite briefly: its function as a bridge between Central Europe, Scandinavia and the Baltic Sea region. Its uniquely beautiful coasts and landscapes. And 2.8 million people who love their native region and are at the same time receptive and cosmopolitan.

Very few of you here will be familiar with Schleswig-Holstein, for on the map this German state really does look small. And yet in one industry we are well known and play a major role: Schleswig-Holstein is the cradle of wind energy. In our Land between the North Sea and the Baltic Sea, at Germany's northernmost tip, the wind blows more than anywhere else in the republic. We have learned to make use of this gift of nature. The wind works for us: From wind we generate electric power. The wind turbines on shore were the first step. The second step is now to follow. For over the sea the wind blows more strongly and reliably than on land.

We have the technical means already. The first windmills are turning on the open sea. More will follow in the next few years. That shows we have set out into the age of renewable energy and have already progressed quite a long way on the road.

Other parts of the world are setting out on this road too. I see that our experience is meeting with great interest there. These topics take me abroad again and again.

I invite you to follow me in thought to Schleswig-Holstein. First of all, let us take a look at Schleswig-Holstein as the Land of wind energy.

The pioneering work was carried out nearly thirty years ago. When wind energy took its first cautious steps I was a young member of parliament in the *Deutscher Bundestag*. At that time there were already a number of people in our region who recognized the economic opportunities offered by using wind to generate electric power. I was one of them. And looking back I admit: we didn't make the political decisions of that time because we thought we could save the world with wind energy. No. That's not how it was. I was the member of parliament for a structurally weak region. The shipbuilding industry had major problems. The shipyard in my hometown was faced with insolvency. Eventually we had an idea: if nobody wants ships built, the men must build something else. The firm Vestas – now the international market leader in wind power plant – was just starting production. These pioneers in the field of alternative energy were looking for a suitable production site. The former shipyard was ideal. One thing we did know: this was a chance to save jobs. This was a chance to earn money. This was a chance to bring prosperity to our region. This was what motivated our activity at that time.

We created the basis for the wind energy boom with the Electricity Feed Act – now called the Renewable Energy Sources Act. Other states subsequently adopted this law. To this day it provides that every kilowatt-hour generated from renewable energy sources must be given priority acceptance by the operator of the grid and paid for at a fixed rate.

Nowadays our motivation is quite different. The economic aspects are no longer dominant, because we have experienced a shift of values in our society. It's true that there is still money to be earned with energy production in Schleswig-Holstein. But our activities are now based on ecological considerations.

The 'green electricity' balance in Schleswig-Holstein is remarkably good: Schleswig-Holstein exports electric power. We produce three times as much electricity as we consume ourselves. Last year we generated nearly one-third of the electric power in our region from renewable sources like wind, biomass and solar energy. In terms of figures that means we already produce nearly half of the electric power consumed by the local population from natural sources.

So we have achieved a lot. But we don't intend to stop there.

The goals we have set ourselves for the future are more ambitious still: in ten years we in Schleswig-Holstein intend to generate all the electric power we need from renewable sources.

Wind energy has become one of our most important industries: in Schleswig-Holstein we don't just install wind generators. We develop them too. They are built. And they are maintained. That has created highly skilled jobs for 7,000 people – more than we ever dreamt of in the early days of the industry. Experts from all over the world now come to our town of Husum to inform themselves about the latest trends.

Husum is my home town. But that isn't what leads me to mention it here. The little town on the North Sea coast has made a big name for itself in the world of wind power. In its own industry it has a reputation like Silicon Valley. Every two years, 24,000 expert visitors from 40 countries make their way to Husum for the exhibition 'Husum WindEnergy'. Just imagine: the town then has more visitors than inhabitants! Some even have to sleep in tents on the exhibition site because the hotels are totally booked up. But the experts like to come all the same. This leading international trade fair is a magnet.

3. SUPPORT FROM THE POPULATION – EXERCISING JUDGEMENT IN NEW ENERGY POLICY

Ladies and Gentlemen, Germany's supply of electric power must be safe and reliable, climate-friendly and affordable. That is what consumers justifiably expect politicians to ensure.

In practice this demand is often a cause of dispute.

Those who say energy must be 'safe and reliable' are thinking first and foremost of reliability. For the time being, wind and solar power with their natural fluctuations will need the support of other forms of energy. These include the three classic sources: coal, gas and nuclear power.

But: these are highly disputed energy sources. The public is less and less willing to accept coal, gas and nuclear power. And not only that: we want to get away from fossil fuels. And atomic power is at best only acceptable and convincing as a transitional technology.

