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Executive Summary

In the past years the market for voluntary carbon offsetting has developed rapidly. Certificates sold on this market originate partly from the compliance market, i.e. from projects of the Clean Development Mechanism and the Joint Implementation. Mostly, however, certificates stem from projects of the voluntary carbon market. Voluntary carbon offsetting can serve as another mechanism to efficiently prevent emissions, while at the same time achieving co-benefits. Very little is known however of the exact state of the voluntary carbon market, e.g. factors like business volume, market actors, origin of certificates or the efficacy of the voluntary market. Analyses of the market on the global market for voluntary offsetting do exist (ENDS, Hamilton et al. 2007, 2008, 2009); however they do not allow any conclusions for the market situation in Germany. This study aims at closing this gap. From the end of 2009 until the beginning of 2010 adelphi and sustainable interviewed providers of offset services, intermediaries, certifiers and consumers like businesses and public institutions on their activities in the voluntary carbon offset market in Germany.

Market analysis

Central findings of the survey are:

- The possibility of voluntary carbon offsetting is **not known to many German institutions and businesses or it is subject to fierce debate**.
- **Buyers of certificates are mostly businesses.** They mainly aim at compensating the company's carbon footprint of business trips and products.
- The majority of the certificates traded in Germany originate from **renewable energy projects, followed by afforestation projects and methane destruction projects**. Renewable Energy projects included mostly small waterpower projects as well as wind, biomass and - since 2009 - geothermal projects.
- **Suppliers widely use the Voluntary Carbon Standard (VCS) as a quality standard.** The **Gold Standard** (CER and VER) also has considerable shares on the market. The combination of Carbon Fix with Climate, Community and Biodiversity Standard (CCBS) also has relevant market shares. In addition, there are small shares of emission reductions without any external certification in the market.
- Nearly all **purchasers** of compensation services stated that they **only use certificates certified by quality standards**. The Gold Standard was named as the quality standard used most frequently, followed by Carbon Fix and CCBS, which were named alike. These indications are not in accord with the information provided by suppliers, who attribute a more important role to the VCS . A possible cause of this discrepancy might be the limited representative character of this survey on the side of consumers.
- The consumers interviewed stated that **the quality standard used to verify certificates was the most important factor in their purchasing decision**. They endorsed a binding quality standard for certificates on EU-level and international level.
- This **contrasts with the assessment of many suppliers**, that the origin of the certificate would be the most relevant decision factor for consumers: According to the answers of purchasers, country of origin or project type are rather negligible in comparison to other criteria.
- Purchasers see a **shortage of certificates which originate from developing countries, from Germany and from high quality forestry projects**.
- The **certificates** traded in Germany **largely originate from Asia** (2009: approx. 62 %) where India supplies more than China. In 2009 the share of both countries in the German market was smaller than the overall share of all other Asian countries. **Latin America and Africa both have notable shares** (together approx. ¼ of the certificates purchased by consumers). Nearly half the African certificates stem from less developed countries in sub-Saharan Africa (without South Africa).

- Concerning the preferred **project size** a change can be observed. **While in 2008 small and medium-sized projects were preferred, in 2009 large projects were dominant.** Very large projects were not sold at all. The share of micro projects is very small.

With respect to the trading volume (in tCO₂e) in the German market for voluntary carbon offsets further results can be presented:

- Many consumers in the carbon market buy emission certificates from offset providers who then cancel these certificates. Other consumers buy certificates directly from intermediaries (traders, brokers). In order to represent the whole market, both intermediaries and offset providers need to be taken into account. The offset providers who participated in the survey sold 600,000 tCO₂e in the first three quarters of 2009. For the whole of 2009 it is estimated that they sold around 800,000 tCO₂e. In the same period, intermediaries sold 300,000 to 500,000 tCO₂e directly to German consumers.
- Therefore the trading volume of the German market in 2009 is estimated to add up to at least 1.1 million tCO₂e, thereby having grown despite the economic crisis. This is in line with the answers of intermediaries concerning the overall volume sold in the German market.
- However, the data presented does not cover the entire voluntary carbon market in Germany. 13 other carbon offset providers and two other intermediaries did not disclose their sales volume but are potentially active in the German market. They probably provided additional emission reductions for the German carbon market. These unknown volumes are partly included in the supplies of the intermediaries. To a certain extent this is also the case for businesses who themselves developed projects but neither acted as intermediaries nor as carbon offset providers.
- Because only 42 % of the carbon offset providers and two thirds of intermediaries were covered in the survey, the **overall trading volume in the German market can be estimated to be approx. 1.1 to 2 million tCO₂e.** In comparison to the international carbon market, comprising the over-the-counter market (OTC) and the Chicago Climate Exchange with a volume of 123 million tCO₂e in 2008, the German market appears rather marginal.

