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Energy Use and Consumer Choices
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Ladies and Gentlemen,

in the face of the dangers being posed by human-caused climate change and an obvious lack of effective counter-measures, energy policy has discovered the consumer. This is a good thing.

The **measures** that have to be taken to improve the energy efficiency of our economy and societies are well known. They have already been described in the late 80s in the reports of the Enquete-Commission of the German Bundestag. They were listed in the background paper for the first decision of the German Government on a CO₂ reduction target from June 1990, which was prepared under my responsibility. They are again described in the last report of IPCC Working Group 3 and in the reports of the EU-Commission. To a large extent the **technologies** are also available.

So, what went wrong then in the past?

Are the consumers the guilty party?

Do we have to change consumers' preferences and culture?

What are the right instruments for a successful energy efficiency and climate change policy?

These are the questions I would like to address in the next twenty five minutes. I will do that from my German background and my experience with German energy policy. It may differ from the situation in other European Union member states, but it may also illustrate existing perceptions that have to be changed.

What went wrong in the past?

Energy policy in the past was too concentrated on the **wrong actors**. These were the suppliers of primary and final energy such as electricity, gas and petrol. Relevant actors on the supply side are others. These include producers of energy efficient technologies, the suppliers of material for the construction of buildings, the producers of appliances, the providers of transport and other services – those who are commercially interested in a successful marketing of their energy efficient technologies and services.

The role of **consumers** is also different. They are no longer only **energy users** but also buyers of energy technologies and services or – in the case of renewable energies – they are changing from the position of energy consumers to the position of energy producers. **Energy efficiency policy must recognise these shifts in the consumer position.**

My message is the following:

Energy efficiency policy will only be successful once it develops instruments that are fit for the **constellation of actors** it needs to influence. Concerning the consumers it has to examine the concrete room for action different groups of consumers have, e.g. to influence the amount of energy they need for heating or for their mobility.

Do we have to change consumers' preferences and culture?

I tend to say no. The consumer does not have an interest in the maximum use of forms of energy that are harmful to the environment. Consumers are interested in energy services in the sense that they want warm apartments. They want electricity to operate household devices. They want light and they want to be mobile. The challenges we face therefore do not involve changing the mindsets of consumers or compelling them to relinquish certain things.

What we need is a policy that enables consumers to be provided with the energy services they want as efficiently as current technology allows and in a way that is as climate-friendly as possible.

What are the right instruments?

Until now energy and climate policy has not correctly weighted the mix of instruments available to it. Policy has essentially been orientated to three types of instruments:

1. **Economic instruments** which can be used to make energy provision more expensive in order to persuade the consumer to save on energy use: In view of the development of prices on the world market for primary energy, in my opinion it no longer makes sense to argue about the need of a tax induced increase in energy prices. It has become clear to the consumer that primary energy will no longer be cheap in the future. If energy prices should

be politically influenced it should be done more specifically. This can be via subsidies for renewable energies and incentives to increase the share of cogeneration in electricity production. Such economic instruments must go hand in hand with efforts to induce price reduction by increasing competition in the provision and distribution of gas and electricity.

2. So-called **flexible instruments such as emissions trading**, the clean development mechanism and joint implementation:

Apart from leading to excessive bureaucratic and monitoring costs, such instruments are currently causing **extreme insecurity** among energy providers and the providers of energy efficiency technologies due to their effect on the capacity for long-term planning. Similar to the situation on the financial markets, such instruments have become subject to daily market rates, speculation and the pursuit of windfall profits. In my opinion **this situation is exactly the opposite of what investors need to be able to make long-term decisions**. This applies to investors in new forms of energy provision. But it applies even more to investment in technologies for increasing energy efficiency and the provision of renewable energies.

3. **Informational instruments**: Information and labelling regarding the energy consumption of devices, buildings and vehicles can of course help the consumer to assess the subsequent costs involved in a purchase. However, at least in Germany, the concrete implementation of EU regulations is not particularly illuminating. In general, informational instruments require an extensive process of consultation and communication, particularly with regard to less educated consumers. Such instruments do not therefore have – as energy policymakers seem to believe – a rapid effect at low cost.

In addition, informational tools can only be helpful if consumers have the possibility to make room for action. The highest potential for CO₂ reduction offers the building and **heating** sector. But more than 50 percent of German households live in rented houses and apartments.

Nearly 60 percent of domestic heating is provided by gas.

Tenants do not have any influence on the kind of heating appliances installed and the quality of insulation of their houses.

Another example is the **transport** sector. In 2005, the share of new licences for commercially used cars or for cars used by public services in Germany was 53,99 percent of the total number of new licences. These users get tax benefits. The higher the price of the car the higher is the reduction of the income tax they have to pay. More and more average consumers need their private car to reach their job because public transport is not available or too expensive. Many consumers, mainly those living in rural areas, even need a car for shopping due to the proliferation of shopping malls outside the cities or for reaching general services such as schools, public libraries, banking and postal offices which are no longer close to their homes.

