THE BROOKINGS INSTITUTION

A FORUM WITH GERMAN ENVIRONMENT MINISTER

JÜRGEN TRITTIN

Introduction by David Sandalow

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P R O C E E D I N G S

MR. SANDALOW: Thank you very much for coming. Welcome. My name is David Sandalow and, along with my colleague Nigel Purvis, I'm delighted to welcome you here to the Brookings Institution. That welcome goes in particular for our special guest here today.

I thought I'd start today with a short passage, a quote, which goes as follows: “Because of humankind's mastery of technology, we now have the technology to destroy ourselves. We can do so today, and quickly, in a thermonuclear war; or we can do so tomorrow, more slowly but no less completely, through the ruination of our environment.”

Those words were written several years ago by Strobe Talbott, president of the Brookings Institution, and they reflect his belief that environmental issues will be the most important facing the nation, and indeed the world, in the decades to come and that The Brookings Institution can provide a forum for public dialogue and independent research on environmental issues.

Another issue of tremendous importance to all of our futures is the relationship between the United States and Europe. As some of you know, earlier this month Brookings launched its new Center on the U.S. and Europe to build on Brookings's longstanding interest in the evolving transatlantic relationship and in particular to address the serious differences that have emerged between America and Europe in recent years. The Center's initial research is going to focus in three areas, one of which is "the United States and Europe in the global arena.

I It's for these reasons, among others, that it is especially timely, and it is with great pleasure, that we welcome today the German Federal Minister for the Environment, Nature Conservation, and Nuclear Safety, Jürgen Trittin.

Minister Trittin is well known to many of you, but let me recap just a few highlights of his extremely distinguished career. Jürgen Trittin started his professional career as a journalist He first entered politics in 1982 and during the 1980s quickly rose through the ranks of the German Green Party, as his colleagues recognized his many talents. From 1990 to 1994, Jürgen Trittin was the Lower Saxony minister for federal and European affairs and head of the Lower Saxony state mission to the federal government in a coalition cabinet with the SPD, which was led by then-president of Lower Saxony, Gerhardt Schroeder. In 1994, Mr. Trittin became spokesman of the National Green Party, and in 1998, Mr. Trittin was elected to the Bundestag. In the federal Red-Green coalition cabinet, he was declared federal minister for the environment, nature conservation, and nuclear safety, a position he's held since October 1998.

As minister, as many of you know, Jürgen Trittin has been a forceful advocate on global warming, playing an active role in the Kyoto negotiations and in domestic programs to reduce greenhouse gas emissions in Germany. He's been active on pollution issues, on nuclear power, and on a range of other issues.

I've spent many long nights in negotiating rooms with Jürgen Trittin. Sometimes we agreed, sometimes we disagreed -- that's the way these things work. But I'm here to tell you that Jürgen Trittin is not only a tenacious negotiator, he is a

passionate and charismatic advocate for the causes he believes in --in particular, protection of the global environment.

It is with great pleasure that I welcome to this podium Minister Jürgen Trittin.

[Applause.]

MR. TRITTIN: Thank you, David. Thank you, Nigel. Ladies and gentlemen. I'm glad to speak here in this over-100-year-old traditional institution. It is an honor to me.

In Germany it's very popular on special occasions like Christmas or around Easter to see a movie, one Western movie. It's called "The Big Country," Oscar-wining Western by William Wyler. It tells the tale of people fighting over access to a river; that is to say, over water, an irreplaceable natural resource which, in "The Big Country," is precious and limited. We have two heroes, a bad one and a good one--James McKay, performed by Gregory Peck, representing justice, a balance of interests, and peace, and he wins out over Major Terrill, a Wild West figure who stands for "might makes right."

Today, I think we have to have in mind that the whole world is "the big country." Since the '80s, the space of just 15 years, the volume of global trade has trebled. Globalization now covers practically all areas of life. Globalization creates new opportunities and new challenges. One of the biggest challenges, for example, are the 4.1 billion tons of greenhouse gases which are emitted by Europe each year and roughly 6.6 million tons of greenhouse gases annually released here in the U.S. They play a huge role in global climate change and are in part responsible for hurricanes, droughts,

floods, or [inaudible]. Today climate change is a global reality and no longer merely a problem for coming and future generations.

Globalization is not something that takes place in the somewhere-else. All countries are seeing the consequences of globalization at home--increased immigration, loss of jobs to low-wage countries-- a discussion you had in the last weeks. We had those in Germany in the background of the EU enlargement, where globalization opens up new export opportunities. This is the other side of the coin. And in the adaptation of national law to international law and the harmonization of globalization we have also a system of globalizing what we would call the system of law.