So that means we have to step up our efforts. Considerably. The renewable energy sources must replace the fossil fuels reliably as soon as possible. The main requirement for that is new electrical energy storage systems.

The Land government of Schleswig-Holstein supports research in this field. At the Centre of Excellence for Wind Energy we link scientific institutions with industry in the search for a solution.

Linking: that is an important factor.

If we were to link up the different renewable energy sources over large areas we could meet our future energy requirements. Imagine joining up hydroelectric power from Norway with the planned German and Danish windfarms at sea. Renewable energy sources would then be coupled to ensure a reliable supply of electricity.

To achieve that we must think in broader terms.

To achieve that we have to overcome national boundaries. The states bordering on the North Sea have set out in that direction. They are examining how to put such a transnational power network into practice. We are talking about the 'North Sea Supergrid'.

I am convinced that, if industry found the courage to invest the necessary millions in this project, it would have a similarly trend-setting effect to the Desertec initiative. With solar power from the North African desert it is planned to lay the foundations of a sustainable global electricity supply by 2050.

Ladies and Gentlemen, If we want to realize ambitious plans for extending the supply of renewable energy we must do so with the goodwill of the population. Without it our energy policy is doomed to failure!

We are experiencing that in Schleswig-Holstein: no other German state has as many wind turbines per unit of area as we have. And we lead the field in production capacity per unit of area too, thanks to repowering; by that I mean the replacement of first-generation turbines with new ones.

If more space is to be given over to wind-power generators we have to realize what that means.

In the mid 1990s the nacelle of such a windmill, to which the rotor and the blades are attached, was at a height of about 60 metres. Modern installations now produce four times as much electricity. But they are also twice as high. At 120 metres they are nearly as high as St. Peter's Basilica – and at 180 metres the tips of the blades would tower above it.

I went up such a windmill last year with His Excellency Bishop Sánchez Sorondo. He knows what a wonderful view you get from up there. Most of Schleswig-Holstein's landscape is flat. These windmills are visible from enormous distances. Not everybody finds that attractive in a tourist region like Schleswig-Holstein: visitors come to us to enjoy our scenery and nature!

So it is not only coal-fired and atomic power stations that raise objections to enlarging the energy infrastructure. In my experience the renewable energy sources encounter problems of acceptance too. The wind noise made by the blades, the flickering shadows of the rotor in sunny weather, the blinking of the signal lights at night: nobody wants that close to their own home.

Ladies and Gentlemen, I have two answers to that.

One is that a further increase is only possible if we exercise good judgement. So we will collect the windmills which were spread out over the landscape in the past and concentrate them in areas where they cause less conflict. At the same time we are placing our faith in our considerable offshore growth potential – that is, out at sea.

My other answer is that the best way to eliminate objections is to involve the local population. Renewable energy lends itself to that because it is generated in smaller units and on a more decentralized basis than in power stations fired with fossil fuels.

Our experience with community windfarms has been very positive indeed. In these projects the local residents cooperate in order to invest jointly and achieve revenue.

I have already said that energy must be safe, reliable and climate-friendly. But at the same time it has to remain affordable. In Germany, every kilowatt-hour generated from sunlight, biomass or wind will be

paid for at fixed rates for 20 years. That makes sense for a transition period – until electric power can be generated from renewable sources at prices acceptable to the market.

So this law provides for decreasing payments: the remuneration is reduced each year. Moreover, the renewable energy sources must be used where they are the most economical solution.

What I mean is: electricity should be generated by solar power where the sun shines. Similarly, electricity from wind power makes most sense where the wind really blows. And in its geographic position between the North Sea and the Baltic Sea, Schleswig-Holstein is destined by nature to perform this task.

4. CONFLICTING PRIORITIES OF PROTECTING THE CLIMATE AND FEEDING THE WORLD'S POPULATION

We are finding more and more examples that the idea of achieving ecologically sound activity through financial incentives may have undesirable side-effects. I'm experiencing that in Schleswig-Holstein. Let us forget wind power for the time being and turn our attention to energy production from biomass. That ranks as a sustainable energy source, too.

In Schleswig-Holstein the fixed remuneration for feeding electricity from biomass into the grid is leading to competition for agricultural land. Farmers who want to grow food are no longer able to compete with those who produce biomass.

Farmers who also grow fuel plants are able to pay higher lease rates for land, whereas those who produce food find themselves in difficulties. In this way, less and less is being produced for the table and more and more for our automobile tanks.

That may make sense from the point of view of business, but it is certainly not sustainable.

