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**Rede**

**Battery and Fuel Cell –**  
**Germany's Way to Clean Mobility**

**anlässlich der**

**HyFLEET:CUTE-Abschlusskonferenz**

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**Es gilt das gesprochene Wort!**

**Ladies and Gentlemen,**

**I would like to start by conveying the greetings and best wishes of the Federal Minister of Transport, Building and Urban Development, Dr. Ramsauer.**

**He has asked me to come to your conference in Hamburg today to congratulate you on the successful conclusion of the HyFLEET:CUTE project.**

**Thirty-one partners from industry, academia and the public sector have joined forces in HyFLEET:CUTE. Today, HyFLEET:CUTE is the largest demonstration project of its kind in the world.**

**Since the launch of the project in January 2006, 47 hydrogen and fuel cell powered buses have been deployed on three continents in a wide range of climates. This also necessitated the establishment of appropriate refuelling infrastructure.**

**Against this background, I am delighted that many of these buses are undergoing field trials in Berlin and here in Hamburg.**

**Because of the comprehensive international approach of HyFLEET:CUTE, the project is rightly receiving financial support from the European Commission.**

**Today, it is time not just to take stock, but also to take a look at the future deployment of hydrogen and fuel cell technology.**

**Right up to the first oil crisis in the early 1970s, people believed that we had virtually infinite reserves of energy.**

**Today, we are all fully aware that we face global, international and national challenges. A modern, ecologically oriented and socially responsible infrastructure and transport policy has to meet these challenges.**

**In Germany, around 30% of primary energy is consumed by the transport sector alone. Today, just over 70% of all transport in the EU is dependent on petroleum, and in the road transport sector this figure rises to way over 90%.**

**Transport is also responsible for 20 % of all carbon emissions. At the same time, there is a dramatic trend towards urbanization in Europe and the emerging economies.**

**For this reason, new approaches to mobility are called for.**

**We have to make our society future-proof. This also applies to the mobility of tomorrow and to the design of our cities and housing.**

**Mobility is essential to the economy and society. This is especially true of urban settlement patterns. But we want mobility that does not destroy our environment or our quality of life. To achieve this, the transport system as a whole has to be made more efficient and more sustainable. We have to devote even more attention to the cities.**

**Today we have the capability, but also the obligation and responsibility,**

- ⇒ to ensure the long-term supply of energy for mobility, heating and electricity;**
- ⇒ to ensure that mobility is available to and affordable for everyone;**
- ⇒ and – last but not least – to reduce CO<sub>2</sub> emissions.**

**For this reason, the only direction in which we can head is “away from oil”.**

**Local public transport is a guarantee of sustainable mobility.**

**That is why local public transport enjoys high priority in the Federal Government's integrated transport policy.**

**The quality of life in our urban and rural areas is directly related to the quality of local public transport. There is a great need in the population for well developed, reliable and, at the same time, affordable local public transport.**

⇒ **Each day, around 28.5 million passengers use local public transport. In mathematical terms, this is the equivalent of 18.5 million passenger car journeys.**

⇒ **According to the latest mobility analysis entitled "Mobility in Germany", the number of journeys made by local public transport rose by 14 % between 2002 and 2008 – and this figure is continuing to rise.**

**And it is in local public transport, more than anywhere else, that we have excellent opportunities to achieve a significant enhancement of energy efficiency by deploying new technologies.**

**Ladies and Gentlemen,**

**Decoupling traffic growth from energy consumption is one of the key challenges that we have to tackle in order to ensure sustainable mobility.**

**The Federal Government's objective is thus to support the commercialization and market launch of such new technologies in the transport sector, which can be used to enhance energy efficiency.**

**This is a key element of the ongoing evolution of the Federal Government's fuel strategy.**

**⇒ In the short term, we are focusing on enhancing the efficiency of petrol and diesel engines and on blending conventional biofuels into petrol and diesel.**

**⇒ In the medium term, we want to progress the development and introduction of combined drivetrains, in other words hybrid technology, and develop and introduce synthetic biofuels.**