In this situation we have to raise the question, for example, of the acceptance of--and I have to underscore--international environmental standards. Actually, the world, for example, has more environmental refugees than war refugees. How many Costa Ricans lost their homes to Hurricane Mitch and are now living illegally in the U.S.? How many regions have American presidents declared disaster areas in recent years as a result of natural disasters caused by climate change? Pollutants and other environmental risks do not stop at national boundaries.

What are, under these aspects, the most pressing tasks? I think there are four: First, a viable energy structure for the future in mitigating global warming. Secondly, protecting our very limited fresh water resources. Thirdly, developing sustainable patterns of production and consumption. And fourth, building strong multilateral environmental regimes. These are the four points I want to deliver some thoughts on this morning.

You know, the world's per capita energy consumption is increasing, as is population. Two billion people, one-third of all mankind, have no access to electricity. Can you in your daily life imagine life without electricity, without air conditioning? All these people justifiably like to use this modern form of energy, all these people that lack electricity. They would like to watch television, they want to refrigerate their food, they want to learn to read and write--and even this possible only if you can make light on the schools. For this reason, pressures on energy reserves will continue to grow. For example, the International Energy Agency expects India's oil imports to increase by 7 percent each year. In 2010, Indonesia, now a net exporter, is expected to become a net importer. As a result of globalization, more and more [inaudible] peoples are moving all around the globe.

This trend is also increasing energy requirements. Only limited resources of cost-effectively extractable oil, gas, and coal are available to meet the growing energy hunger. Nonetheless, it is a dubious strategy to try to secure access to these reserves at any price, for oil prices and limited energy reserves, to my view, are not the main problem.

The main problem is the ability of the earth's atmosphere to absorb greenhouse gases from burning coal and oil is already over-strained. On average, each habitant of an industrialized country causes 10 times more atmospheric pollution than an inhabitant in the south. Each U.S. American causes as much as 20 times more. We thus need a low-emissions energy supply that can serve 6-8 billion people without warming the earth's climate by more than 2 degrees Celsius, compared to the pre-industrial area, in just a few decades.

Warming of 3 degrees would cause the glaciers worldwide to melt. If this happens, Kevin Costner's "Waterworld" will become a life-threatening reality--not only for Pacific island states and for Bangladesh; the situation would not be better in parts of Florida, Louisiana, or North Carolina. A very emotional description of this is now a movie with the title, "The Day After Tomorrow," done by director Ronald Emmerich, the director who delivered "Independence Day."

I'm laughing about something--not because he's a German. His form of making movies is very speculative, but some people take him seriously. So some officials are no longer allowed to give interviews on this movie because they're in danger to blame the administration on their climate policy--so it must be a serious movie.

We, from the other side, want to save these areas of the U.S. We love the Everglades, for example. And this is the reason why we think the Kyoto Protocol must enter into force. I'm delighted with the growing indication that Russia wants to continue further along this road. But I think--and I have to underline that I think the U.S. also must play its part against global warming. It could use the Kyoto Protocol as a basis for action. Under this, the U.S. has to reduce its emissions by at least 7 percent, compared to 1990.

But in fact, the opposite has happened. The emissions increased until 2000 by 13 percent. But this is contrary to the commitments made by the U.S.A., even if we must acknowledge that the country rejects Kyoto. The Climate Framework Convention should nonetheless be respected. Under this, the U.S. must stabilize its emissions at the 1990 level. The U.S. voluntarily accepted this commitment.

So I think we have a challenge. The challenge is that the reality of "The Day After Tomorrow" should not become reality, the picture should not become reality. Therefore, the next 15 years are key for preventing polar ice caps from melting. In this time frame, extensive research in hydrogen technology or in carbon sequestration will not lead to a concrete CO2 reduction. Likewise, CO2 sequestration will still be nowhere near extensive use, if indeed such extensive use ever comes about. This and a little research will not help to slow climate change within this time frame.

The key factors will be what cars we drive now and in the years up to 2020--and if I say "we," this includes also what cars and what type of cars were driven not only in Europe and the U.S., but also, for example, in China. And the second is whether we enhance the energy efficiency of our homes, for example, by improving thermal insulation instead of regulating the climate with electricity throughout the year.

How can we put the time up till 2020 to best use? We must have more intensive international exchange of know-how and experiences. This will lend momentum to global climate protection efforts. We must act politically. We must set about transforming global energy structures. We, as the German government, as accelerating the increased use of renewable energies--solar, wind, geothermal, water, and biomass. Renewables already save 50 million tons of CO2 per year. By 2020, they will, these renewables, meet at least 20 percent of all Germany's actual electricity needs and, by 2050, at least 50 percent of the total energy consumption.

