

CLIMATE CHANGE

02/2015

# Aktualisierte Analyse des deutschen Marktes zur freiwilligen Kompensation von Treibhausgas- emissionen

Revised Analysis of the German Offset Market for  
Greenhouse Gas Emissions

- ENGLISH SUMMARY -


Please find the full version of the study here (German only):

<http://bit.ly/1Irm1ys>

# Impressum

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## Summary

An increasing number of people want to offset the climate damaging greenhouse gases they emit. One example is offsetting of flight emissions, which travel agencies and airlines offer their customers directly during the booking process. And more and more companies are interested in offering certain products or their entire business activities in a “climate neutral” way. The number of suppliers of carbon offsets and the supply of climate neutral products in Germany has grown over the last number of years. In contrast to climate protection projects under the Kyoto Protocol, in particular in the usage of the Clean Development Mechanism (CDM), no common procedures and no common binding standard for voluntary offsets exists. This can lead to fluctuating quality within a market that is confusingly complex for consumers. The present study aims to contribute to an analysis of the German market for voluntary carbon offsets.

The main objectives of this market analysis are:

- (3) Updating **the findings regarding the German market for voluntary carbon offsets** for the years 2012-2013 and comparing them with the international market;
- (4) Updating the findings on the **differences in quality between the voluntary and the compliance market**.

The study thereby builds upon a market analysis for the Federal Office for Environment from the year 2010 which was also conducted by adelphi and sustainable (Kind et al. 2010).

In detail the following questions will be answered:

- Which suppliers and consumers are operating within the market? The complete supply side relevant to the German market will be covered.
- What volume of certificates is transacted? Prices and volumes of traded and retired carbon credits for the years 2012 and 2013 are analyzed.

- Which projects are behind the certificates issued and what quality requirements are met? Which project categories and project sizes can they be attributed to? Which countries of origin do the emission credits come from and what quality standards are used? Are project details and certificate prices related?
- What preferences do consumers have with respect to project criteria and what factors influence their decision to purchase offsets? What kinds of emissions do they offset?
- How do quality requirements differ on the voluntary and the compliance market? How do consumers perceive them?

To answer the questions above four steps will be pursued: (1) data collection, (2) data cross-check, (3) data evaluation and (4) drawing conclusions with regard to quality aspects.

1. The market analysis faces the fundamental challenge of a low availability of primary data. A precondition of the analysis is therefore the collection of data by means of two anonymous surveys: on the one hand, of the suppliers of offsetting services (e.g. product developers, intermediaries) and on the other hand, of the consumers (e.g. companies, private individuals, public sector). The response categories of the surveys for suppliers and consumers, when useful, were streamlined in the manner of the previous study from 2010 (Kind et al. 2010) and the study “State of the Voluntary Carbon Market 2014” (Ecosystem Marketplace 2014). This approach allows for a better comparison of the different data sources. In a second step, the results and new insights of the survey, particularly regarding the quality aspects of offset projects, were checked and further elaborated in semi-structured interviews with selected market participants.

In addition, secondary data of existing studies and publicly available registers of transferred and retired VER-certificates were examined. For DAX- 30 companies the results of the survey were complemented by the analysis of sustainability and annual reports.

2. In a second step, the data of the different surveys and secondary sources were compiled and cross-checked. Consequently, conclusions regarding the robustness of the survey results could be drawn. The international comparison drew in particular on the study on the state of the voluntary carbon markets by Ecosystem Marketplace (Ecosystem Marketplace 2014).

Cross-checking also took into account trade volumes to understand to what extent actors buying large volumes have different views, for instance, in respect to prices, usage, project categories or quality standards. A respective weighting, where applicable, increased the validity of the results.

3. On the basis of the processed data an integrated qualitative and quantitative analysis was conducted to answer the research questions. The quantitative analysis was done with Excel. Diagrams based on customer data were colored in red; for supplier data the color blue was used. The results of the surveys were compared to the results of previous studies and the international market.
4. In a fourth step, a targeted analysis of the quality criteria was conducted with a specific focus on the comparison of the voluntary and the compliance market. For this purpose, assessments of the survey participants with regard to single quality standards including CERs from the compliance market as well as the participants' willingness to purchase voluntarily certificates from the compliance market were examined. In addition to the surveys, telephone interviews were arranged to gather information on the relevance of quality aspects.

