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Energy Policy Challenges in Europe

Welcome:

Ladies and gentlemen,

First of all, thank you very much for inviting me to speak to you today.

I am very pleased to be here on this occasion and talk about the challenges that will be involved in supplying Europe with energy in the years to come.

In view of my position as the Energy Policy Coordinator of the Christian Democratic Union/Christian Social Union (CDU/CSU) parliamentary group in the German Bundestag, it is of particular interest to me to attend this workshop and discuss a topic, energy policy, that is of such outstanding importance for the whole of Europe. I would therefore like to thank my friend Friedbert Pflüger and the Konrad Adenauer Foundation for organising this event.

Since October last year a new Federal Government has been in office in Germany under the leadership of our Federal Chancellor, Angela Merkel. For six months we have had a newly elected European Parliament and a few weeks ago the new Commission took up its work in Brussels. We are confronted with numerous challenges – above all in the field of energy policy.

But it is not just in Germany that important decisions will soon have to be taken. Energy policy is not a topic that stops at national borders or is restricted to individual nation states. Meaningful decisions can only be taken internationally. It is for this reason, especially, that cooperation on this topic must be intensified – and that is why I am glad to be here with you today in London.

For my paper, I have defined what I see as the seven major challenges for energy policy and explored possible approaches to their resolution.

1. Growing demand for energy around the world

The first challenge, one that is undoubtedly of fundamental importance, is the growing demand for energy that will be seen in the years to come. The world's population will increase by 2,3 billion people till 2050. The struggle for resources will also become fiercer as this happens. And not merely the struggle for finite sources of energy.

In consequence, the following trio of objectives must be pursued not just in Germany, Great Britain and Europe, but all over the world as well:

1. favourable, economically viable energy prices for industry, commerce and private households
2. secure supplies that are as independent as possible
3. clean, efficient, environmentally friendly energy generation and use.

It is our task to think about these things now and put in place the political parameters for the development of an energy mix that guarantees cheap, secure, clean energy supplies in the EU.

I do not know how you conduct discussions of energy policy in Britain – but in Germany the discussion is often carried on as if it went without saying that power comes out of the socket. But we should also be thinking about what happens before it gets as far as the socket.

The German Federal Government wishes to present an energy concept in the autumn. The central goal of this concept is to ensure clean, dependable, affordable energy for our country. I wish Europe too had such a concept.

The *status quo* – Europe's energy supplies

At the moment, the 27 EU states obtain their energy primarily from fossil fuels. Europe's total energy consumption breaks down as follows: 36 percent comes from oil, followed by 25 percent from gas, 17 percent from coal, 14 percent from nuclear energy and eight percent from renewable energies. As far as our power supplies are concerned, 30 percent are generated from nuclear energy, 27 percent from gas, 21 percent from coal, 17 percent from renewable energies and four percent from oil. Each country has different priorities that are informed by its history and its geostrategic position. This will continue to be the case in future – and is exactly the way things should be as well!

The current energy mix entails serious problems:

- Firstly, there are our heavy dependence on imports, particularly of oil and gas from politically unstable supplier and transit countries, and the large market share held by finite, fossil fuels at a time of ever rising demand;
- secondly – on account of the large market shares held by oil, coal and gas – there are the relatively high CO₂ emissions caused by the provision of our energy supplies.

b) Objectives/prospects for the future

It is necessary to improve this situation by means of a realistic, economically sensible energy and climate protection policy that pursues our trio of objectives: security of supply, economic viability and environmental compatibility.

2. Climate protection

Ladies and gentlemen,

No matter how much anthropogenically generated CO₂ is contributing to climate change, we are experiencing dramatically growing demand for energy at the moment, above all in the threshold countries of Asia. In China alone, one new coal fired power station is coming on stream every week. The CO₂ emissions that are added each year by just these coal fired power stations correspond to almost exactly 50 percent of Germany's total emissions. We must curb this unrestrained growth in CO₂ emissions, and the modern industrialised countries – which means us – have to reduce their CO₂ emissions.

In this respect, Europe cannot march ahead on its own (and I am saying this in particular as a German politician) – rather, Europe must act as a pioneer. We therefore need to uphold the EU's target of a 20-percent reduction in CO₂ emissions by the year 2020. In this field, especially, it is important that the goal of reducing CO₂ emissions is fought for throughout the EU and beyond its borders.

We need global, binding, quantifiable and therefore verifiable climate protection targets that can also be made subject to sanctions where necessary. Soft targets and lowest-common-denominator compromises of the kind that were agreed in Copenhagen will not be sufficient. Reducing CO₂ emissions requires firm objectives and committed, concerted action on the part of all the EU states. With CO₂ emissions trading, I think we have taken an important step in the right direction. We must build this instrument up into a system that can be operated globally.