We are, secondly, promoting energy efficiency. 2005 sees the start of a Europe-wide trading in emission-alone allowances. This will make a crucial contribution towards achieving energy efficiency and the most cost-effective way, and it

will lead to a huge amount of investments in new technology, especially in the field of energy production and modern, energy-efficient power plants.

And thirdly, the government is promoting energy saving through the energy saving ordinance that reduces the energy demands of an average German house--again, 30 percent--and we are increasing the thermal insulation in existing buildings through the eco-tax. And through the [inaudible] tax on freeways, we want to integrate some of the external costs transportation has.

Since 1990, the year of reunification, we have saved a good 200 million tons of CO2 against the 1990 figures, for example, by comprehensive modernization of power plants and industrial installations in East Germany. Today no power plant in East Germany--I underline this; in West Germany we have a different and not so ambitious situation--in East Germany has an efficiency factor falling far below 30s. I'm convinced, and I heard, that in the U.S., incidentally, there are still very many of these power plants with an efficiency factor below 30 percent.

Climate protection is also a question of best available technology. Thus, the market for photovoltaics in 2020 is estimated at an annual $100 billion worldwide. This is today's turnover to semiconductor production. For this market of the future, Japan continues to lead in installed photovoltaics capacity. The U.S. is no longer in second place; this now belongs to Germany, with 140 installed megawatts. The U.S. has fallen to third place with around 70 megawatt installed capacity. Germany now produces twice as many solar cells as the U.S.

Nevertheless, beyond these forms of competition--and we are ambitious enough to say we want to be the number one, also, in front of Japan--Germany and the

U.S. have a lot in common. I'm delighted that, this month, California and New Mexico announced new targets for the increased use of renewable energies and for raising energy efficiency. At least 30,000 megawatt of clean energy by 2015 and 20 percent increase in energy efficiency by 2020 are really ambitious targets launched by these states. Other U.S. states also have agreed targets for renewables and implementing funding programs. I welcome the fact that some states have established energy efficiency funds.

In California, for example, the world's largest solar thermal power plant has been in operation for years, which the German Environment Ministry, incidentally, co-financed with 6 million euros. On the basis of the experience we gained in California, the German technology company, Solar Millennium, will begin the construction of the first commercial parabolic through power plant in Spain this year, in the province of Grenada, and it will have 1.1 million square meters. This is a relevant technology, for example, for--we are no longer talking about niche technology. We are talking about real business and real large power plants.

Particularly in the energy sector, we need to learn from each other and to cooperate. That is the background that, in June of this year, the German government is therefore hosting an international conference on renewable energies, the Renewables 2004. This conference will present the newest technologies in this area, aim to establish national and regional targets for increasing use of renewables, and we want to implement an action program that will set forth the specific contributions of various partners.

And we will present new financing instruments. Renewables 2004 will be a meeting place for experts from around the world, a clearing house for the best

market introduction instruments. The Renewable Energy Sources Act, for example, enabled Germany to increase the share of renewables in their electricity supply from 4 to 8 percent in only four years. This extremely rapid expansion costs the average family 1 euro--less than $1--per month. I'm very pleased that besides a lot of international financing institutions, like the World Bank, like GF, and a lot of businesses, also the U.S. will participate in Renewables 2004.

The second major issue is closely related to the issue of energy--shortage of fresh water. This problem is not confined to countries in the south. It is a global problem. Climate change will exacerbate the shortage of fresh water. Researchers already refer to fresh water as the cause for conflict of the 21st century. Water, not oil. In the long term, oil can be replaced by other energies. But for water there is no substitute.

The risk of civil wars over water will increase if we opt for fossil or nuclear power plants in arid regions of Asia or Africa, for fossil and nuclear power plants consume a large quantity of water for cooling, when turbines and photovoltaic installations, by contrast, do not need water during operation. Fresh water is preserved. Solar thermal power plants are even excellently suited for the large-scale desalination of seawater.

The international community has set itself the goal of halving the number of people without access to clean water and basic sanitation by 2015. We are still a long way from the goal. From tomorrow, the United Nations Commission on Sustainable Development meets in New York to discuss the status of this millennium goal and the measures which must be taken to achieve it.