The present market analysis shows: The voluntary carbon market for greenhouse gases proves to be resilient to crises. While the compliance market partly faces difficult conditions, the market for voluntary compensation has developed dynamically and has diversified over the last number of years. As a further instrument for

climate protection, these offsets can contribute to cost-effectively avoiding emissions without necessarily compromising quality.

Focusing on the main characteristics of the market and the respective views of the supply and demand side, the following key messages based on the comprehensive but not representative survey can be summarized:

**Overall market characteristics:**

- *The market is growing:* The survey covers approximately 80% of the voluntary carbon market supply in Germany. About 4.4 Mio. tCO<sub>2</sub>e of voluntary emission certificates were retired in Germany in 2013, up 33% compared to 2012.
- *High quality also in case of low prices:* The prices fluctuate tremendously – depending mainly on the quality standard used: the prices range from 40 Cents up to 50 Euros per tCO<sub>2</sub>. CERs and VCS prove to be particularly cheap, but also high quality certificates (e.g. with additional sustainability criteria) can be purchased already for about 5 Euros per tCO<sub>2</sub>e.
- *Quality standards continue to be the “watchdog“ for climate protection and sustainability:* Quality standards guarantee that the preferences of customers regarding the impact of offsets on the environment and climate, but also the fulfillment of sustainability aspects are addressed.
- *Customers like it golden...:* Customers rate the GoldStandard as the standard with the highest quality. The GoldStandard is followed by CERs and VCS-certificates using additional standards such as climate, community and biodiversity standard or social carbon. Together these are responsible for ca. half of the volume of retired certificates.
- *---but they do not necessarily purchase the product with the highest perceived quality:* VCS-certificates constitute almost 40% of the market share. This makes VCS the most popular standard, although it is rated lower than the GoldStandard, CERs and VCS-certificates with additional standards.
- *The voluntary market does not set lower standards than the compliance market:* Projects on the voluntary market do not necessarily meet lower standards than the compliance market. They are however often characterized by reduced transaction costs as a consequence of process simplifications, and they tend to consider sustainability co-benefits more thoroughly. Some standards therefore surpass CER-requirements.

**The supply side is characterized as follows:**

- *Types of suppliers:* Most suppliers are project developers, which means that they sell emission credits from their own projects. Some suppliers also specialize in resale, acting as facilitating or consulting intermediaries. Strict divisions are not present; rather a combination of different business models can be observed on the German market.
- *Non-profit suppliers:* Non-profit suppliers have a market share of 15%. This points to a tremendous discrepancy between supply and demand as 60% of the consumers prefer a non-profit supplier.
- *Procurement channel:* Many suppliers receive their emission credits on the primary as well as on the secondary market. In comparison to 2010, more suppliers prefer a diversified procurement strategy. The contract conditions as well as the cost situation generally improve, for instance, for intermediaries directly involved in projects.

**For the demand side, the analysis shows:**

- *Customer groups:* Companies are responsible for approx. 80% of the demand for certificates and constitute therefore by far the most important group. Small and medium-sized as well as big companies are relevant to the same extent. Companies from the energy sector contribute the biggest share.
- *Offsetting motives:* climate and environmental protection as well as corporate social responsibility are the most important reasons for offset demand.
- *Barriers:* The main reason not to offset is financial, followed by an 'insignificant contribution'. Participation in the compliance market (in the case of companies) as well as the confusing complexity of the market are other reasons.
- *Usage:* Most respondents offset their air travel (30% of those who offset). Companies most frequently offset single products or the footprint of their entire business activities.
- *DAX-30 companies:* These companies are more committed to offsets than in 2010. Two Dax-30 companies – the Allianz and the Deutsche Bank – state that they offset their entire business.
- *Purchase criteria:* The purchasing decision is firstly influenced by environmental and climate impacts and secondly by the price. Moreover, sustainability aspects (including social and economic benefits) in the country of origin are given a high priority.