For these reasons I would advocate a **tool mix** that places higher value on **regulation** and the binding legal definition of standards and obligations. Positive approaches in this regard include the top-runner approach used by the EU-Eco-Design Directive. **Electricity consumption** must be reduced using a discerning and dynamic top-runner system. Devices using excessive amounts of electricity should be eliminated from the market. **Stand-by modes** should only be allowed when a continuous connection to the grid is necessary because of functional reasons. In the area of **building**, we should only allow buildings to be constructed according to the highest standards of energy efficiency. Obligations to modernize energy use in existing buildings must be standardized and promoted. In the area of **motor vehicles**, the industry's inefficient self-regulation needs to be replaced by standardized fleet consumption. Cars must be more fuel-efficient. In addition, a **comprehensive tax reform** has to abolish counterproductive incentives. Public transport should be promoted and if needed it should be subsidized. Reduction in parking space as a means of reducing the amount of driving by consumers or speed limits should be considered. **Air transport** also needs to be addressed. Infrastructure should not be allowed to continue to proliferate and the building of even more regional airports should be stopped.

It is thus imperative that we dovetail planning and building permission regulations relating to energy facilities and building projects and that we gear our transport infrastructure to stipulations regarding energy consumption.

This year the **European Union** has set clear **goals** for the introduction of an energy turnaround. By the year 2020, an average of 20 percent of the energy consumed by member states is to be derived from renewable sources. By 2020, member states should, overall, also be using 20 percent less energy than they were in 1990.

Implementing these targets requires concrete action. Given the immense hunger for energy in countries such as China and India, there can be little doubt that energy prices will remain high and even rise in the future. High energy prices will make world wide competition for energy intensive enterprises such as refineries and the aluminium, chemical and steel industries more difficult. They should, however, no longer be perceived as a barrier to competition but as a challenge. Given the persistence of high energy prices, the economic success of products and industrial processes on the world market will increasingly depend on their energy efficiency.

Given the explosion of energy prices, consumers also share this economic interest in more efficient products. In the last ten years alone, the price of gas used for heating in Germany has risen by 70 percent. In general, increasing energy prices over recent years have resulted in a significant increase in the energy-cost burden on the private consumer. Between 1996 and 2006, total expenditure rose from 69 billion euros to 100 billion euros.

High energy prices are increasingly also becoming a **socio-political problem**. Particularly for low-income groups, increasing costs for existential needs such as heating, mobility and electricity are becoming an onerous burden that these consumers are only able to bear at the expense of other needs.

Again, the time for a mostly macro-economic steering of the energy sector and the time for voluntary instruments is over. **Taxation and emission trading are no longer appropriate instruments**. Today we need instruments that specifically mobilize the contribution of numerous individual actors while also offering them planning security and building confidence in the viability of investing in increased energy efficiency. The horizon for action for energy policy now needs to be expanded beyond suppliers of primary and final energy. The future of Europe as a locus of economic activity will depend on the economic success of numerous providers of energy-efficient technologies and it will depend on **consumer's and voter's acceptance**.

The necessary **paradigm shift** requires energy policy-makers to focus on different target groups. The marketing and application of energy-efficient technologies is in the clear economic interest of the manufacturers of technologies, the suppliers of materials to the building industry, transport service providers, the appliance industry and service enterprises. Consumers' demand is the precondition that efforts and innovation in supply will be successful.

Now, what kind of instruments could best serves consumers' demand?

What we need is a proper mix of instruments. In the **building** sector and concerning the standards for the energy consumption of **appliances** binding regulation will be more efficient than informational tools. In the **transport** sector priority should be given to local and regional public planning activities. In addition **informational tools should be more intelligent** in the sense that they allow direct feed-back to consumers. Smart metering is a good example of these types of instruments. Smart metering facilitates a price-induced regulation of electricity demand. Consumers can schedule their consumption at times when supplier generation capacity is not being fully utilized and thus when electricity is cheaper. This will change the passive role of consumers in electricity use into a more active and conscious position.

Another interesting field for the use of informational tools is the "**hidden energy content**" of **products** such as paper, food or packages. For the production of recycled paper much less energy input is needed than for the fabrication of paper made from fresh fibre. Convenience food and all kinds of manufactured food will normally be much more energy intensive than food made from raw material. Energy can also be saved by using return bottles which can be refilled.

The interesting question is whether the **political decision making process within the European Union** is prepared to implement and enforce the necessary instruments. How much harmonized

legislation is needed and how much freedom for national actions is necessary? **The targets set for energy efficiency in Europe are not always very helpful for the decision making process of national governments and Council decisions.** The CO2 burden sharing mechanism means that some countries can do less while others are obliged to do more. However, in the internal market stronger national energy-efficiency standards for tradable products are not allowed. National subsidies or other measures that could influence competition may violate EU-rules. The question is, do the member states in fact have the necessary scope for action at the national level to achieve higher reduction targets without coming into conflict with EU policies? I repeat, I am not sure that these contradictions can only be solved by using informational tools and by counting on consumer demand and the right consumer choices given the limited room for action of consumers and the general weakness and slowness of information policy.

Let me **conclude** with the following.

The threat of climate change is presenting us with the challenge of developing a truly sustainable energy policy that replaces the current sector-specific and provision-orientated approach with a cross-sectoral one. Above all this concerns technology policy which is orientated to the different sectors of energy need. It concerns policy on construction, on transport infrastructure, on the development and implementation of technologies used in household devices and not least consumer policy. A climate-friendly energy policy should also include the transformation of energy consumers into energy producers. This refers to consumers who make themselves independent of centralized energy providers by purchasing decentralized and integrated technologies, such as in the case of individual or collective investment in heating systems that are independent of energy providers. Maybe, we have first to change the mindsets and “culture” of energy *policy makers* before we will be able to successfully implement a strong energy efficiency policy. I thank you for your attention.