This also raises the question, can the market itself, can liberalization really solve every problem? I believe, in this case, not. For if this were so, why are the major European and U.S. American water companies keen to take over drinking water supply but no one is rushing to deal with the matter of wastewater, which is at least equally important for integrated water resources management? Recent expeditions to Mars have proven that there was once water there. Without water, there is no life. Life cannot be a matter of supply and demand, and therefore we need a stable framework for building up structures that give the more than 1 billion people on this globe access to fresh water and to proper sanitation.

This will be one of the main points and one of the most difficult questions we have to deal with the next day in the CSD in New York. Of course, it means that you need to bring a few hundred thousand people every day access to fresh water if you want to reach this target.

Thirdly, consumption patterns and environmental protection are inextricably linked. Consumption patterns are not something people are born with. They are a result of education, of habit, and culture. On German highways, for example, there are no speed limits. In the U.S., people like to drive SUVs on the best asphalt roads. In the age of globalization, these traditions--what is typical German? Driving as far as they can on their autobahn--these traditions are mingling. In Germany it is now becoming very popular to drive a SUV to drink coffee in town. Sales for these vehicles increased in the last year by 30 percent. In the U.S., on the other side, people dream of finally being able to drive a BMW, although by law they cannot even come close to using its full energy capacity here.

I think these examples show there must be some question about our consumption patterns, whether they are able to be globalized. A total of 60 percent of the world's consumption expenditures are made in North America and Western Europe--by 12 percent of the world's population. This way of life, I think it's obvious, cannot be extended to the world as a whole. We do not have to spare Earth in the second [inaudible].

Policymakers, industry, the service sector, and consumers each have a responsibility of their own. Everyone needs to understand that we will not make the world safer by aggravating climate change with greenhouse gases, by making more and more regions uninhabitable with our non-degradable waste and pollutants, by destroying the soil's fertility with chemical cocktails, and by chopping down mangrove forests for shrimp farms. Over-exploitation of nature does not lead to a better life. Nor is it true, for example, that the, for example, U.S. citizens live better than Europeans because they emit twice as much greenhouse gases per capita. No one believes this seriously.

I'm not here to tell people to do without. The question, as I understand, is not whether we consume, but how and what we consume. To raise some examples: A hot shower warmed by a solar heating system is just as pleasant as a hot shower warmed by a continuous-flow water heater powered by a nuclear power station. You don't feel it if you are under the shower. A warm house is a warm house regardless of whether the warmth is due to excessive heating or to good insulation. The only difference is to your heating and to your electricity bill and to the bill for the investment for your house. If you are sparing with insulation, air conditioning must run day and night, and that means much higher cost to your heating and electricity bill. Nevertheless, you have to have in

mind that better insulation by buying a house also is something we have to pay, and we talk about what is more cost-efficient.

These examples show that sustainable consumption is more than simply a question of lifestyles. Sustainable consumption is also a question of individual freedom. In the area of consumption, each individual shows just how free he or she really is. Some people do what everyone else does so they won't be considered [inaudible]. On the other hand, some people are free enough to act responsibly as consumers.

In Johannesburg, at the World Summit on Sustainable Development, the international community agreed to develop a 10-year framework for sustainable consumption and protection patterns. We have taken this commitment seriously. In February this year, we launched for Germany a national dialogue in Berlin for implementing the Johannesburg commitments in the area of consumption and protection. In 2005, Germany will host an international conference on sustainable patterns of consumption and protection.

By the way, industry and business does not suffer when consumption patterns are more sustainable. Environmentally oriented goods and environmental services represent a growing market. In Germany, some 1.5 million people--or 3.8 of the country's entire work force--earn their living in environmental protection. Although the German economy has not exactly been booming in recent years, to be very polite, we have had significant growth in this sector. Environmental protection creates jobs and are still a growing economic factor.

So I come to my fourth idea. On the 1st of May, 10 new countries will join the European Union. The condition for accession was that all candidates must adopt

the European Union environmental protection standards, the so-called acquis communitaire. This serves the need of environment and it creates, on the other hand, equal competition conditions--equal competition conditions that we failed to have in the field of taxes in the enlarged European Union. Laying down such environmental standards, from Portugal up to Estonia, has triggered a huge investment boom. For example, in Poland alone, 60 billion euros must be invested in new wastewater and waste management technology. This gives rise not only for new occupational fields and employment opportunities in the accessing countries, it also opens up new market possibilities for ambitious environmental industry.