**Results concerning the project criteria can be summarized as follows:**

- *Project portfolio:* Most of the certificates originate from Asia and the Pacific and thus from a region rated only third in terms of consumer preferences. Nearly 80% of the projects are based on renewable energy development followed by forestry and agriculture together constituting 15%.
- *Country of origin:* Nearly 50% of the consumers name Germany as their first preference for the country of origin of the certificates. However, due to an undersupply of projects in Germany only 10% of retired certificates are from here.
- *Project type:* Consumers also prioritize energy related projects. However only 42% of the consumers prefer renewable energy projects, while 35% would rather opt for energy efficiency projects (at the moment the latter constitute only 5% of the actual volume supplied).
- *Quality standards:* Consumers describe the voluntary market as very diversified. Widely used standards with high requirements are perceived as good as or even better than CERs. Simple standards receive weak evaluations from consumers. The usability of CERs for the voluntary market is so far not sufficiently known.

**Selected conclusions are:**

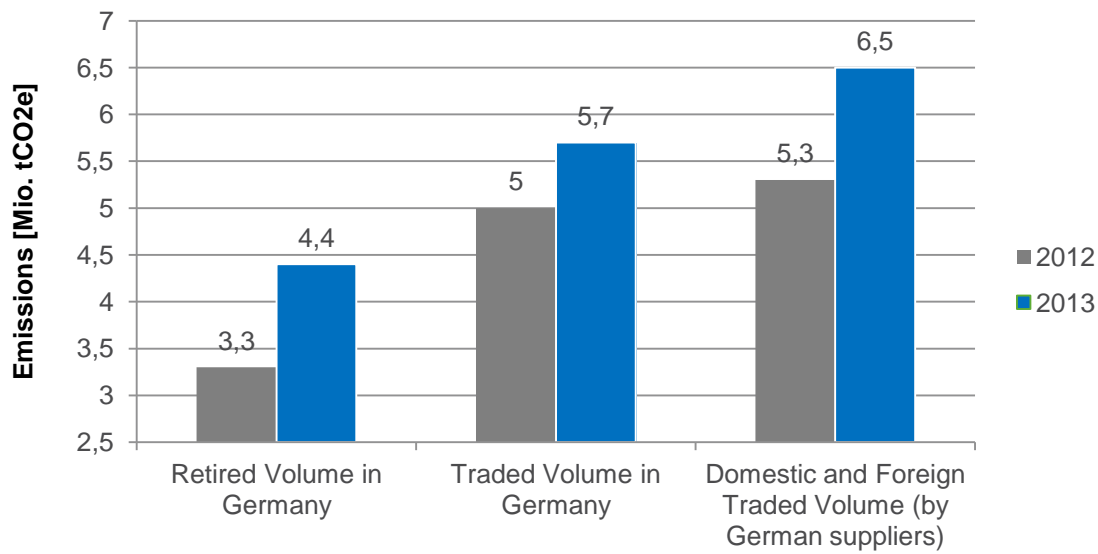
- The results of the survey from 2010 regarding the confusing complexity of the market are generally confirmed. Nevertheless, information on offsets appears to have improved.
- High quality offsets are an option for price-sensitive consumers as well. The transparency of the costs of different compensation options can still be improved.
- On average, consumers assess the quality of CERs at present slightly higher than of other standards, partly because they are better known. Providing more information on voluntary carbon standards is an important prerequisite to improve their popularity.
- In the short and medium term, combinations in which CERs are upgraded by additional services of voluntary standards seem promising, especially as CERs can be purchased at rather low prices.

GoldStandard CERs have received the best rating from consumers and combine the best of both worlds: high recognition and high added value.

- The voluntary market is characterized by a wide range of business models of suppliers regarding the procurement channels, sale and project portfolio. The market not only allows for this flexibility, but also partly demands it. The changed framework conditions within the CDM market, for example, oblige some suppliers to open up new business segments for the sale of CERs.
- If a critical mass of DAX-30 companies using offsets is reached, further DAX-30 companies and as the economy as a whole can be triggered to engage more profoundly with offsets and on reporting them.
- A considerable theoretical potential arises for Germany as a country of origin for compensation projects. Due to higher project costs and Germany's existing reduction obligations (and problems of additionality), it is however not easy to realize.