Comparison to the compliance carbon market

Within this report the results gained from the market analysis on the German share of the voluntary carbon market are systematically compared to the compliance market, mostly the Clean Development Mechanism (CDM). The data from the global voluntary carbon market are also incorporated into this analysis. The research is guided by the question, in how far the voluntary carbon market effectively complements the regulated carbon market. The analysis concentrates on seven aspects: project size, finance, geographical distribution of projects, contributions to sustainable development, contributions to innovation, quality requirements and purchasing decisions of consumers. Main results of the analysis are:

- With respect to transaction volume and number of projects, **large projects have a greater share in the compliance carbon market than in the voluntary carbon market.** Very small projects are rarely traded even in the voluntary carbon market, presumably due to transaction costs that are also incurred in the voluntary carbon market. Overall, the figures for the voluntary carbon market depict a development towards larger projects.
- For the **premium segment of the voluntary carbon market**, which consists mainly of smaller, charismatic community projects, **initial funding often lays the core foundation** for the realization of projects. Within the commodity segment, consisting mainly of large-volume, mostly industrial projects, initial funding through pre-sale is uncommon or not necessary as this would not seem reasonable, neither from the perspective of the investor nor from the perspective of the seller.
- The **geographical spread of project origins in the voluntary carbon market is more even than in the compliance carbon market.** As a preferred host-region Asia dominates with the overall emission reductions, similar to the regulated carbon market. In an analysis of the emission reductions per capita, Latin America is in the lead. However, because of the small scale of the voluntary carbon market this can hardly contribute to an equal global distribution of emission reductions. Therefore the one-sided distribution caused by the regulated market is currently not balanced out by the voluntary carbon market.

- Contrary to the regulated carbon market, the **voluntary market** provides **better possibilities to actively promote sustainable development**. The project category of smaller renewable energy projects dominates within the voluntary carbon market, unlike in the regulated market. These projects enable the host-country to convert their energy supply and thus usually promote sustainable development. The project categories focused on industry activities which are dominating the regulated carbon market have fairly low impacts on sustainable development and are barely traded on the voluntary market. It should be added that there are very strict quality standards in the voluntary market, for example the Gold Standard. Projects applying for Gold Standard have to assess their effects on sustainable development in the target country in a more consistent and stringent way than CDM projects.
- The complex rules of the CDM can constitute obstacles to innovation. **Innovations often take place in the voluntary carbon market, whereby the market can be used as an incubator for innovative projects**. The regulated carbon market can benefit from this if, after a trial phase in the voluntary market, innovations are allowed to be applied in the regulated carbon market. Then again, it becomes apparent that relatively few methodologies are developed in the voluntary market, since the relation of incurred transaction costs and prices of certificates are unfavorable in this market as well. The potential for market innovations on the voluntary market is high; however it is not fully exploited.
- **Purchasers currently do not have to choose between high quality and low prices in the voluntary carbon market but can find both attributes in certain certificates**. This is due to the fact that a large number of low priced pre-CDM VCUs is available at the moment. These certificates exceed the requirements of the VCS with respect to emission reductions and in many cases do not fall short of the CDM standard. At the same time the question needs to be asked, in how far pre-CDM certificates are actually additional, or whether their wide distribution has negative long term effects, e.g. stalling potential innovations in the voluntary market.

Options for further actions

On the basis of these results, different options of action can be taken in order to promote the functioning of the market for voluntary offsetting in Germany. Potential options include:

- **Intensify communication with regard to voluntary offsetting:** The results of the analysis suggest that most consumers are not or only poorly informed about carbon offsetting. A targeted information campaign can not only increase awareness but could further eliminate existing reservations towards voluntary carbon offsetting. It should be promoted, for example, that the purchase of offsetting services can also actively promote sustainable development. This way, consumers could be shown that they have the power to shift the market in the right direction. Carbon offset providers could also enhance the available information on the market for voluntary compensation by providing consumers with sufficient information on projects offered and their quality.
- **Increase transparency of the registries:** A core element for a transparent voluntary market is the proper handling of registries. Information on all cancellations should be available to the public in all registries of the voluntary market. Moreover, certificates should have a serial number so that they can be tracked back in the registry and be linked to all project documentation. This way, by increasing the transparency of the market, the quality of the traded certificates will be increased as well.
- **Use the voluntary offset market as leverage:** The market for voluntary offsetting poses the most immediate contact for many buyers of carbon offsets, whether individuals or organizations, to market based climate protection instruments. From this perspective the offset market also fulfills a communicative function: it can demonstrate the logic of emissions trading to consumers by transferring it into an everyday context. This way, consumers often get a feeling for the dimension of their own emissions. A functioning and transparent voluntary carbon market can strengthen the trust in national, European and international climate policy and their instruments, if voluntary offsetting is considered to be trustworthy.
- **Increase demand:** High quality of traded certificates is an important prerequisite for the optimal use of the voluntary market's potential, but respective demand is decisive as well. The establishment of a quality seal for carbon neutral organizations or a sort of register, similar to the carbon disclosure project, which lists climate neutral enterprises, are both possible incentives to raise potential consumers' interest in the voluntary market.

- **Providing orientation - from ranking to a quality seal for quality standards:** The lack of oversight from independent bodies is partly responsible for the fact that certificates of inferior quality are being traded in the voluntary market. All actors on the market should, however, be interested in securing the quality of traded certificates or even increasing it, not only for the sake of climate protection but also for the long-term success of all participants in the market. Furthermore, consumers looking for high quality certificates face high search costs because of the heterogeneity and the number of quality standards. These challenges give rise to arguments for governmental action to promote quality and transparency on the market. Initiatives by the government in this area can focus on the German market but the European and international dimension should not be neglected. Active efforts to advance quality protection can begin with an official ranking of quality standards by the government. Based on this ranking, further steps can be taken to design and establish a quality seal for quality standards. Alternatively, a quality seal for certificates or offset providers can be developed. It can build on quality standards which were ranked highly and then pose additional requirements on certificates or providers, e.g. what methods to use for calculating emissions. A stepwise approach of different initiatives allows for new developments in the international regulated market to be accounted for. In the process of designing and implementing each measure as many market players as possible should be included in order to maximize the acceptance of the initiatives in the market.