This example of the enlargement of the European Union can be applied elsewhere. It would surely make a lot of sense to develop global standards that make such win-win situations for the environment and for business possible. In this, the World Trade Organization as well as other international financial institutions, such as World Bank and International Monetary Fund, have a particular role to play. For example, reduction of barriers to trade in environmental protection products; reduction of environmentally harmful subsidies, especially in the areas of agriculture and fisheries; environmentally oriented codes of conduct for companies and banks. In particular, the World Trade Organization must recognize that multilateral, not single--multilateral, not unilateral environmental agreements have the same standing as its own rules. Even after the last negotiations in Cancun, this remains a political aim for Germany and Europe. The ban on exporting toxic waste to the Third World--the so-called Basel Agreement--thus avoiding environmental standards at home, and a global ban on highly toxic chemicals--the so-called POPs--to name only two examples for these multilateral

environmental agreements, are not undermining free trade. They are giving free trade a frame where it really can develop.

An economic liberalization that ignores the ideas of sustainability endangers the ecosystem and thus also human safety--not only the safety of people in the region currently affected, but also--think of migration and terrorism--the safety of people worldwide. For example, if Bangladesh, which currently has a population of about 130 million, becomes largely uninhabitable as a result of climate change, no one should expect that the resulting migration and land conflicts will remain confined to India and Myanmar. These are the neighbor countries. As more and more tropical hurricanes devastate Central America, more and more Central America will seek to enter, for example, the U.S. And the more Africa is going down, the more refugees are trying to swim or to come with small vessels from North Africa to Spain and the European Union.

Global threats can be effectively met only through global action. Therefore, we must develop global governments. This can only be done multilaterally. Relevant institutions must be involved. More importantly, there must be a multilateral environment organization which is as strong as the WTO, has adequate and secure financing, and can conduct global environmental policy in its role as a U.N. environment organization. This is the idea that is in favor in France and Germany, who are supporting this idea.

Let me remind, at the end, the whole world is "the big country." The strategy of Major Terrill that might makes right will not make this world safer. Development and justice can only exist if they are built on a foundation of law and order. This is the American tradition the quoted James McKay stood for, and this

remains true for America today. Or to say it in my words, Globalization demands global governance.

Thank you very much.

[Applause.]

MR. SANDALOW: You never fail to be provocative, and you didn't disappoint this time. I'm sure there are going to be numbers of questions from the audience. I'll just take the prerogative to start with one concerning your call for global standards and ask you to reflect, Mr. Minister, on the Kyoto process. The Kyoto conference was about six years ago. There have been some successes under the Kyoto negotiations and some failures. What have you learned from our experience since the Kyoto Conference, and what lessons do you draw about we should be doing beyond Kyoto?

MR. TRITTIN: The curious answer is that in many cases we have been [inaudible], even that we had some different opinions on this process. We did the experience in Europe as we implemented the system of the trade with the allowances for emissions, installed the system. At this time, five years after Kyoto, 10 years after the framework on climate change, for the first time, industry and all other parts of the societies realized that there is something historically new, and this is the ceiling, what we call the cap, that in the year 2010, in the average between 2008 and 2012, Germany is only allowed to emit 846 million tons of CO2, plus some equivalents on non-CO2 greenhouse gases. This, what we know on our negotiations at this time, was realized with a five-year delay, and this led to the conflicts on implementing the system of emission trade inside the European Union.

On the other hand, it makes also obvious the great economic opportunities that are in the Kyoto Protocol and especially--and this is the second thought I want to have--in the flexible mechanisms on joint implementation and CDM, we were as Germans in many cases rather skeptic to this instrument. Now we see that a lot, even European countries, are able to meet their targets by using this instrument and to meet their targets cost efficiently.

But thirdly, this leads to the question what will happen to Russia. Russia has a great opportunity by having nearly a third of their emissions allowances not used. This is the so-called hot air. Even if they have a significant growth of their economy, they have a very long way to reach this limitation. But via the flexible mechanism here, especially the emission trade and joint implementation, they have a real opportunity to get investment in modern technology, and this also creates economic growth. Therefore, I'm convinced that these fragile announcements done by Mr. Putin by visiting the European Commission will come true and Russia will ratify; therefore we will have brought the Kyoto Protocol into force.

But the experience is, to be frank, [inaudible].

MR. SANDALOW: Thank you. I'll ask one more question and then throw it open. A question, quickly, on the topic of export credit agencies, which are very important drivers of the globalization trends that you were talking about in your address. I know over the years you've worked to bring the German export credit agency toward higher environmental standards in its performance. I wonder what's the latest progress in Germany on that topic.

MR. TRITTIN: Well, the standards are exactly way, that some investors now are looking for private bank credits. Of course, they don't get the [inaudible], so I think they are in a good way. But from my view, there are still open some questions; for example, funding and financing on the question of hydro. We have all the time to conflict; you need to meet the demands.