The following figures depict the key results of the market analysis:

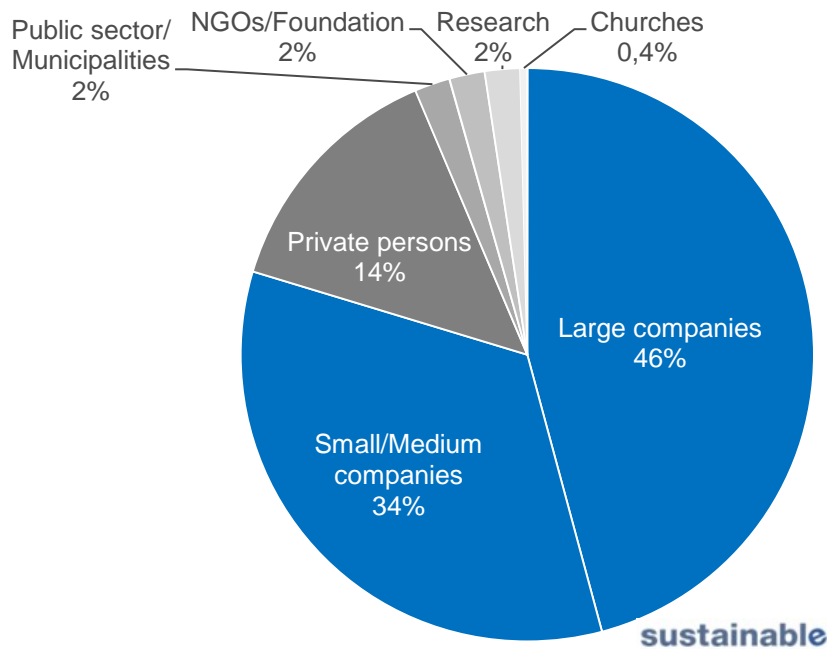
Figure I: Volume of voluntary market for GHG offsets in Germany in 2012 and 2013