Ladies and Gentlemen, Schleswig-Holstein has become a pioneer of ecological energy production. Our region has taken up the challenge of climate change. Nevertheless, I ask myself: Are we on the right course at present? In our discussion of the climate, which largely takes place in the wealthy industrialized countries, are we not forgetting something of essential importance?

The production of biomass from maize makes it very plain how energy production from a basic food can lead us into an ethical dilemma.

Let me illustrate that with an example. A human being needs 221 grams of maize a day in order to survive. From the same amount it is possible to produce 85 cubic centimetres of biofuel. That is just enough to drive a modern Italian car a good 900 metres. Roughly the distance, perhaps, from your home to the nearest baker's shop.

Or to put it differently: the amount of energy in one tank filling is roughly equivalent to the calories a human being needs in order to survive for a year.

That is a fundamental thought: while we in the Western world are seeking to solve thousands of problems, the hungry masses of the world have one problem only: *their struggle for survival*.

Ladies and Gentlemen, the underfed have to compete with our problems in their fight for survival. They have no lobby to support them. That concerns me deeply as an individual who would like to live by the principles of Christian charity and solidarity.

The world's population continues to increase by about 80 million a year. By the year 2050 it will have grown from the present 6.9 billion to over 9.1 billion. There will be a huge increase in the demand for food and animal feed in respect of both quantity and quality. The agricultural scientist Joachim von Braun described that very emphatically a year ago, before this same audience.

About a billion people around the world are undernourished. At the same time the demand for energy is increasing, and with it the price. A rise in the price of energy makes agricultural production more expensive. Agricultural raw materials are more and more often being used to make biodiesel and bioethanol.

The prefix 'bio' is misleading. It sounds like ecologically acceptable production, like a good conscience. If we were honest we would speak of agrofuel: fuel made from sugar cane, rapeseeds, soybeans, maize and wheat. Or to put it differently: food is converted into fuel because direct subsidies or tax exemptions make it financially worthwhile!

That is anything but ecologically sound and sustainable.

As much as 4,500 litres of water alone are needed to produce a single litre of bioethanol. By comparison: 900 litres of water are needed to produce a kilogram of the staple food maize. If more land is to come under the plough worldwide, that means more trees have to be felled in the tropical rainforests – and not only there.

That is bad for the diversity of species. That is bad for our climate. And it is bad for the global carbon balance.

The competition between agriculture for food growing and agriculture for energy generation is bound to affect the price of food. The UN expert Jean Ziegler put this in a nutshell: 'Biofuel from food is a violation of human rights'.

Full tanks and empty stomachs?

In my opinion we have an ethical and moral obligation to ensure that enough food is produced for all the people on this earth, now and in the future. Everyone must have access to food, clean water and energy at reasonable cost, today and tomorrow. We must ensure that these commodities are distributed fairly. We must make greater efforts to eliminate poverty and intensify agriculture.

It can be done. It is up to us.

5. THE STEPS TOWARDS A CHANGE OF HEART

Ladies and Gentlemen, I suggest we take steps towards a change of heart:

- German and European agrofuel policy must be altered. We need less subsidies and more market.
- We must set new points of emphasis in research and development and step up agricultural and energy research. In Schleswig-Holstein we have established a centre of excellence for the use of biomass. We want to find out how to reconcile protection of the climate with a universal supply of food. We need revolutionary technology to produce a new generation of fuels from waste and superfluous materials without this having an impact on food production.
- And we should do some re-thinking about green genetic engineering. To my mind it is indispensable if we want higher production rates, reliable harvests and less chemicals on our fields. With green genetic engineering we can increase yields and make plants more resistant to drought, pests and diseases.
- We must no longer neglect agricultural and food policy in the context of development cooperation. Agricultural subsidies by the industrialized countries have slowed the increase in productivity in the developing countries. There are African states that were exporting agricultural products 20 years ago and are now having to import food. We must reverse this trend. Agricultural know-how helps developing countries to help themselves and strengthens rural areas.

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- And finally we must increase our research capacity in the field of established renewable energy forms too. Our goal must be to make wind and solar power reliable sources of energy. To do this, we in Schleswig-Holstein have set up a centre of excellence for wind energy and built a research platform in the North Sea.

One more word to you:

Schleswig-Holstein has a highly productive agricultural sector and efficient institutions for agricultural science. If we use these as a basis for setting the right course, we shall have made at least some contribution to securing the world's supply of food.

To secure an adequate supply of food throughout the world and to prevent climatic disaster while ensuring a reliable supply of energy: these are central and vital challenges to the global community. I myself am convinced that this global problem can be solved; in fact I am convinced that a change of heart is possible!

With wind energy we have already set an example.

Thank you.