For example, let's look on Uganda. In Uganda, 6 percent of the population has access to electricity; 94 percent has no access to electricity. If they want to build a real large dam, for sure I have to support it. The conditions under this dam as constructed are the question. You cannot be in a fundamentalistic way opposed to this project; you must support it. And therefore, I think the export credit agencies should be orientated in this field a policy, for example, on the recommendations of the World Commission on Dams, for example.

MR. SANDALOW: Thank you.

QUESTION: Tom Gaws [ph] from the Making A Difference television series. We had Sacha [inaudible] as one of our participants once upon a time. I have so many questions, but let me try to limit it to three parts.

One, you mentioned European Union and the countries joining the European Union on May 1st. The people I hear, the young people from Eastern Europe, tell me they want to be like the United States and drive SUVs and be as consumptive as anybody else. What's going to happen? European Union?

What about China when China comes of age--industrialized, cars, this and that, and their green products, as you probably know, their harvests, because of a lack of water--as Lester Brown says in Earth Policy Institute--are just a catastrophe?

And finally, is there anyone in the audience active in the Kerry campaign? I would like them to meet our speaker.

MR. SANDALOW: If you'll allow me, Minister, I'll limit you to the first two of those questions.

MR. TRITTIN: Thank you.

Well, this is one of the points I refer to. It's not only a privilege of Eastern Europe. I don't see a difference between the old and the new Europe. There is a real mingling on the consumption and production patterns. And one of the problems we face is that, for example, SUVs, even under the German tax system, comparable to the U.S., are privileged compared to normal cars. We have a relevant debate, actually, in Germany of bringing down this privilege for SUVs.

So I think it is a very complicated situation to deal with these expectations, with the growing global and consumer-orientated globalized consumption and production patterns, and therefore I don't have a simple answer like the way we have poverty, you need access to energy and you need access to water, then I can give you some instruments and we can work on this. The changing of consumption-production patterns that are not sustainable, we know will not fit into this world if they are globalized, including China. There is no simple answer how to do it, because people want to have it. And you must have an answer to fit their needs and demands without destroying our planet.

I read this time the last World Watch Report, and that report also had not an answer to this question.

QUESTION: My name is Fred Singer . I'm a professor at the University of Virginia and with the Science and Environmental Policy Project. I'm a climate scientist, but I will not argue with you about the life-threatening consequences that you seem to be concerned about.

My question has to do with energy. I wonder if you could explain to us your well known opposition to nuclear energy so that we can better understand what it is based on and why you don't object to nuclear energy in Belgium and France and other places, like Japan, where it's doing quite well.

And secondly, I'd like you to respond, if you would, to a personal attack on you by the environment minister of Lower Saxony, who says that you are bamboozling the public with your emphasis on wind programs. And I noticed this morning you told us that by 2050 you will have 50 percent of energy in Germany based on wind and other renewables. At least I thought I understood you to say those--maybe it's more than 50 percent.

MR. TRITTIN: The actual target in our law is that we want to have, in the year 2020, 20 percent of the actual electricity demand done by renewables. The figure on the year 2050 is not a figure that is an idea by the German government. If you look in the scenarios of future energy market and research, for example, done by Shell, by British Petrol, or even Greenpeace, the interesting situation that are totally in common and have a joint opinion. And this opinion is that in the year 2050, only those economies will be competitive that are able to produce 50 percent of the energy supply by renewable resources. This will not only be wind; it will be a large mix.

So this figure is not a fantasy by me or a target for me; it's a challenge, a challenge based on the expectations what will be the prices for oil, what will be the total amount that is available, what are the amount of energy that is available from coal and other energy sources, what will be development of the gas market, and so on. And therefore, we have to expect that in the year 2050, those economies only will be competitive that have a relevant higher share of renewables as now.

If you know this, you can see that the arguments of my colleague from Lower Saxony are pure nonsense. If it's true that you will have to meet this challenge, is it better to wait or is it better to start and to prepare? I'm convinced it's better to start now. Then you are a leader on technology, you have the market very early, and you are prepared for the challenge. From that, you know that it will come and if you start later, it will be more expensive.

And I also have an actual answer to my colleague from Lower Saxony because I have my constituency also when I was the state minister in Lower Saxony there. Lower Saxony without the renewable energies and especially without wind energy--because it's a coastline state--would have much more unemployed people. The industry in wind energy in Lower Saxony is estimated about 10- to 20,000 people working in the plants. One of the market leaders is placed in Lower Saxony. So I think he should have some talks, he should have some talks with his colleague from the Ministry for Industry in the Lower Saxony government that is very much in support of especially our strategy of building up off-shore capacities for wind.