Source: adelphi/sustainable 2014, Data: Survey of the supply side



Figure II: Market share of consumer groups

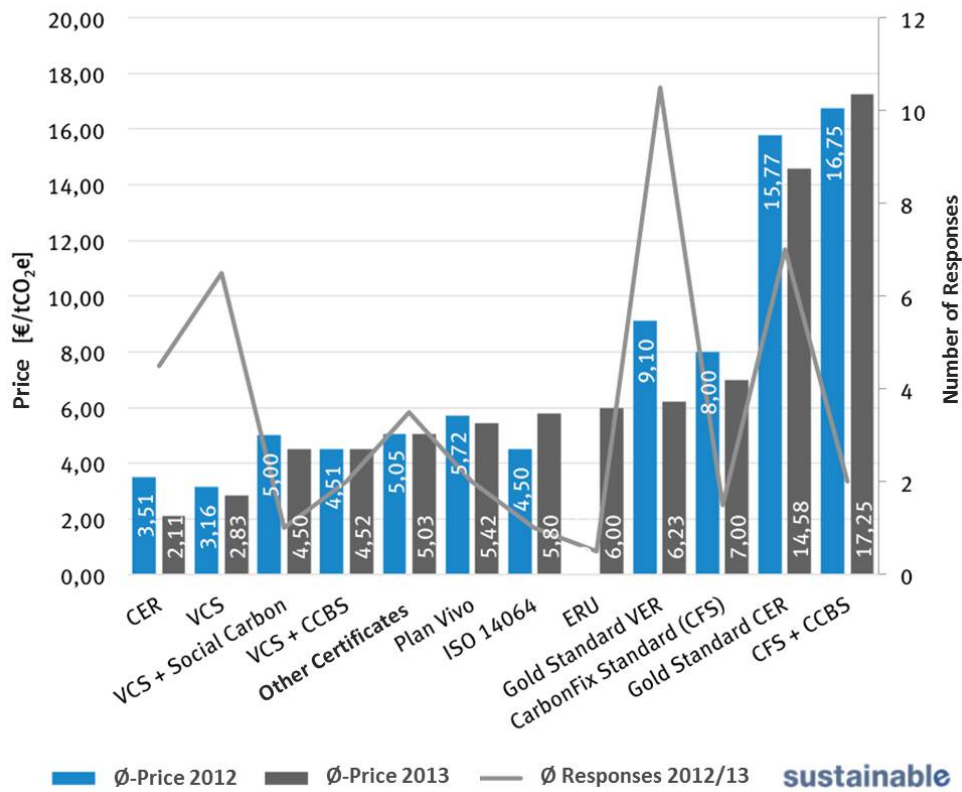


Source: adelphi/sustainable 2014, Data: Survey of the supply side



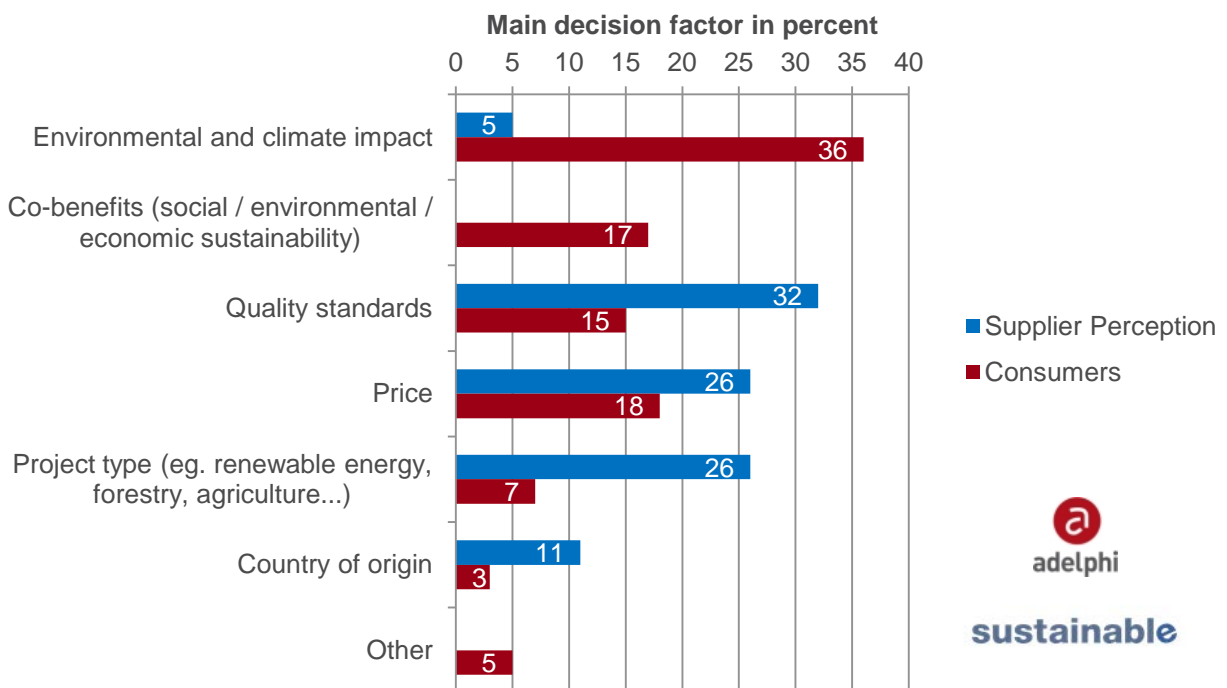


Figure III: Volume-weighted certificate prices for voluntary offsets



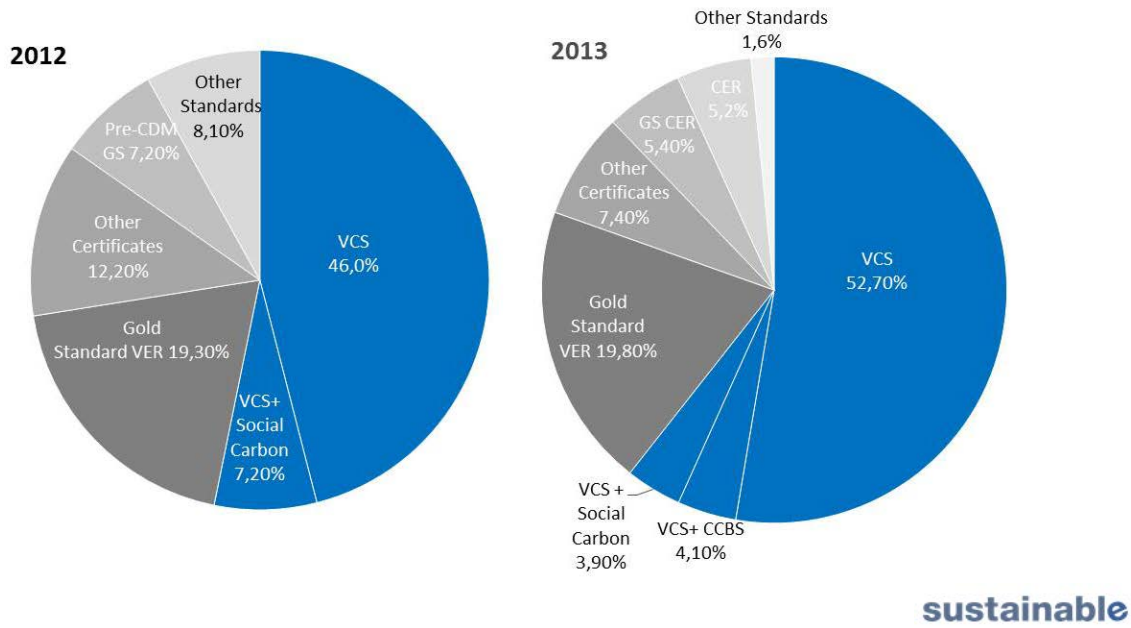
Source: adelphi/sustainable 2014, Data: Survey of the supply side

