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Emission Trading to Reduce Traffic Related CO2 Emissions: Potsdam Institute for Climate Impact Research (PIK) and the BMW Group are Introducing a Study on Cap and Trade in the Transportation Sector.
BMW Group and PIK favor the use of emission trading also for transportation fuels +++ Upstream determines CO2 content of alternative fuels +++ Automobile manufacturers and fuel producers assume their respective responsibility

**Munich/Potsdam.** Biofuels, electricity, hydrogen: the world of fuels for automobiles will become even more complex in the future. Electric cars, for example, are a solution to the challenge „Sustainable Mobility“, since they are driven locally emission-free and, therefore, no longer directly emit CO2.

Dr. Thomas Becker, Vice President Governmental Affairs and responsible for the policy activities of BMW Group, indicates the need for different framework conditions in the medium-term: „The relevance of the upstream emissions increases in the traffic sector: Contrary to the fuel world dominated by gasoline and diesel today, alternative fuels are produced with extremely different environmental impacts. The CO2 balance of one kilowatt hour of electricity that comes e.g. from a coal power station differs from one that was generated by wind power significantly. Hence, in order to assess the actual CO2 footprint of a certain fuel, we need the implementation of a new system."

This is particularly obvious with electricity: the CO2 emissions of electricity generated from renewable energies, such as wind, water, or sun is in contrast to electricity generated from coal or natural gas. The environmental impacts from biofuels are also defined mainly by its production. The comparability is missing, when for example electricity and a mix of fossil diesel and bio-diesel will be competing in the future for the lowest overall emissions. A long-term political framework is needed here that will address the CO2 reduction in the traffic sector comprehensively and in a transparent way for industry and consumer.

**Study CITIES: The Solution is Cap and Trade**

According to the study „Car Industry, Road Transport and an International Emission Trading Scheme“ (CITIES) developed under the direction of Professor Ottmar Edenhofer of the globally renowned Potsdam Institute for Climate Impact Research (PIK), the use of an instrument is now recommended that enables a treatment of the upstream emissions of fuels: Cap and Trade.

Used in Europe already within the scope of the emission trading for stationary systems, Cap and Trade can in the future effectively reduce the total CO2 emissions in the traffic sector. A total volume of CO2 will be specified that is reduced annually. Every fuel will be comprehensively assessed according to the climate impact of its production and use. CO2 certificates can be traded within the system. Thereby, reaching the CO2 targets for fuels will be simplified, while trading CO2 certificates promotes a competition for the introduction of innovative and efficient technologies.

**Cap and Trade: An Effective Contribution to the Climate Protection in the Transport Sector**

Professor Ottmar Edenhofer, the deputy director and chief economist at PIK, was authoring the study in collaboration with Dr. Felix Creutzig. He describes the significance of the results: „The study CITIES indicates how the energy sector, in addition to the innovations of the automobile industry, can contribute to sustainable mobility. Going forward, the CO2 emissions will no longer be determined by the automobile alone, but to a large degree by the upstream energy chain. To include the emissions from the transport sector at the fuel production level will provide for a more stringent macroeconomic treatment of the greenhouse gases. Simultaneously, a maximum flexibility and economic efficiency will be guaranteed for the mitigation options. The respective responsibilities of the actors will be more precisely defined with an emission trading for fuel producers and efficiency regulation for automobile manufacturers“.

The study was commissioned and financed by the BMW Group. Dr. Thomas Becker explains: „Our task is to increase the efficiency of our products, regardless of the drive concept. The legislative bodies and our costumers rate us on that. Due to the increasing electrification of mobility and the use of biofuels and hydrogen, most of the CO2 emissions depend on the upstream and no longer on the vehicle itself. Cap and Trade is the correct lever for CO2 reduction in the upstream in an efficient, economical and ecological manner. “

**Important Results from the Study:**

* In order to reduce CO2 emissions in the transport sector, all system participants must live up to their respective responsibility. Fuel producers must reduce the CO2 content of their fuels; automobile manufacturers must increase the efficiency of their products.
* The CO2 content varies considerably depending on the production method, regardless of the type of fuel used. Automobile manufacturers have no influence on that. As a result, political instruments must be created that specifically address fuel producers and automobile manufacturers in their respective responsibilities.
* The introduction of emission trading for fuels is not supposed to replace the regulations on CO2 emissions for new cars. Rather it can bring forward the additional decarbonization of the entire traffic sector in a comprehensive manner.
* Electric cars should be credited with 0 gr/km CO2 within the context of regulations on fleet consumption, since the automobile manufacturers have no control over the origin of the electricity. In the longer term, an efficiency factor (i.e. MJ/km) can be used that rates the car's energy consumption technology-neutral for all kinds of propulsion systems, regardless of the respective fuel.
* The CO2 content of fuels should be regulated at the level of the fuel producers, in order to increase the efficiency of the regulation and provide incentives for CO2 reductions.
* In the light of changing conditions on the fuel market and the related CO2 emissions, Cap and Trade is suitable as an instrument to holistically realize the CO2 reduction goals in the traffic sector.

The complete study CITIES can be downloaded from [www.bmwgroup.com/CITIES](http://www.bmwgroup.com/CITIES-e).

The study CITIES was authored by scientists of the Technical University Berlin and the Potsdam Institute for Climate Impact Research. The department “Economics of Climate Change” at Technical University Berlin researches the relations between mobility, economics and climate change. Scientists at the Potsdam Institute for Climate Impact Research are working interdisciplinarily on researching climate change and its impacts on ecological, social and economic systems. Professor Ottmar Edenhofer, as deputy director and chief economist, heads the field of study Sustainable Solution Strategies at PIK and has a professorship at TU Berlin. He is also co-chair of the working group III of IPCC, Dr. Felix Creutzig is the Team Leader for Sustainability and Transport Economy at the Technical University Berlin and lead author of the transportation section of the upcoming IPCC report.

For questions, please contact:

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**The BMW Group**

The BMW Group is one of the most successful manufacturers of automobiles and motorcycles in the world with its BMW, MINI and Rolls-Royce brands. As a global company, the BMW Group operates 24 production facilities in 13 countries and has a global sales network in more than 140 countries.

The BMW Group achieved a global sales volume of approximately 1.29 million automobiles and over 87,000 motorcycles for the 2009 financial year. Revenues totaled euro 50.68 billion. On 31 December 2009, the company employed a global workforce of approximately 96,000 associates.

The success of the BMW Group has always been built on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy. As a result of its efforts, the BMW Group has been ranked industry leader in the Dow Jones Sustainability Indexes for the last six years.