Not only that, we need new technologies as well. Old coal fired technology must be replaced with new coal fired technology. Modern coal fired power stations operate with efficiencies of nearly 50 percent. However, power stations are still being built with efficiencies around 30 percent. If we are to achieve our target for saving CO₂, we will need CCS technology as well: the technology that allows CO₂ to be captured and stored in the ground.

As far as the economy and employment are concerned, CCS technology could impart new stimuli, encouraging innovations and future growth.

The European Commission has made funding available for 15 CCS projects. Apart from financial support, legal parameters that guarantee enterprises the certainty they need to make investments will have to be put in place across the EU.

Europe must take on a leadership role in this area of technology. A few weeks ago I was in the USA, where I learned that the US government is going to invest four billion euros in CCS, in addition to which seven billion euros will be coming from the private sector.

3. Converting to renewable energies to conserve resources

The third challenge that confronts us in Europe is the expansion of renewable energy generation. Not just in order to achieve our climate protection targets. But much more because it ought to be in our own best interests to husband our limited resources. This is also a way of making ourselves less dependent on other regions of the world.

The target formulated in the EU, according to which renewables should supply 20 percent share of our energy mix in 2020, is a first step. At the same time, the intention is for 35 percent of our power supplies to come from renewables by this date.

Regional differences should be borne in mind in this context. Certainly, wind energy will play a dominant role in large parts of Northern and Central Europe. On account of the territorial and climatic conditions, wind energy offers great ecological and economic potential here.

While the sun is only fully available for approximately 900 hours a year in our part of the world, wind plants can operate at full load for between 3,000 and 4,000 hours a year, depending on where they are located. The EU says that by 2020 wind energy should be providing more than one third of the power produced from regenerative energies.

It is already a major success that the amount of power fed into the grid from wind energy has risen ten fold since 2000 to almost 70 gigawatts, while its expansion has been making brisk progress in the new EU Member States since their accession to the Union.

I very much welcome the fact that there are numerous wind energy construction projects on the agenda in Great Britain and Germany.

But we know that regenerative energies have not as yet been economically self-sustaining. In Germany, we have a powerful instrument for the funding of these technologies in the shape of the Renewable Energy Sources Act. Every wind farm operator receives a sizable bonus per kilowatt hour of power they feed into the grid on top of what they would have earned anyway. In future, however, this form of funding will have to be scrutinised to ascertain whether it is compatible with the single European market. For a wind farm operator in the North Sea will inevitably try to sell their power to the country that offers the highest rates of subsidy, not the country in which the power is needed.

Energy efficiency

Another point is the enhancement of energy efficiency. Ladies and gentlemen, there is probably nothing better than cutting energy consumption. I myself am from Swabia in southern Germany, and you may not be aware that we Swabians have a reputation for penny-pinching that is second to none – which perhaps explains why I feel this point is so crucially important.

In Germany, we want to achieve an increase in energy efficiency by as much as three percent over the next few years. The insulation and refurbishment of buildings, for example, represent an important component of the catalogue of measures with which we will seek to do this.

At the same time, unfortunately, the cheering and constant expansion of renewable energies is also causing ever greater problems in our grids and therefore brings us to our next challenge.

4. Grids and infrastructure

The infrastructure we have at the moment is no longer capable of coping with the challenges we face.

The increased production of power from regenerative energies confronts us with the challenge of building intelligent, efficient grids that do justice to the extremely diverse requirements of the various EU countries. The irregular, decentralised feed-in of power from regenerative energies also needs to be taken into consideration.

In Germany, especially, we have the problem that power from regenerative energies, for the most part from off-shore facilities in the North Sea, tends to be produced at locations where it is not needed very much. For our biggest industrialised conurbations lie in the south-west and south of the country. The same problem is to be met with throughout Europe. The places where a lot of power is generated are not necessarily the places where that power is required. The upgrading of our grids is consequently an urgent necessity! (High voltage direct current transmission, HVDC.)

Forthcoming major EU projects such as Desertec in Africa and the scaled-up expansion of wind and hydro power all over the world make this absolutely indispensable. In future, it will have to be possible, on the one hand, to transport surplus solar power from Africa and Spain to Central and Northern Europe and, on the other hand, to transport power from wind farms and hydro plants in Great Britain and Scandinavia to the south.

For this purpose, however, we need new high voltage direct current transmission lines that can carry power over hundreds of kilometres with negligible losses. The EU and its Member States will by no means be able to finance such major projects alone. Rather, we have to create incentives and a secure investment environment for energy enterprises in order to guarantee the upgrading of our infrastructure.

The planned super-grid in the North Sea represents a major step forward towards a pan-European grid.