Figure IV: Impact of different criteria on the purchasing decision of certificates



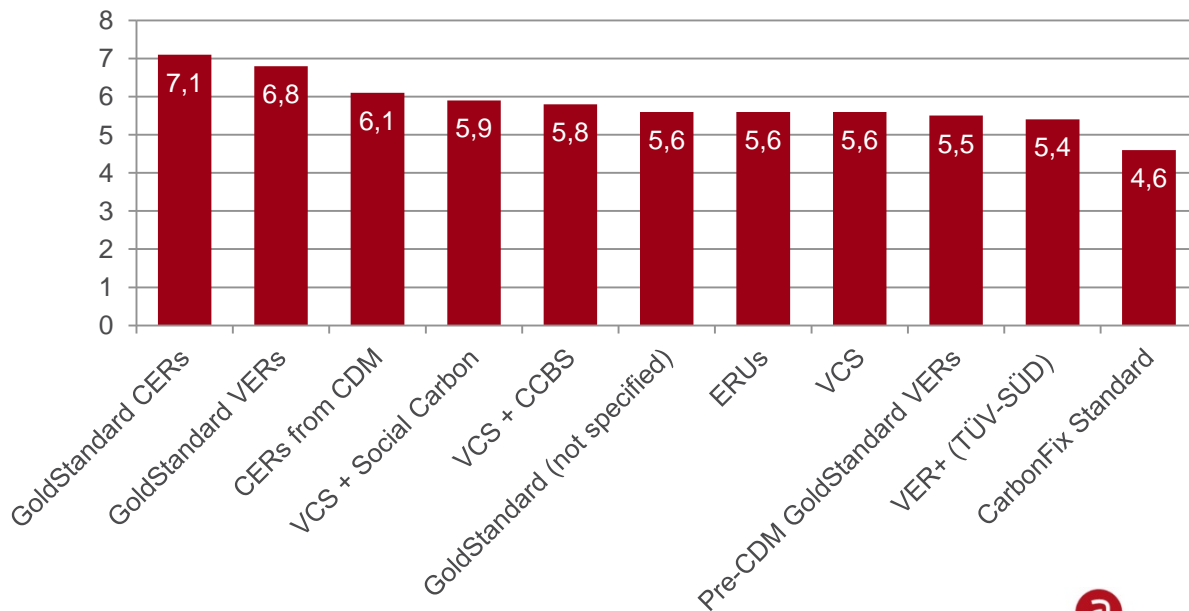
Source: adelphi/sustainable 2014, Data: Survey of the supply and demand sides