**⇒ In the long term, the focus will be on the development and introduction of battery and fuel cell technology. Because the future belongs to efficient electric mobility, using batteries and fuel cells.**

**However, if we are to reduce our dependence on oil even further, the energy supply in the mobility sector must be diversified in the future. For this reason, electricity from renewable energy sources must and will become a major source of energy for the transport sector.**

**This strategy also applies to local public transport. I am delighted to see that a growing number of public transport operators are very open-minded regarding the use of innovative technologies.**

**That is why it is our objective that, by 2050, most of the vehicles on our roads, especially in our cities, should operate without fossil fuels.**

**However, no drivetrain technology will be able to meet the future challenges alone; rather, technology options can complement one other perfectly. What is crucial here is that we develop the right mobility strategies for the different technologies.**

**It cannot be denied that batteries and fuel cells still require considerable technological development.**

**The technological breakthroughs that will enable them to achieve commercial maturity still have to be made – I need only mention such terms as cost reduction, performance and service life. The tasks to be addressed also include the creation of an infrastructure for charging and refuelling vehicles that meets demands.**

**That is why we in Germany are implementing our "away from oil" strategy progressively, in close cooperation with industry and academia:**

**By launching the *National Hydrogen and Fuel Cell Technology Innovation Programme* (NIP), the Federal Government has taken a crucial step along the road towards the commercialization of this technology.**

**Together with money provided by the industry, a total of 1.4 billion euros is available.**

**The NIP supports the creativity of many companies and demonstrates the suitability of local public transport for the progressive introduction of innovative technologies.**

**The hydrogen-powered buses in Hamburg and Berlin that have been integrated into the local public transport systems were deployed back in 2002 in the first phase of the Clean Energy Partnership (CEP), of which the HyFLEET:CUTE project is also a part.**

**The second phase of the CEP covers the period from 2008 to 2010, now as part of the NIP and as a lighthouse project of the mobility sector. In 2008 alone, the funding provided for this purpose totalled over 110 million euros, of which just over one fifth went to the bus sector.**

**The “sustainable bus system of the future” project is now at the stage of preparation for demonstration. The aim is to deploy an initial small batch of ten fuel cell hybrid buses on regular services operated by Hamburger Hochbahn.**

**I am delighted that in September leading companies from the automotive industry and energy supply sector joined forces to prepare the establishment of hydrogen infrastructure covering the whole of Germany.**

**When, starting in 2015, the first mass-produced fuel cell vehicles start running on German roads, the necessary refuelling infrastructure also has to be in place. The Federal Ministry of Transport is also supporting the establishment of a nationwide network of hydrogen filling stations by providing start-up funding from the Second Economic Stimulus Package.**

**Ladies and Gentlemen,**

**Long-term and coordinated activities to promote research, and a programme to prepare for commercialization, are now also underway in the battery sector.**

**We want to accelerate the efforts to prepare electric vehicles for commercialization. Our goal is that by 2020 at the latest, one million electric vehicles will be operating on Germany's roads, primarily in urban traffic.**

**For the Federal Government, electric mobility is an issue of great strategic importance. It is a further pillar of our fuel strategy. And it is important that all government programmes to promote research, development and commercialization are dovetailed in order to exploit synergies.**

**The 500 million euros from the Economic Stimulus Package to "promote applied research in the mobility sector" present us with an opportunity to create more quickly the basis for Germany to become the lead market for electric mobility within ten years.**

**Here, too, a cross-departmental and cross-sectoral approach is absolutely essential if we want electrified drivetrains to be a success in all aspects. Thus, 15 research and development promotion priorities have been defined for hybrid drivetrains, fuel cells and storage technologies.**

**Our holistic spectrum of promotion ranges**

- ⇒ from the establishment of a network of excellence for systems research into electric mobility [*Federal Ministry of Education and Research*],**
- ⇒ through transport research projects in the field of information and communications technology [*Federal Ministry of Economics and Technology*]**
- ⇒ to fleet trials involving the use of renewable energy in passenger car and commercial traffic [*Federal Ministry for the Environment, Nature Conservation and Nuclear Safety*].**