I know that we have a conflict on-shore, and in many cases there are limits for the growth of wind turbines. We can substitute older and smaller turbines by

larger, more efficient, slower turning--the larger they are, the slower they are, and less disturbance. But we are focused on the increase of the share of wind energy, especially in off-shore. And in Germany we are going into very deep--"very deep" means 20-meter water, it means far outside from landscape--to build our off-shore capacities up to 25,000 megawatt capacity. This is the target.

If you reach this target, coast states like Lower Saxony will have up to an estimated 5,000 new jobs because we have to build these turbines, we have to construct the wind parks, and we have to maintain them. And this will create a lot of jobs, especially in Lower Saxony. So I'm convinced that everyone will see who is right and who is wrong on this question.

For a long time, I was arguing about nuclear. But for sure, there are no new arguments. If you ask a normal investor would you invest your money in a nuclear power plant, he will answer to you, No, I won't do. Of course, I have a cash flow back in 15 years. If I invest in a gas-fired power plant, it could produce two years later; I will get my money back earlier. This is not the risk. That is the reason why, worldwide, without subsidies--I underline "without subsidies"--no one is willing to invest in nuclear power plants. That is the reason why you have to prolongate the life cycle of your power plants up to 60 years. This is not a very advanced technology. It's not competitive, in this sense, without subsidies.

The second argument is the question of nuclear waste. It is not [inaudible], even not in France, not in Germany, not--perhaps in Sweden, I don't know. And we have a year--yesterday was the 18th birthday, if you can call it birthday--the 18th anniversary of the catastrophe at Chernobyl. And it shows if something like this

would happen in the U.S., in Europe, no one would any longer discuss about nuclear energy.

All these arguments are very old. I don't try to convince anyone of them. I only have to give you one thought. The energy supply of the future should be, must be, more decentralized, more demand-oriented. And that is the fourth argument against nuclear. Of course, nuclear is not able to be as flexible as demands are. That leads to the curious situation that, for example, Belgium, that has a share of 40 percent of electricity production by nuclear, has to light the highways at night. If you fly over Europe, you see when you are over Belgium, of course, they have lighted highways. Only to use the electricity, their power plants are producing.

So in a more decentralized energy structure that is relevant also for the supply side, I'm not convinced that nuclear has a real future.

MR. SANDALOW: We are unfortunately over the time that we had allotted. But I know that there are a number of people that would like to ask questions. Why don't we gather about three or four questions and then spend another--do you have another few minutes?

MR. TRITTIN: Yes.

MR. SANDALOW: --another five or 10 minutes and--

MR. TRITTIN: You're the master of ceremonies.

QUESTION: Minister, Gary Mitchell from The Mitchell Report. You began your presentation by talking about four key issues for the global environment moving ahead. And my question is quick and has two parts. The first is whether you might accept a friendly amendment of a fifth entry, which would be serious investment

in education around these issues. And then if you could tell us something about what you are doing in Germany today around education about these issues, particularly at the primary and secondary school level.

MR. SANDALOW: Should I get a few more? That's a great question on education.

QUESTION: You talked so much about your success with renewables and creating jobs, yet there is a detailed report by the Ministry of Economics that actually wind energy has been a total disaster. And if your projections actually come true, by the year 2010 you will pump 5 billion euros, which is $6 billion, into it. Is this sort of a new economics?

QUESTION: Hi. My name is Curtis Moore. I'm an author and publish a newsletter on health and clean air. I did want to observe, Minister, that your question from Dr. Singer was subsidized by the coal and oil companies that support the Science and Environmental Policy Project. And this is one of the reasons we have difficulties in the United States.

Having said that, let me say that I'm a great admirer of Germany and count among my friends people who work at the ministry and the Umweltbundesamt. And you did a marvelous job with the large power plant firing ordinance. In the context of global warming, however--and you were driven by the levels of reductions necessary to protect the resource and what was technologically achievable. In the context of global warming, we are told by climate scientists that reductions on the order of 60 percent are required to stabilize the climate, as opposed to the roughly 6 percent that Kyoto suggests.

And I'm wondering if--I know that the typical defense is, well, anything is better than nothing. But I'm wondering if, from a policy perspective, Germany should start talking about much more substantial reductions in emissions of greenhouse gases.

MR. SANDALOW: Two more questions quickly, please.