Figure V: Volume of retired certificates and quality standards



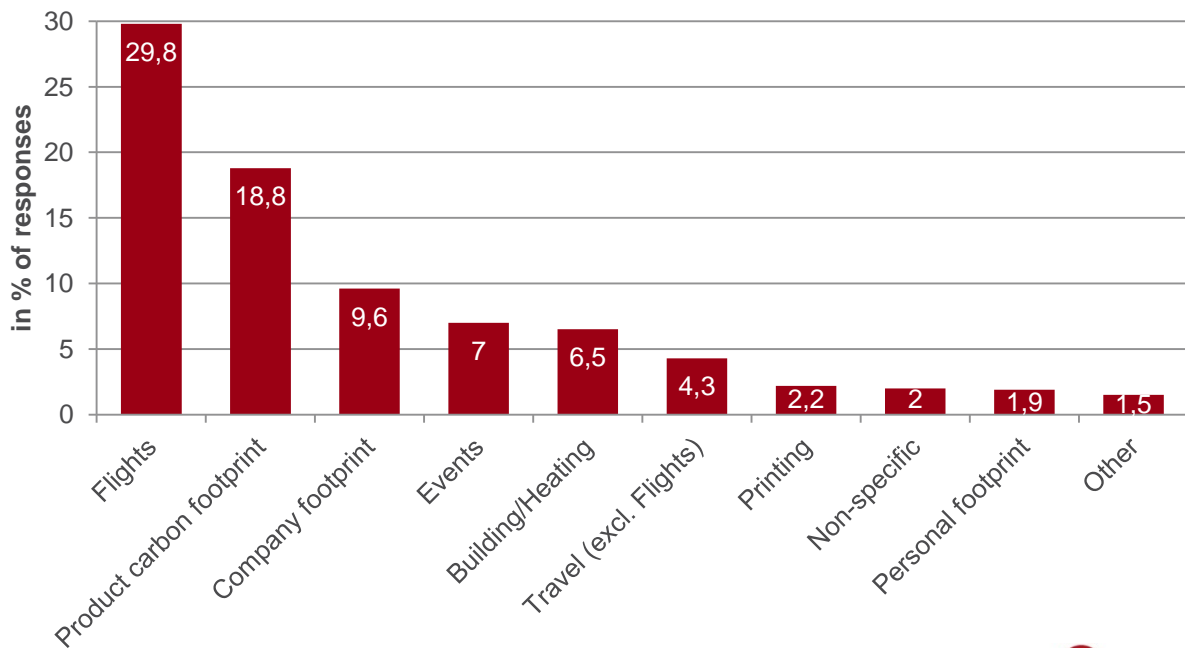
Source: adelphi/sustainable 2014, Data: Survey of the supply side

Figure VI: Assessment of types of certificates and quality standards (rated on a scale from 1 to 10, 10 being the best)



Source: adelphi/sustainable 2014, Data: Survey of the demand side

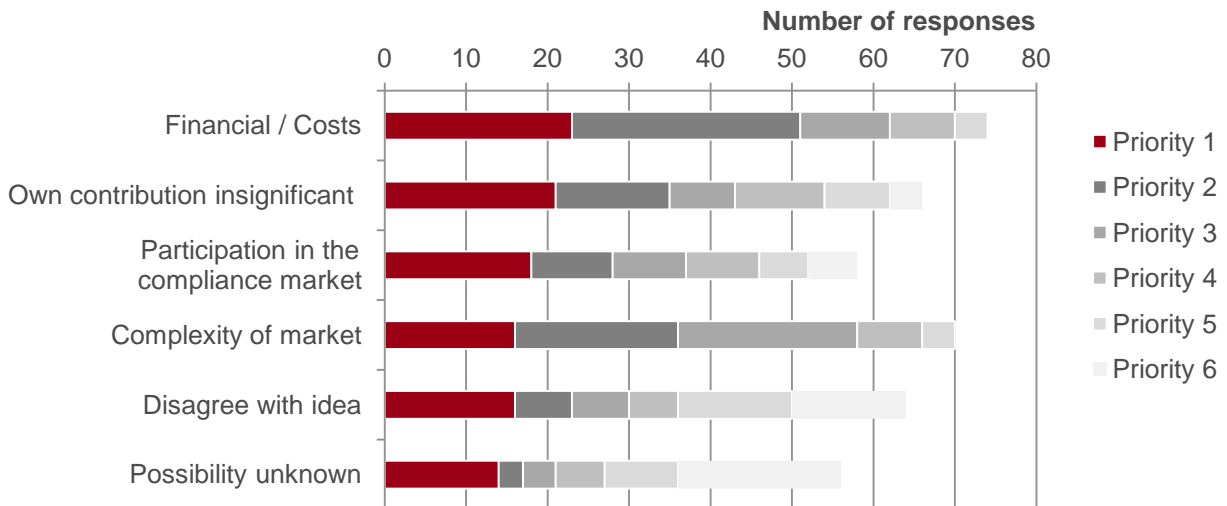
Figure VII: Usage of certificates for carbon offsetting (total)



Source: adelphi/sustainable 2014, Data: Survey of the demand side



Figure VIII: Reasons for *not* offsetting greenhouse gas emissions (total)



Source: adelphi/sustainable 2014, Data: Survey of the demand side