An intelligent grid that extends across the whole of Europe, linking up different time zones and combining different regional options for the generation of energy from renewable energy sources with storage technologies, for example at pumped storage power stations, is still a pipe dream today, but could already become a reality tomorrow.

5. Cross-border energy research

In order to make all these things happen, however, we will need new technologies. Technologies whose development will absorb vast resources, technologies it will no longer be possible for a single business or a single country to foster.

For example, the promotion of renewable energies and the irregular feed-in of power will make it necessary to store energy. Apart from pumped storage facilities and the production of hydrogen, batteries will also play a major role in this connection. Where will these batteries be installed? In the electric cars of tomorrow: However, the promotion of this technology will only succeed if it goes hand in hand with the expansion of highly efficient grids. Furthermore, charging stations distributed throughout Europe will have to be linked up and controlled, while EU-wide technical standards will have to be defined. These changes will demand major research efforts.

This illustrates how important it is for us to pursue a far-sighted, cross-border energy policy, for innovative technologies will only have a future if we create the technical and legal conditions for this to happen throughout the EU.

Another intriguing branch of research is concerned with **fusion reactors**. Ladies and gentlemen, I am not an engineer. Nor do I know whether we will ever have sufficient mastery of this technology for it to be used to meet some of our future energy needs. However, we have to make the attempt. We must pool our resources in order to do this – something we are already doing, in fact.

6. Energy security:

Another important point is energy security and security of supply. No matter what efforts we make, we will not be able to do completely without fossil energy sources in future.

We must diversify our supplier countries, on the one hand, and our supply routes, on the other. However, this is easier said than done. Even with a mighty effort, we in Germany will not manage to significantly reduce our current dependence on Russia when it comes to gas supplies. Despite this, we need new suppliers in the Caspian area and Africa. Viewed from a long-term perspective, Iran too will play a role in this respect.

Many companies, both European and American, are already positioning themselves to exploit this opportunity.

As regards supply routes, we need to invest in new pipelines. Two major projects, the Baltic Pipeline and Nabucco, may serve as examples here. But LNG and the terminals required if it is to be used will also remain interesting in future. You will possibly have followed the sharp falls in the price of liquefied natural gas recently.

7. Transatlantic cooperation

If we are to resolve these challenges in future, we will need strategic partners outside Europe as well. Energy policy can be used in a truly exemplary fashion to illuminate the kind of geopolitical shifts we are experiencing in the world at present. China and India are gaining enormously in influence. Whether we look at them as consumers or suppliers, their size and their growth rates will be enough to reconfigure the balance of power.

This will not just have a massive impact on economic issues. Who will set standards for the world in future? Who will define its values? These uncertainties make a close transatlantic partnership imperative – when it comes to the energy question as well. Europe and the USA must take on the leading role in energy policy.

8. Acceptance:

The final challenge that confronts us is the attitude summed up by the acronym 'BANANA' (Build Absolutely Nothing Anywhere Near Anything), which is also known, possibly more accurately, as NIMBYism (Not In My Back Yard-ism).

We will not resolve the energy problems of our industrialised countries – some of which are indeed very densely populated – if we do not tangibly improve acceptance for major investments in power station projects and infrastructure. Regardless whether we look at new coal fired power stations, nuclear power stations, high voltage direct current transmission lines or carbon capture and storage, let alone the storage of radioactive waste, the acceptance for these technologies is declining dramatically at the grassroots, and in many places it is hardly possible to find locations for major projects any longer.

Ladies and gentlemen,

Even projects in the field of regenerative energies are encountering what is sometimes a great deal of opposition among the population. As examples, I would merely like to mention on-shore wind farms and hydro power projects in this context. However, this is a problem that we have been familiar with in many other sectors of the economy as well for some time.

Summary/Conclusion

We face numerous challenges. We can only overcome them by pooling our resources. We must liberate ourselves from old ideological trammels and blinkers, and set ourselves meaningful shared targets. United, committed action and a technologically open-minded, market-oriented approach will enable us to succeed in ensuring secure, economically viable, clean energy supplies for the future throughout Europe.

Allow me to conclude by showing you a slide I saw for the first time a few weeks ago at a lecture given by Thomas Friedman, an image that left a lasting impression on me and is very appropriate to our topic today.

We can see some students in South America. These students go to the airport every evening, sit down under the floodlights and start to read and study. Some of them work hard during the day in order to earn enough to pay for their studies. They have no electricity at home and therefore no light either.

This picture should remind us once again of the fact that more than three billion people have no direct access to power – something we take totally for granted. However, these are young people who have an unbelievable drive to better themselves, young people with whom we will ultimately find ourselves in competition.

That is why we are making such great efforts – so that we can preserve and increase our prosperity, and so that these young students can one day enjoy better living conditions in their country.

Thank you very much for your attention.