**At the Federal Ministry of Transport, we have 150 million euros available for the financial assistance programme. Of this, 115 million euros will go to our programme entitled “Electric Mobility Pilot Regions”. This is the focus of the activities to promote alternative drivetrain technologies within the framework of the German economic stimulus.**

**This is an especially good reflection of the foreseeable trend in the field of electric mobility: vehicle manufacturers, component suppliers or energy suppliers implementing their developments jointly with their partners, such as regionally organized business consortiums, the local authorities or utility companies.**

**This has to be accompanied by a regulatory framework, for instance regarding issues of licensing and safety and in aspects of urban planning.**

**The main priorities to be funded in the pilot regions are:**

- ⇒ the provision and deployment of vehicles, tied into integrated approaches to mobility;**
- ⇒ the establishment and integration of recharging points in the public realm, and the ensuring of non-discriminatory access and uniform standards.**

**Ladies and Gentlemen,**

**Our expression of interest procedure has met with a great response, especially from local authorities, utility companies, businesses and research establishments.**

**This proves that in implementing a topical, strategic theme as an economic stimulus component in a regional context we have “hit the bullseye”.**

**To ensure that funding is committed efficiently, given the potential conflict between the provision of substantial assistance to individual regions and the nationwide funding of clusters, we have decided to support eight pilot regions.**

**In these regions, we are supporting various thematic priority areas. Alongside the trialling of electric cars and applications in commercial transport, another focus is on the deployment of hybrid powered buses. During the two-year funding period, some 50 to 80 hybrid buses are likely to enter service.**

**With our “demonstration of hybrid buses” funding priority, we are supporting the automotive industry in providing the vehicles for the demonstration operations.**

**Trialling the vehicles in everyday operations identifies the actual scope for savings as a function of operational profiles. Thus, in the interplay between supply and demand, projects will be delivered more quickly and the customer take-up that is necessary for the large-scale commercialization of electric vehicles will be created.**

**In conurbations, in particular, there is great scope and a multiplicity of possible uses for electric vehicles.**

**Nevertheless, suitable solutions also have to be sought for regions of a more rural character. The medium-term objective is to develop a strategy for the different ranges and performance requirements.**

**With the National Development Plan for Electric Mobility, which the Federal Government presented in August, we want to convert the economic stimulus measures into a comprehensive development programme in the medium and long term.**

**Ladies and Gentlemen,**

**The forms of present-day mobility will change. They will become more diverse and more individual, and will be better adapted to modern townscapes and progressive approaches to mobility.**

**We have to set a course today that will enable us to reliably ensure sustainable mobility for growth and employment in a changed global economic setting and under different climate and energy conditions.**

**Here, the social aspect of mobility plays an important role. About one thing there can be no doubt: We have to keep mobility permanently affordable for everyone. This will not work unless people also have mobility alternatives. Efficiency technologies are key to this.**

**HyFLEET:CUTE is literally an example of best practice. The project is important for introducing and publicizing the issue of hydrogen in the bus sector in Europe. By using hydrogen in the transport sector, you combine energy efficiency with the promotion of alternative fuels and innovative drivetrains.**

**It is now important that we create and progress the market for hydrogen and fuel cell buses so that we live up to our responsibility for tackling climate change and ensuring energy security. The hybridization of drivetrains is an important milestone on this road.**

**In Germany, HyFLEET:CUTE projects are being incorporated into the CEP. First, the partners want to prove that hydrogen can already be used safely by normal road users. Second, they want to show how renewable sources of energy can be used to provide hydrogen.**

**On the market, supply is determined primarily by demand. In the international context, therefore, it is especially important that public transport operators from all over the world have joined forces to create the *Hydrogen Bus Alliance*.**

**Together, they want to formulate uniform user requirements for hydrogen and fuel cell buses and to press ahead with speeding up the commercialization of these vehicles.**

**I am delighted that, in addition to the funding provided by the German Federal Government, the Hydrogen Bus Alliance is evolving the themes of HyFLEET:CUTE on a global scale.**

**In this way, people will be able to experience the mobility of the future on the roads of today. Let us join forces to make our transport system fit for the future in the interests of sustainability.**

**Thank you very much for your attention.**