QUESTION: Michael Steinacker [ph] from the Energy Information Administration. I just have a quick question. What happens to the Kyoto process, especially the EU's efforts to meet its targets, if Russia never ratifies it? Because I know that the EU commissioner for energy said that she was a little bit upset [inaudible] might need to reconsider our policies. I don't know if she took that statement back or not. Thank you.

QUESTION: Cary Cambell [ph]. I'm the state chairman of the Independent Green Party over in Virginia. Since we've been sitting here this morning, the Pentagon spent $2 billion, the amount of money you said. But I'd like to just highlight some of the Green Party's successes that you're responsible for, Minister.

Tax, economic reform--the IMF forecast this week that German economic growth is expected to be 3 percent in the coming year. As a world-famous gentleman, Mr. Minister, I suppose you would agree that the secret of Green Party success are the highly intelligent, beautiful and gifted Green women, like Petra Kelly, Kristin [inaudible], and Astrid Raugh [ph]. Would you agree with that, sir?

[Laughter.]

QUESTION: Thank you very much. [inaudible] Embassy of Belarus. Politics and environment are closely interconnected. As far as I can grasp now, it is politics that mainly shapes the environment. Do you foresee the time when it is vice

versa, that it is environment that will shape politics? And if you do, when the time comes--10 years after, 15 years after, or later? Thank you very much.

MR. SANDALOW: I'm sorry we don't have more time. You never fail to prompt discussion. It's good to see you again.

There were several very interesting questions, one on education, one on what happens to the Kyoto process if Russia doesn't ratify, and the question on politics and-- [inaudible].

MR. TRITTIN: It's true that the question of education and the question of culture is relevant not only for acceptance, but also for working this. We are doing some efforts on better having material for schools, et cetera. The problem for the federal government is very simple. We are not responsible for education in schools. What we are doing, and this is another aspect of education, is we are permitting very much the research in the field of renewable energy, so that universities, labs and so on have the opportunities and have the money to do research on this question. But the question of direct education is a question that is responsibly--and in many cases responsibly fulfilled by the state governments that are responsible for culture. And even abroad I shouldn't claim competences that I don't have.

The interesting question on the so-called scientific research done by the minister for economy, there's a very simple answer. The estimation that the volume that is caused by the fixed-price fee in regulation, this is not state money. I read in Newsweek we would pay taxes for [inaudible] tax subsidies to this. The volume would lead up to, in the year 2010, to 5 million, is very simply wrong because scientists were not able to read the law that we launched last month and decided by the parliament that

reduces this amount up to 1.5--up to 2 billion euros. And if you take the figures serious from this done research, you will come to the result that you have a net plus of employment and a net plus of economic development.

I'm not in favor of long-term and endless subsidies for eternity. That is one of the reasons that the fixed prices for electricity produced by renewable energy in Germany are decreasing over a period of 15 or 20 years. That wind turbine that now gets per kilowatt hour about 8.4 cents--and this is less than the regulation, for example, as the United Kingdom. The United Kingdom is paying 11 to 13 cents per kilowatt hour because they have another system, a tender system, not a fixed-price system. But we start now below the level of the United Kingdom, and 15 years later, the same wind turbine will only get 5 cents per kilowatt hour because they are urged permanently to increase their technology and to increase their efficiency because we don't want subsidies for eternity. We have a form of incentive to market excess. But if they are in the market, they have to compete also with others. And our target is, for example, to make wind energy in the years 2012 to 2014 real competitive compared to other fossil-fuels-produced electricity.

It's right that the idea that scientific knowledge shows that Kyoto is not enough. That's true. But it's very simple, that inside Kyoto there is a simple sentence that is called the "first commitment period." The association is simple--it is the first one; it's not the second and not the third one. There will be other commitment periods afterwards. And on the table there is a proposal by some European Union member states for new commitments in the second commitment period, done by United Kingdom, for example. And Germany has also proposed a new target that led to a situation that the

European Union should reduce until 2020 30 percent of their greenhouse gas emissions compared to 1990, and Germany is willing to bring 40 percent up to 2020.

MR. SANDALOW: I know your staff is going to be very mad at me if I don't move you off the stage.

MR. TRITTIN: But it's my staff, not your staff.

[Laughter.]

MR. TRITTIN: So, you see, we have in mind that we need an ongoing process. And showing this, you see me as a guy who's convinced that Russia will ratify not because they are environmentalists, but their economic advantages and benefit are so huge that they would be silly if they won't do it. They are not silly.

Thank you.

MR. SANDALOW: Thank you very much.

[Applause.]